Traffic Impact Study

Sand Creek Multifamily

Colorado Springs, Colorado

Prepared for:

Lincoln Avenue Communities

Kimley»Horn

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

Sand Creek Multifamily

Colorado Springs, Colorado

Prepared for
Lincoln Avenue Communities
401 Wilshire Boulevard
11th Floor
Santa Monica, California 90401

Prepared by
Jeffery Planck, P.E.
Kimley-Horn and Associates, Inc.
2 North Nevada Avenue
Suite 900
Colorado Springs, Colorado 80903
(719) 453-0180

June 2024

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

1.0 EXECUTIVE SUMMARY

Sand Creek Multifamily project is a multifamily residential development proposed to be located on the northeast corner of the North Carefree Circle and Peterson Road intersection in Colorado Springs, Colorado. The project is anticipated to include 144 multifamily dwelling units and is expected to be completed within the next several years. Therefore, analysis was conducted for the 2027 short term horizon as well as the 2045 long term horizon.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with the City of Colorado Springs standards and requirements:

- Harrier Drive and Pony Tracks Drive (#1)
- North Carefree Circle and Peterson Road (#2)
- North Carefree Circle and Pony Tracks Drive (#3)

In addition, a proposed access along Peterson Road and a proposed access that aligns with Harrier Drive were also evaluated.

Regional access will be provided by Interstate 25 (I-25), Powers Boulevard, and US Highway 24. Primary access will be provided by North Carefree Circle and Peterson Road. Direct access to the residential development will be provided from one full movement access on the west leg of the intersection of Harrier Drive and Pony Tracks Drive (#1) and one right-in/right-out only access along Peterson Road.

The Sand Creek residential development is expected to generate approximately 1,000 daily weekday trips, with 67 of these trips occurring during the morning peak hour and 82 trips occurring during the afternoon peak hour.

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

- With development of the Sand Creek Multifamily project, a proposed private road aligning with Harrier Drive is anticipated to extend to the west to intersect with Peterson Road. Therefore, there will be a west leg at the intersection of Harrier Drive and Pony Tracks Drive (#1) with project construction. When this west leg is constructed, it is recommended that a R1-1 STOP sign be installed on the eastbound approach and that all four approaches consist of a single lane for shared movements.

- It is recommended that a northbound dual left turn lane be delineated at the intersection of North Carefree Circle and Peterson Road (#2). There is space currently striped out between the northbound left turn lane and the inside through lane for implementation of this second left turn lane. To accommodate the dual left turn lanes, the signal timing and corresponding traffic signal heads should be modified to provide protected phasing for the northbound left turn movement. Of note, project traffic does not contribute to this northbound left turn movement.

- When a proposed private road aligning with Harrier Drive is constructed to intersect with Peterson Road, the intersection of the private road and Peterson Road will operate with right-in/right-out movements only due to the existing raised median island within Peterson Road. It is recommended that the westbound private road approach include a R1-1 “STOP” sign with a R3-2 No Left Turn signs installed underneath the STOP sign to identify the turn movement restriction. A separate northbound right turn lane is not anticipated to be warranted, and the northbound approach is recommended to have two through lanes with the outside lane being a shared through/right turn lane.

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the Colorado Springs and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

2.0 INTRODUCTION

Kimley-Horn has prepared this Traffic Impact Study to document the analysis results of future traffic conditions associated with Sand Creek Multifamily project, a 144-unit multifamily housing project proposed to be located on the northeast corner of the North Carefree Circle and Peterson Road intersection in Colorado Springs, Colorado. A vicinity map illustrating the project location is shown in **Figure 1**. The project is expected to be completed within the next several years. Therefore, analysis was conducted for the 2027 short term horizon as well as the 2045 long term horizon. A conceptual site plan illustrating the development and access is shown in **Appendix A**.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with the City of Colorado Springs standards and requirements:

- Harrier Drive and Pony Tracks Drive (#1)
- North Carefree Circle and Peterson Road (#2)
- North Carefree Circle and Pony Tracks Drive (#3)

In addition, a proposed access along Peterson Road and a proposed access that aligns with Harrier Drive were also evaluated.

Regional access will be provided by I-25, Powers Boulevard, and US Highway 24. Primary access will be provided by North Carefree Circle and Peterson Road. Direct access to the residential development will be provided from one full movement access on the west leg of the intersection of Harrier Drive and Pony Tracks Drive (#1) and one right-in/right-out only access along Peterson Road.

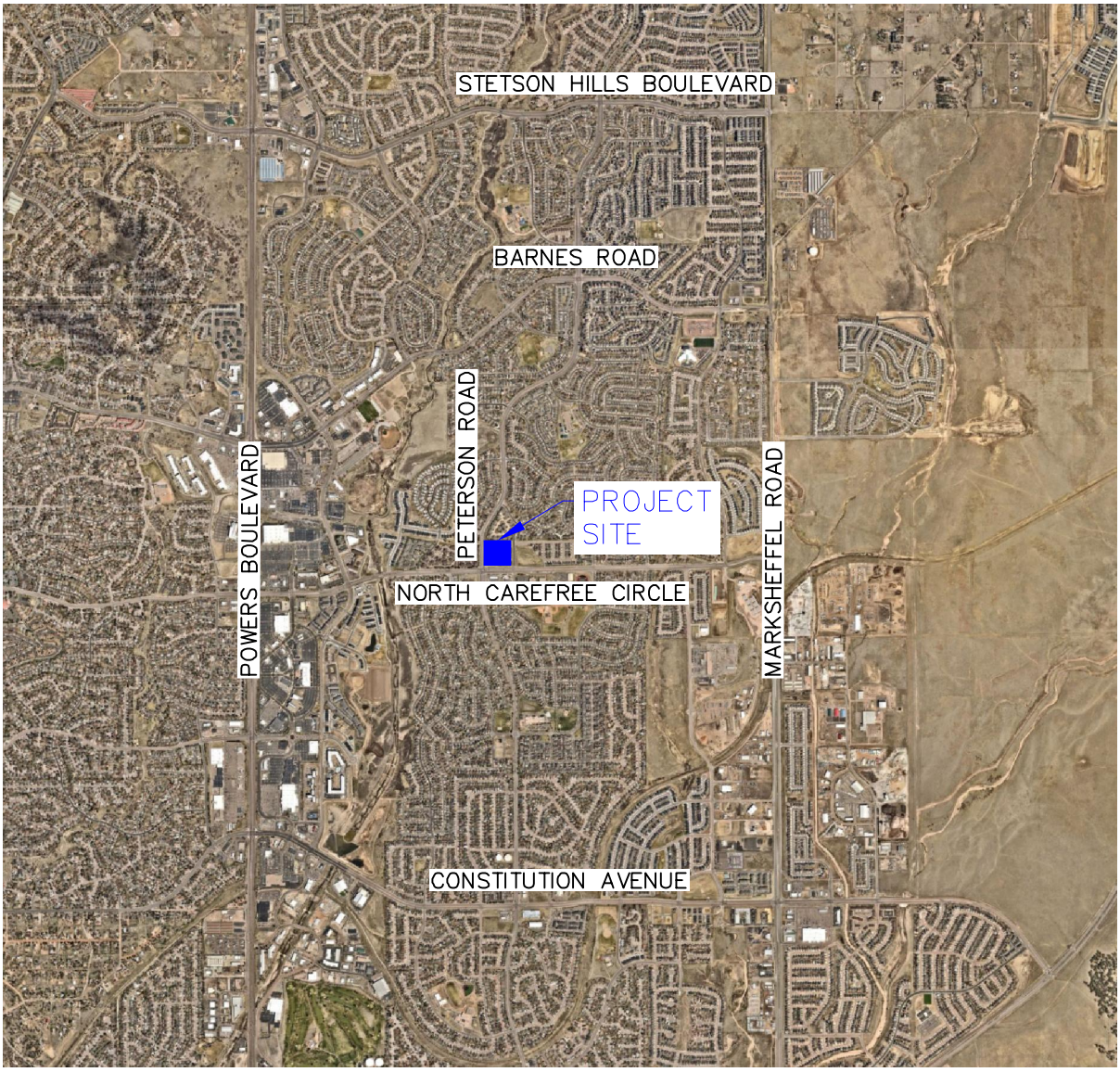
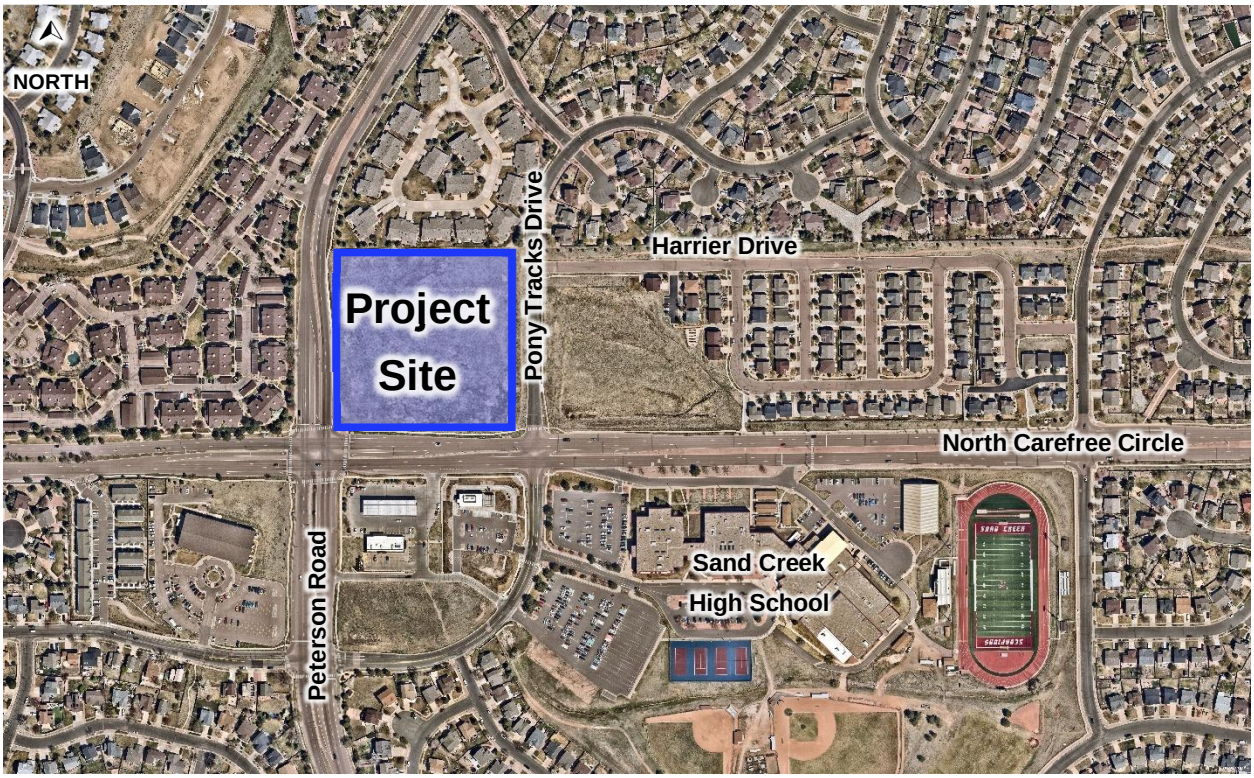


FIGURE 1
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
VICINITY MAP

3.1 Existing Study Area

The project site is comprised of vacant land and is primarily surrounded by residential developments. Directly south of the project is a gas station, while Sand Creek High School exists to the southeast. In the extended area to the west of the project there are commercial land uses. A church exists on the southwest corner of the intersection. A site aerial is shown below (north is up).



Site Aerial

3.2 Existing Roadway Network

Harrier Drive is unstriped and extends east/west with the width to have one through lane in each direction. A posted speed limit was not seen using Google Streetview. Harrier Drive is not shown on the City of Colorado Springs Major Thoroughfare Plan.

Pony Tracks Drive is unstriped and extends north/south with a width to provide on through lane in each direction. A posted speed limit was not seen using Google Streetview. Pony Tracks Drive is not shown on the City of Colorado Springs Major Thoroughfare Plan.

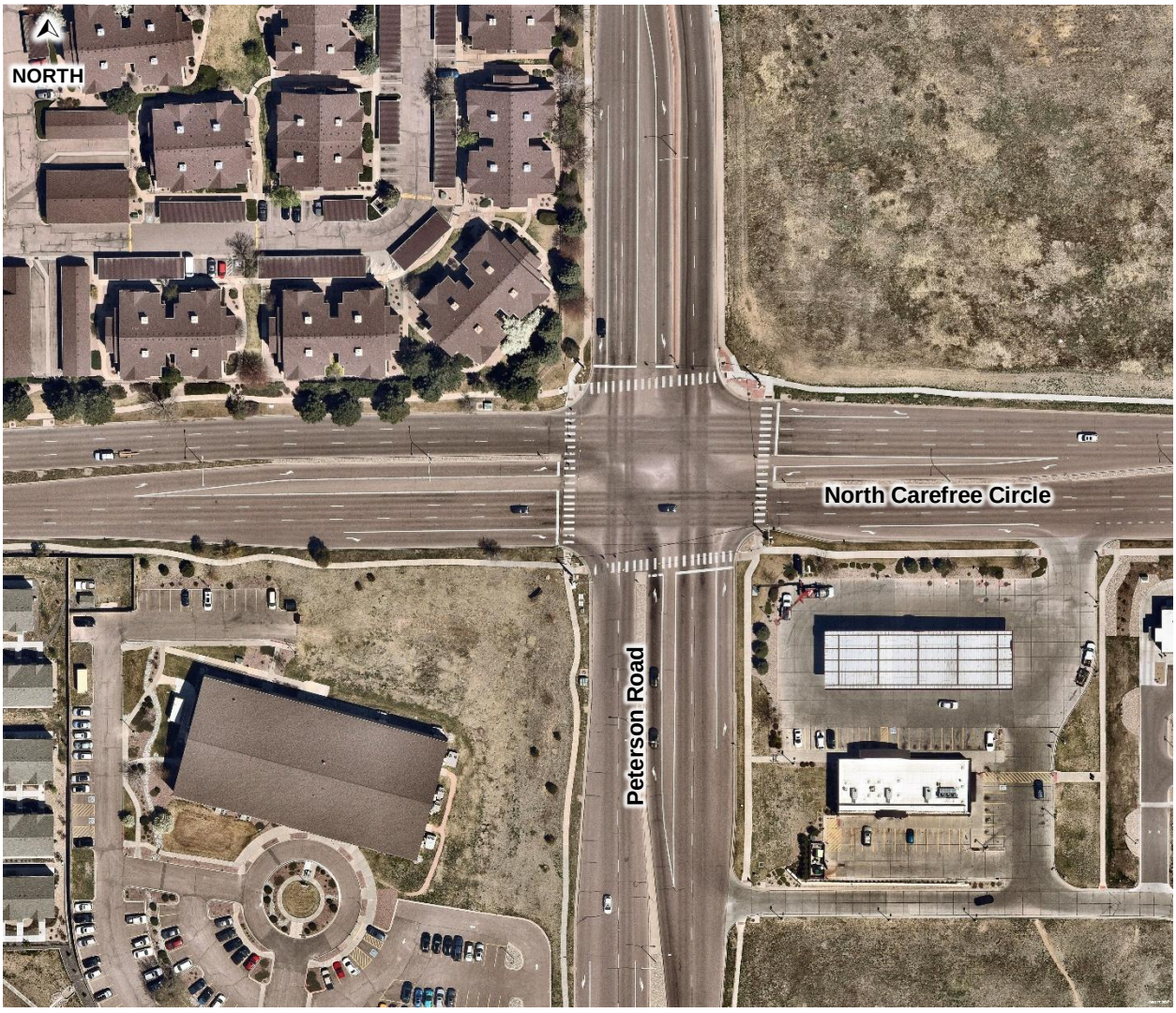
Peterson Road extends north/south with two through lanes in each direction, a raised median, and a speed limit of 40 miles per hour (mph). Peterson Road is classified as a Minor Arterial per the City of Colorado Springs Major Throughfare Plan.

North Carefree Circle extends east/west with three through lanes in each direction, a raised median, and a speed limit of 40 mph. North Carefree Circle is classified as a Principal Arterial per the City of Colorado Springs Major Throughfare Plan.

The unsignalized T-intersection of Harrier Drive and Pony Tracks Drive (#1) operates with stop-control on the westbound approach. The westbound approach consists of a shared left turn/right turn lane. The northbound approach provides a shared through/right turn lane while the southbound approach consists of a shared left turn/through lane. The following aerial shows the lane configuration of this intersection (north is up – typical).

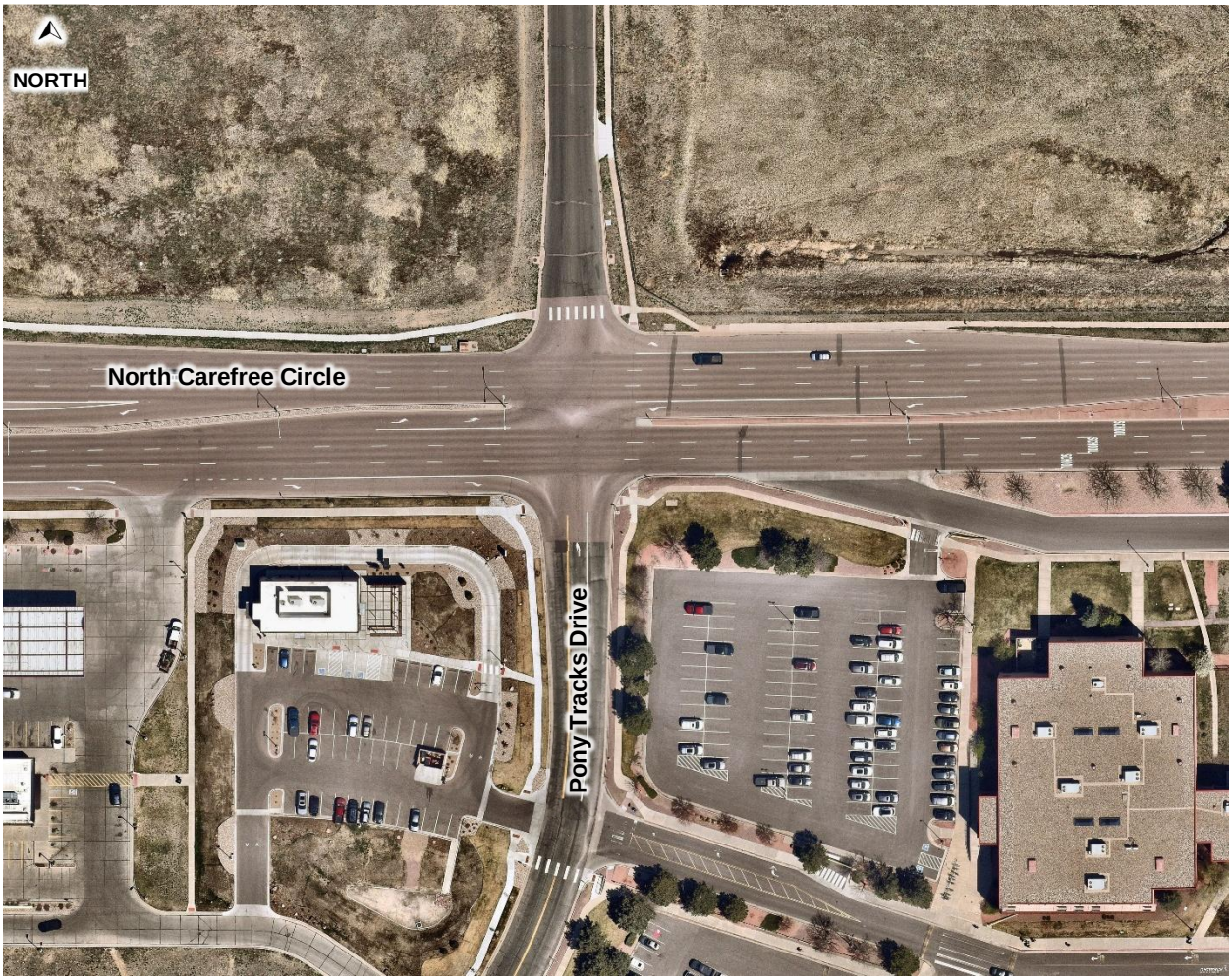
Harrier Drive and Pony Tracks Drive (#1)

The signalized intersection of North Carefree Circle and Peterson Road (#2) operates with protected/permitted left turn phasing on all approaches. The eastbound and westbound approaches consist of one left turn lane, three through lanes, and a right turn lane. The northbound and southbound approaches consist of one left turn lane, two through lanes, and a right turn lane. The following aerial shows the lane configuration of this intersection.



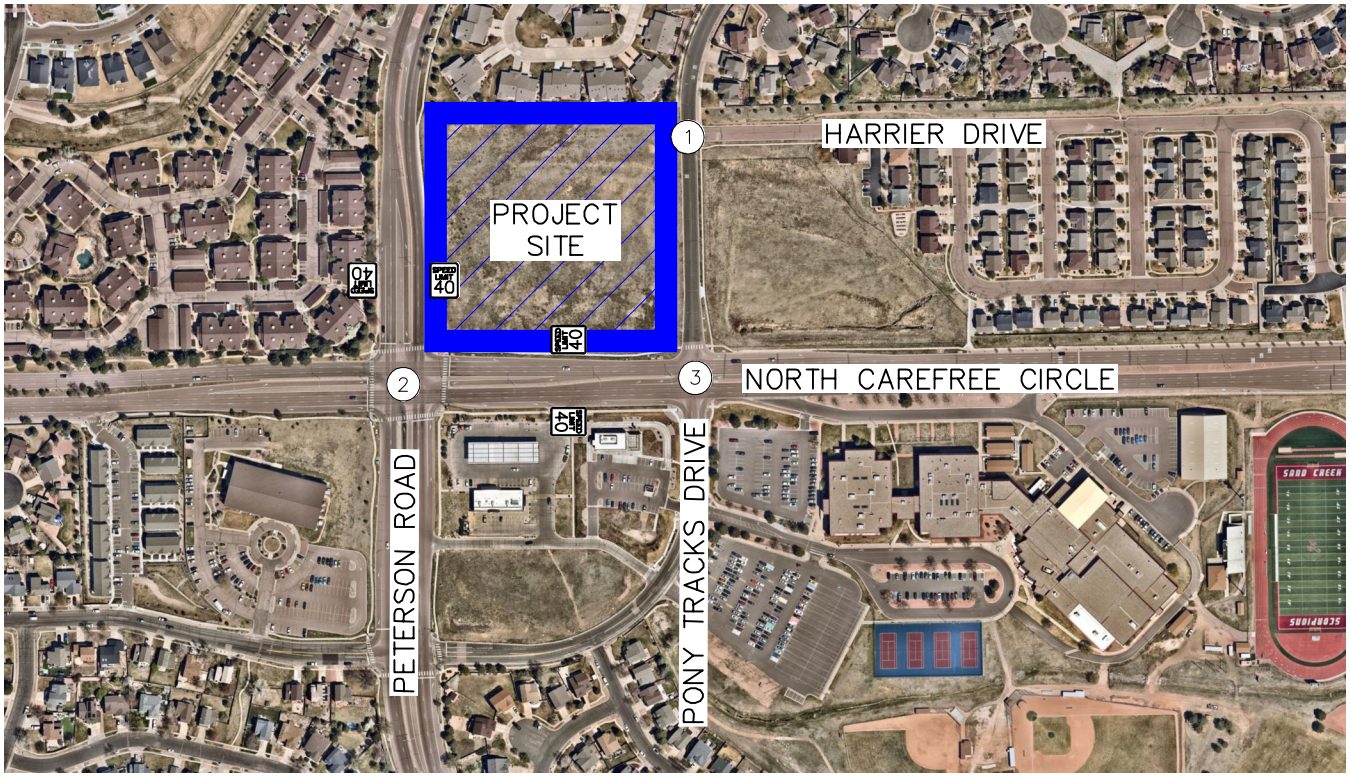
North Carefree Circle and Peterson Road (#2)

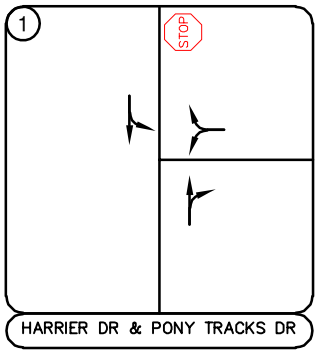
The unsignalized intersection of North Carefree Circle and Pony Tracks Drive (#3) operates with stop-control on the northbound and southbound approaches. The eastbound and westbound approaches consist of one left turn lane, three through lanes, and a right turn lane. The northbound approach consists of one left turn lane and a shared through/right turn lane. The southbound approach is unmarked and was therefore studied to consist of one lane for shared movements. Although it is believed that drivers may use this approach with separate southbound left turn and right turn lanes. The following aerial shows the lane configuration of this intersection.

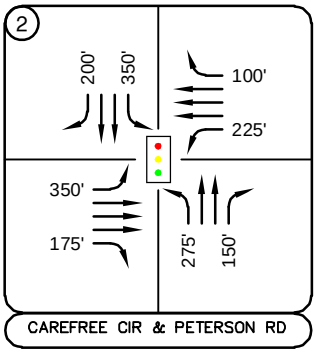


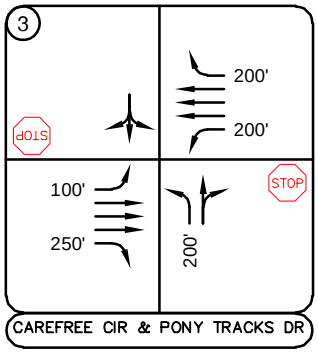
North Carefree Circle and Pony Tracks Drive (#3)

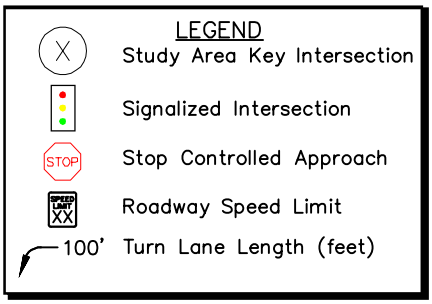
The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.











Kimley»Horn
NORTH
NTS 296008000

FIGURE 2
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
EXISTING GEOMETRY AND CONTROL

Kimley»Horn

3.3 Existing Traffic Volumes

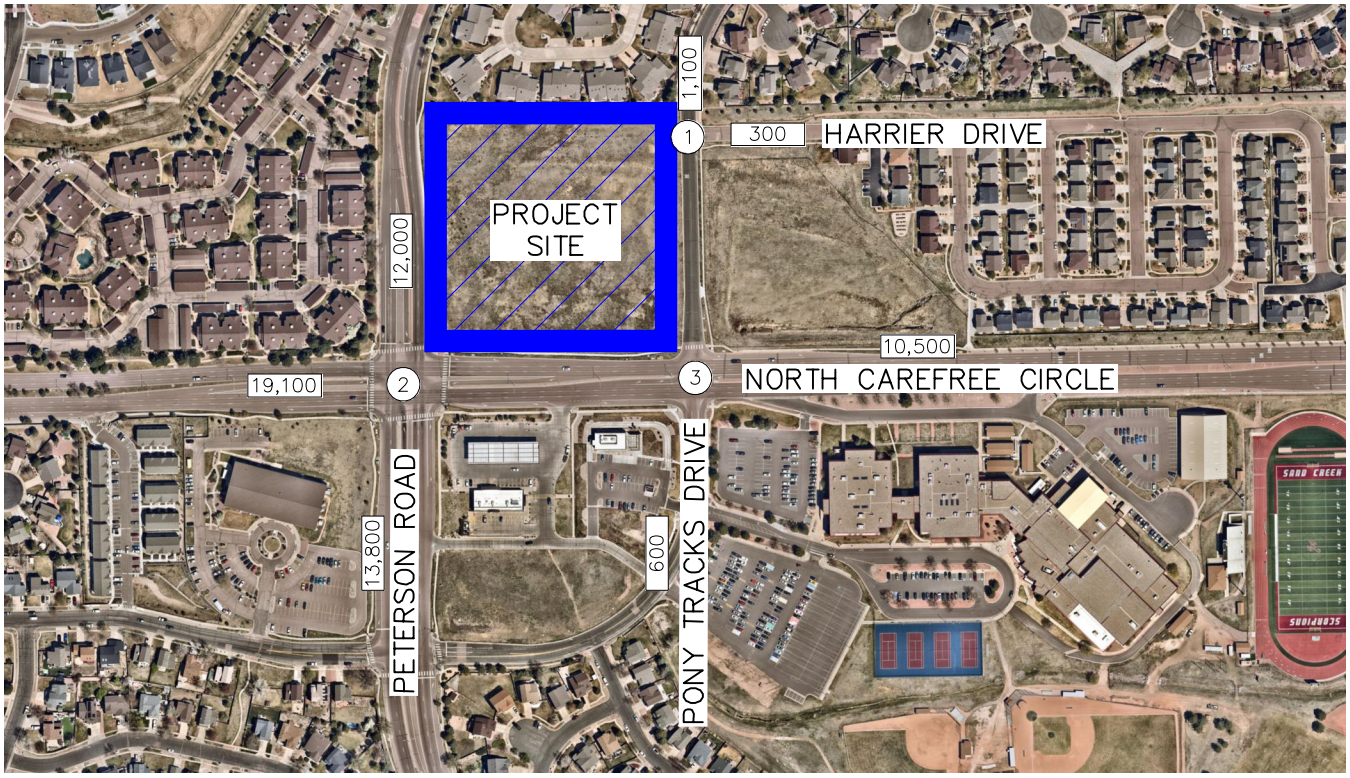
As this study was started after the end of the 2023-2024 school year and given the proximity of the project site to Sand Creek High School, the data collected on Tuesday April 8, 2021 for the previous application was grown for three years to 2024 at a 1.3 percent growth rate to account for impacts from the nearby school instead of collecting new traffic counts when school was not in session. The counts were conducted in 15-minute intervals during the morning and afternoon peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The turning movement counts collected in 2021 are shown in **Figure 3** with count sheets in **Appendix B**. The 2024 adjusted existing traffic volumes are shown in **Figure 4.**

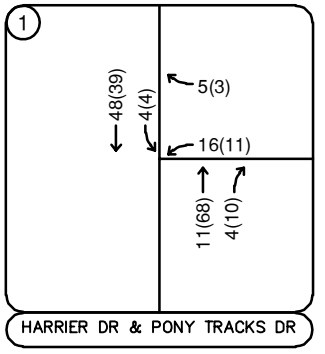
As the previously collected counts were collected more than one year after the COVID-19 pandemic, a calculation was previously provided in the prior application to determine if existing peak hour traffic volumes needed adjustment. Traffic volumes from the Airport Creek Point Apartments Traffic Impact Study completed in April 2021 was used for the calculation. Existing peak hour turning movement counts along Powers Boulevard south leg of the Airport Road intersection were compared to previous peak hour turning movement counts collected at this location in 2018 to account for the potential impact of COVID-19. The 2018 counts were grown to existing year 2021 by using a 1.3 percent annual growth rate. The adjusted traffic volumes were then compared to the 2021 existing counts which determined a negligible decrease in traffic volumes during the AM peak hour (4,680 pre-COVID vehicles to 4,652 post-COVID vehicles) and a negligible increase in traffic volumes during the PM peak hour (4,995 pre-COVID vehicles to 5,008 post-COVID vehicles). Therefore, a traffic volume adjustment factor was not determined to be needed with this project as it was determined that traffic volumes through the peak hour are counted to be close to normal conditions. Comparison traffic counts and the count adjustment calculations are also provided in **Appendix B**.

3.4 Unspecified Development Traffic Growth

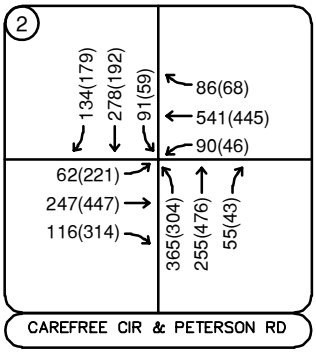
According to traffic projections from the CDOT Online Transportation Information System (OTIS), 20-year growth factor along Powers Boulevard in the vicinity of the project site is between 1.23 and 1.26. The 20-year growth factor equates to an annual growth rate of 1.2 percent. Traffic information from the CDOT OTIS website is included in **Appendix C**. Although growth projections have lowered from the previous application, the previous 1.3 percent annual growth rate was utilized to remain consistent with the previous study and to provide a conservative analysis. This

annual growth rate was used to estimate short-term 2027 and long-term 2045 traffic volume projections at the key intersections. The calculated background traffic volumes for 2027 and 2045 are shown in **Figure 5** and **Figure 6**, respectively.

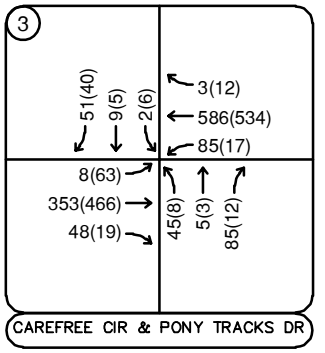




Thursday, April 8, 2021
7:00 to 8:00AM (4:30 to 5:30PM)



Thursday, April 8, 2021
7:15 to 8:15AM (4:30 to 5:30PM)



Thursday, April 8, 2021
7:00 to 8:00AM (4:30 to 5:30PM)

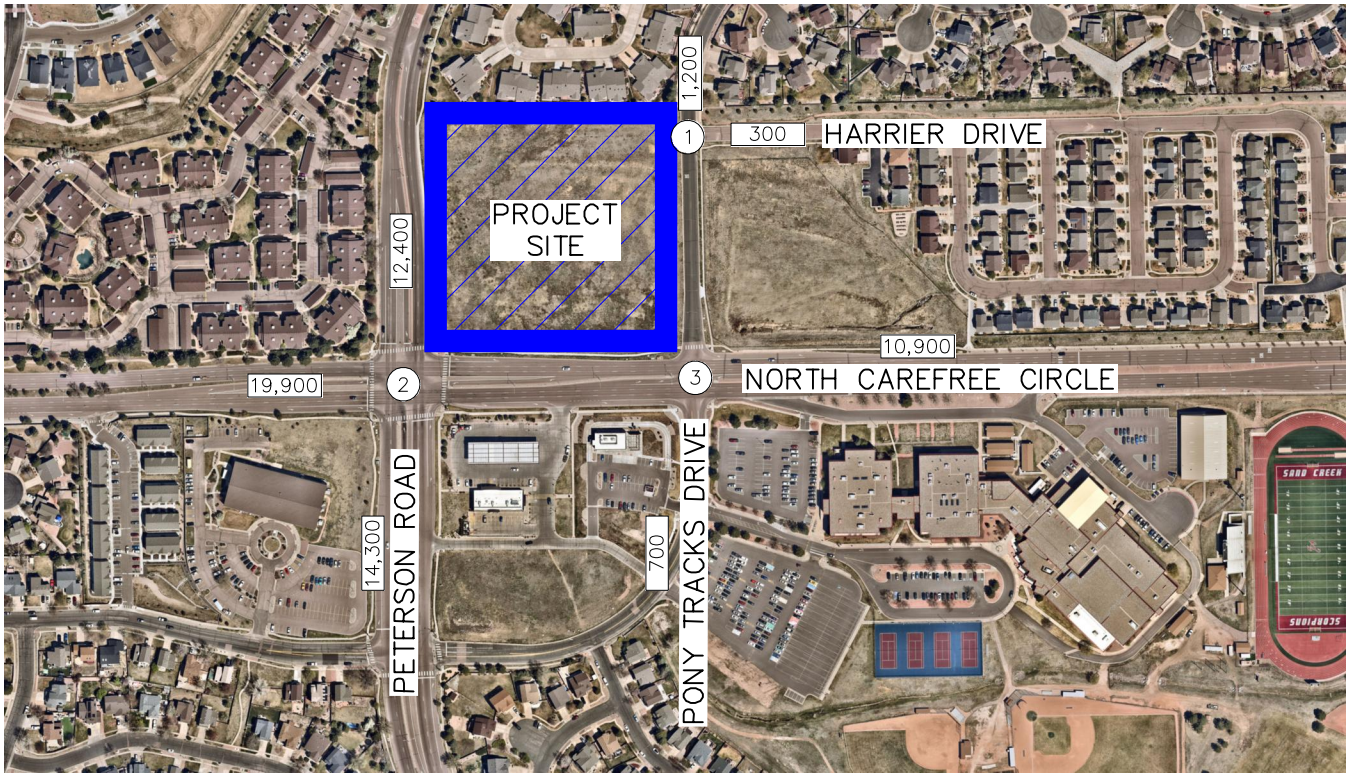
Kimley»Horn
NORTH
NTS 296008000

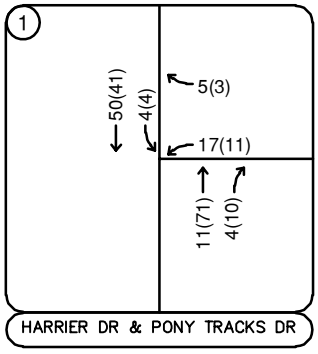
FIGURE 3
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
2021 TRAFFIC VOLUMES

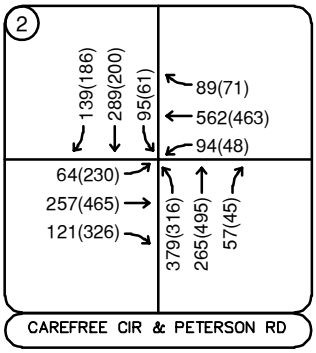
LEGEND

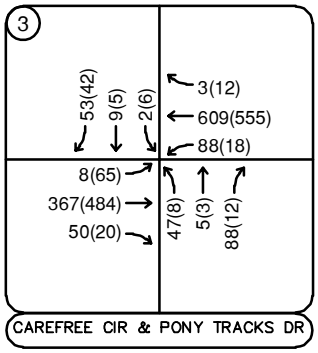
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

Kimley»Horn









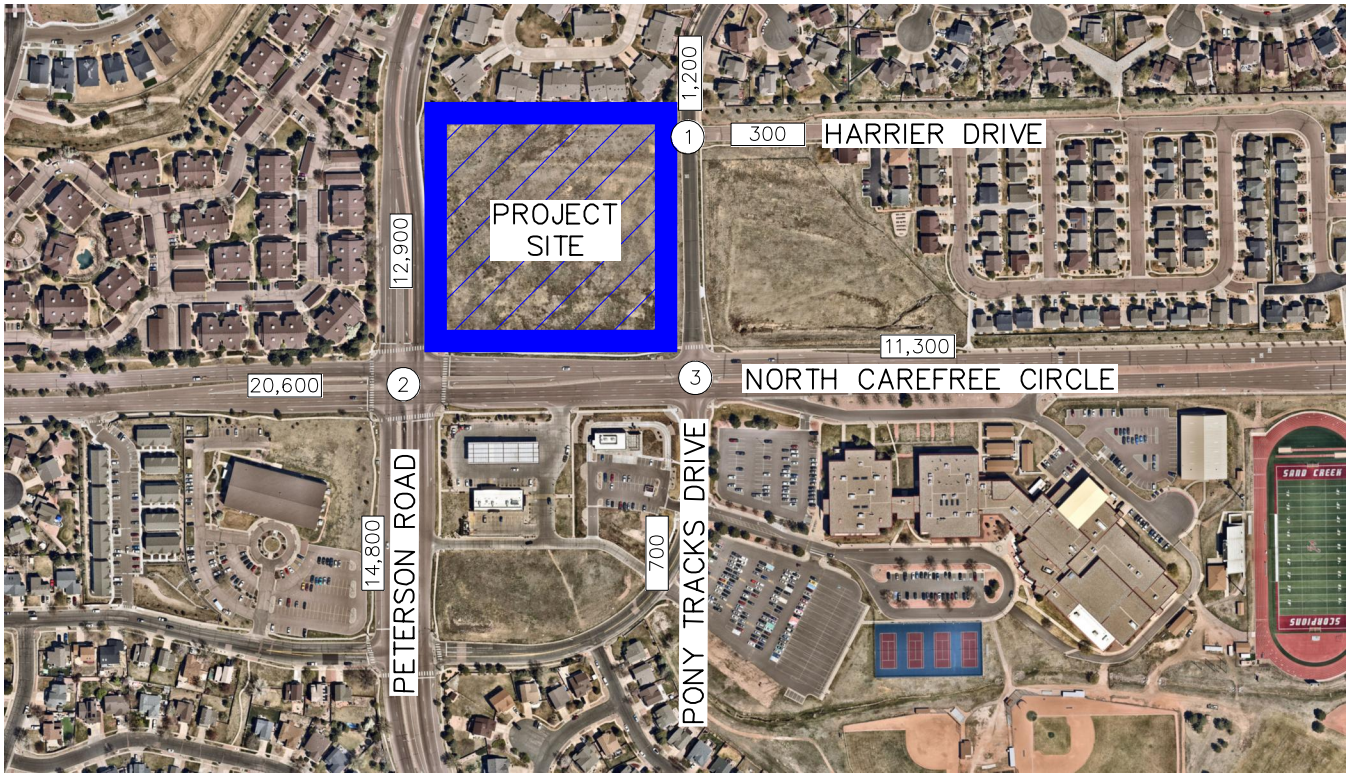
Kimley»Horn NORTH
NTS 296008000

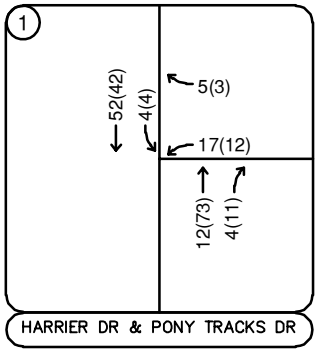
FIGURE 4
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
2024 EXISTING TRAFFIC VOLUMES

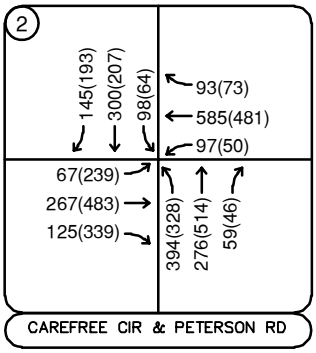
LEGEND

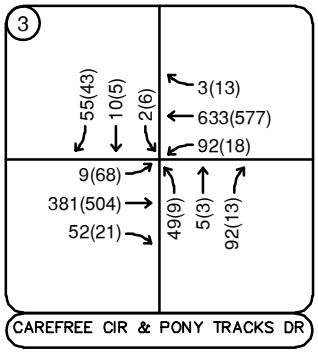
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

Kimley»Horn









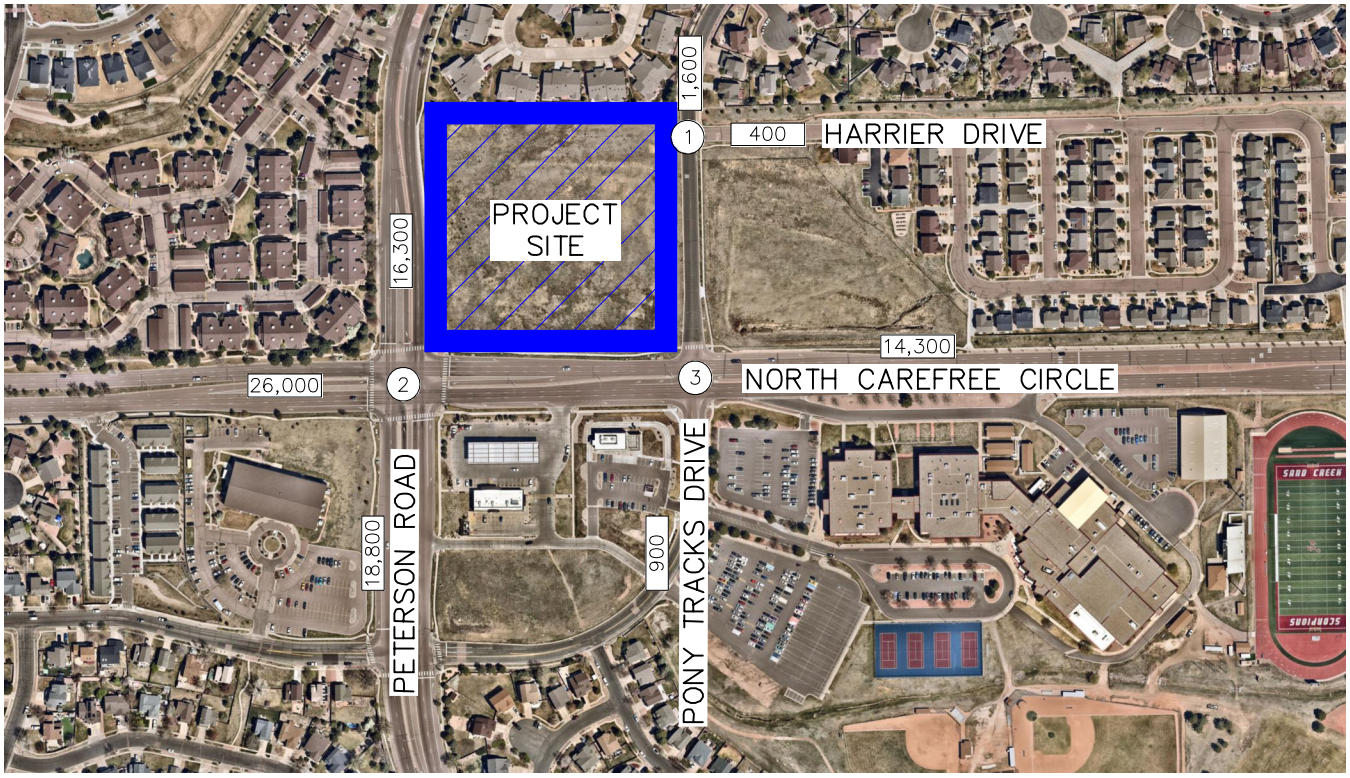
Kimley»Horn NORTH
NTS 296008000

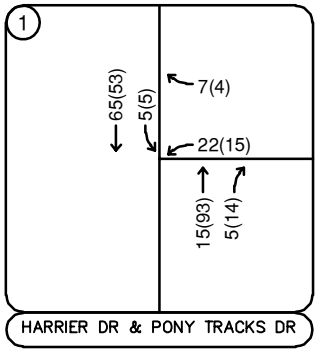
LEGEND

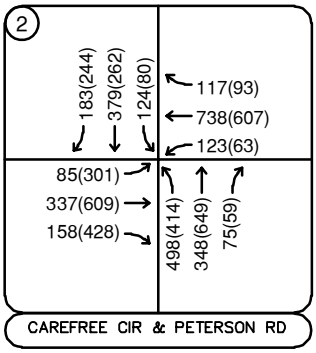
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

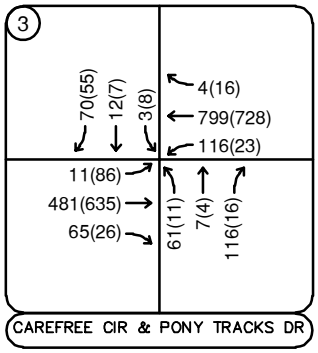
FIGURE 5
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
2027 BACKGROUND TRAFFIC VOLUMES

Kimley»Horn









Kimley»Horn NORTH
NTS 296008000

FIGURE 6
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
2045 BACKGROUND TRAFFIC VOLUMES

LEGEND

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

Kimley»Horn

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report fitted curve equations that apply to Multifamily Low-Rise Housing (ITE Land Use Code 220) for traffic associated with the development.

The Sand Creek Multifamily development is expected to generate approximately 1,000 weekday daily trips, with 67 of these trips occurring during the morning peak hour and 82 of these trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook*, 2021. **Table 1** summarizes the estimated trip generation for the site. The trip generation worksheets are included in **Appendix D**.

Table 1 – Sand Creek Multifamily Project Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Low-Rise Housing (ITE 220) – 144 Dwelling Units	1,000	16	51	67	52	30	82

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic (employment, school, and attraction) information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution for the proposed development is illustrated in **Figure 7**.

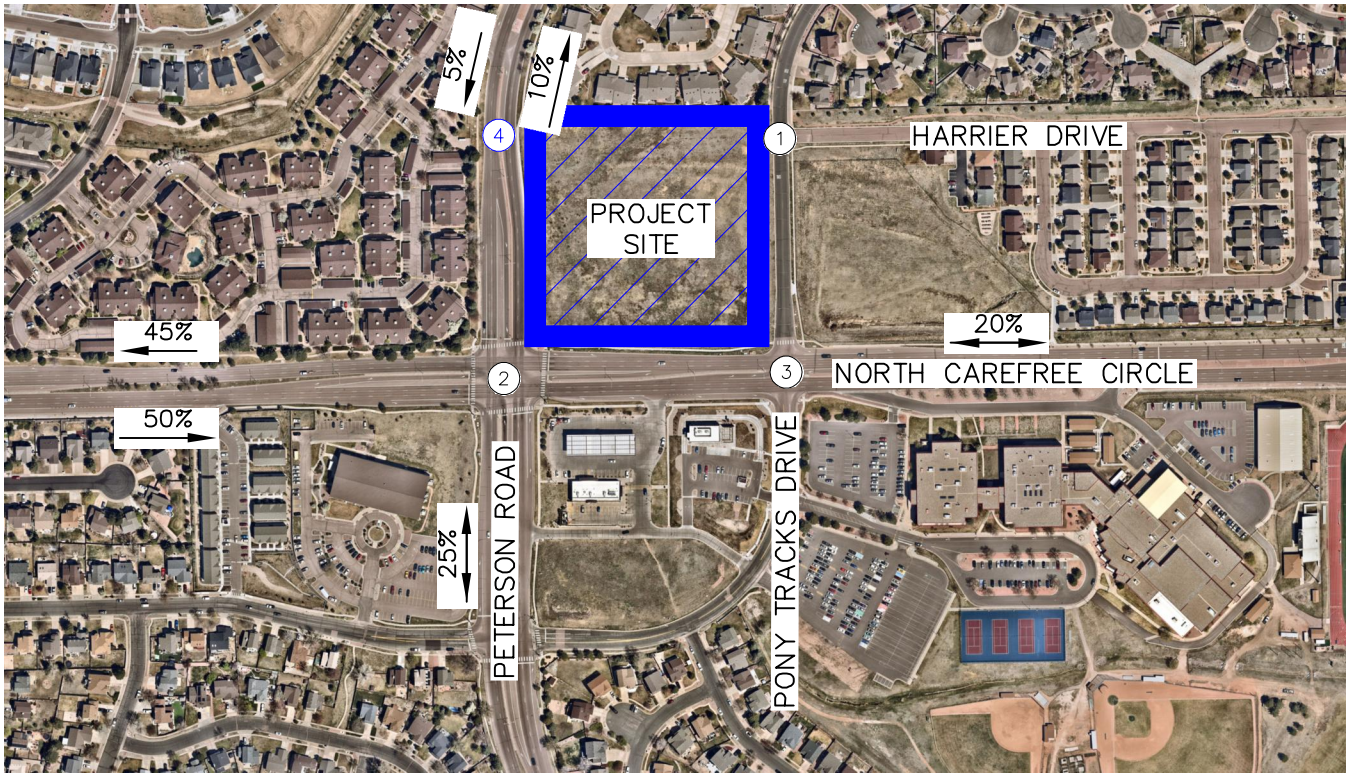
[1] Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

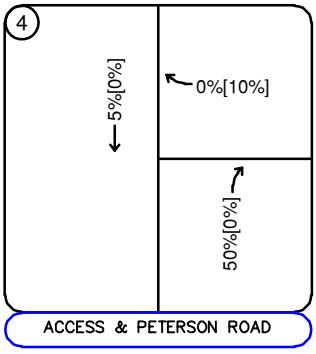
4.3 Traffic Assignment

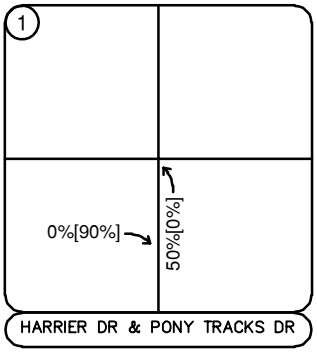
The Sand Creek Multifamily residential project traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Traffic assignment is shown in **Figure 8**.

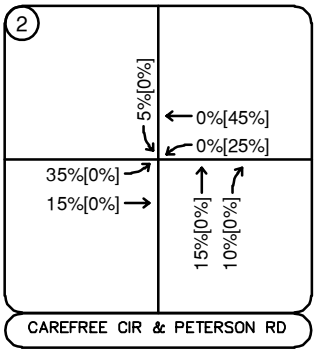
4.4 Total (Background Plus Project) Traffic

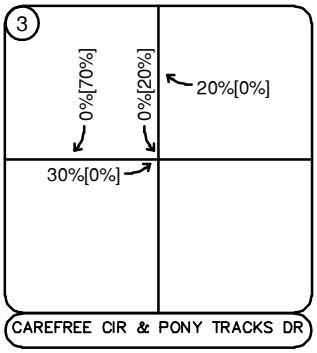
Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2027 buildout horizon and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2027 and 2045 horizon years in **Figure 9** and **Figure 10**, respectively.











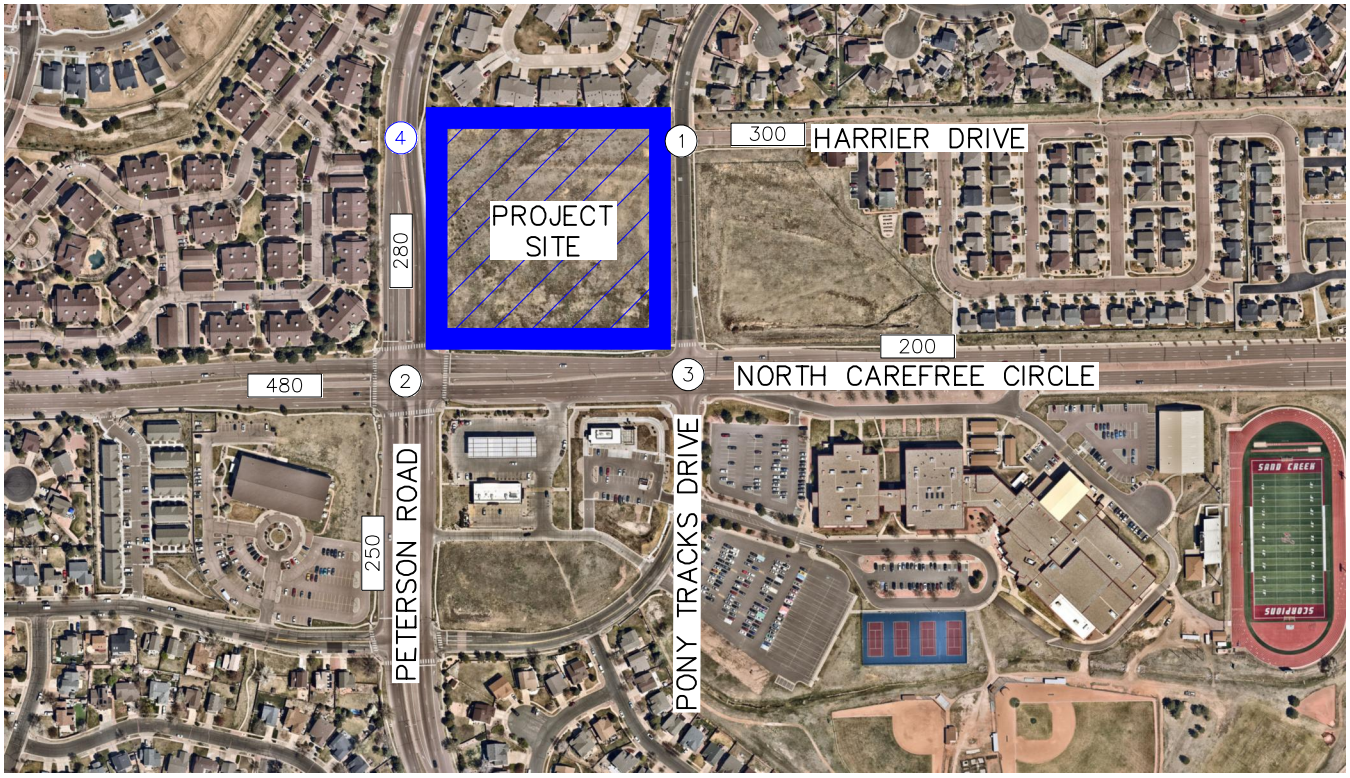
LEGEND

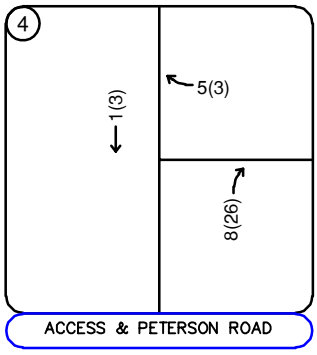
- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

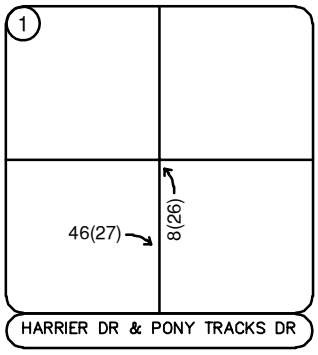
Kimley»Horn NORTH
NTS 296008000

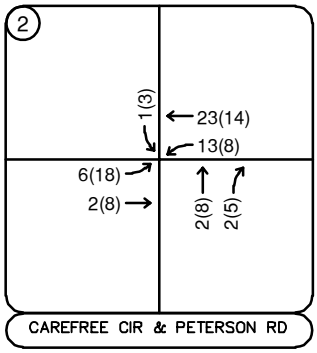
FIGURE 7
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
PROJECT TRIP DISTRIBUTION

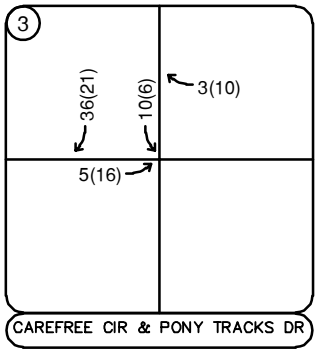
Kimley»Horn











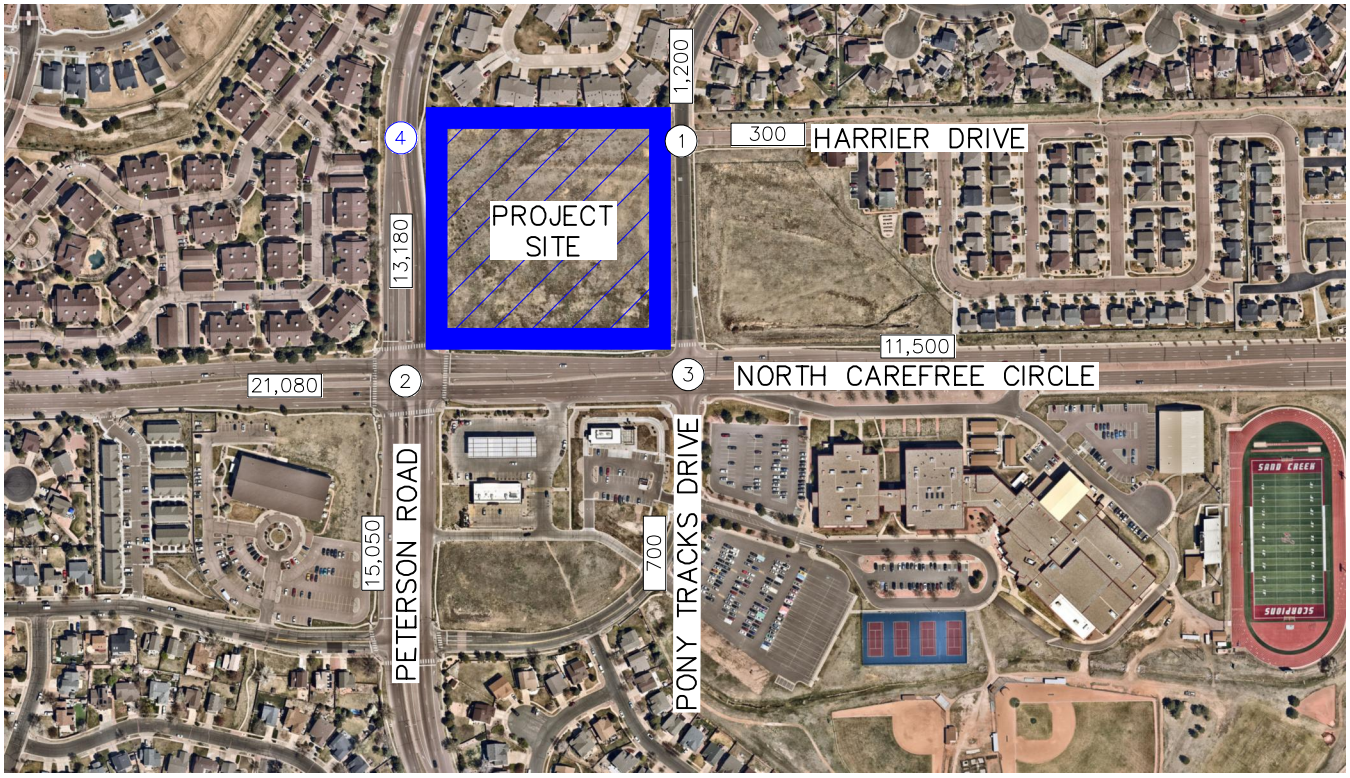
LEGEND

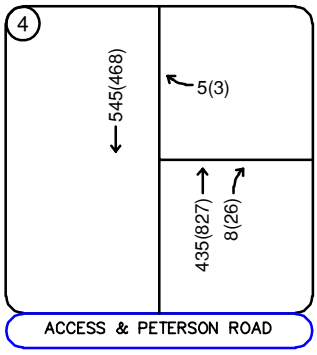
(X)	Study Area Key Intersection
(X)	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

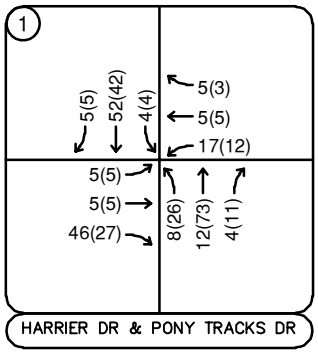
Kimley»Horn NORTH
NTS 296008000

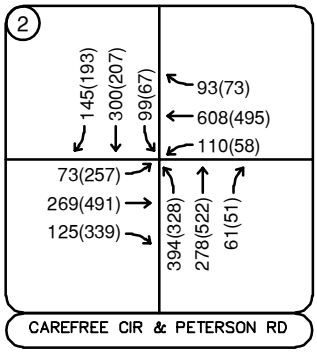
FIGURE 8
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
PROJECT TRAFFIC ASSIGNMENT

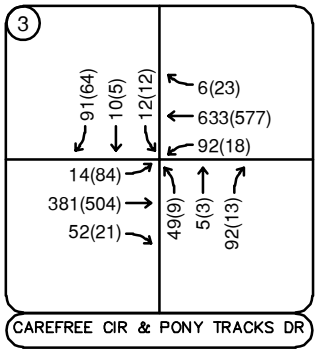
Kimley»Horn











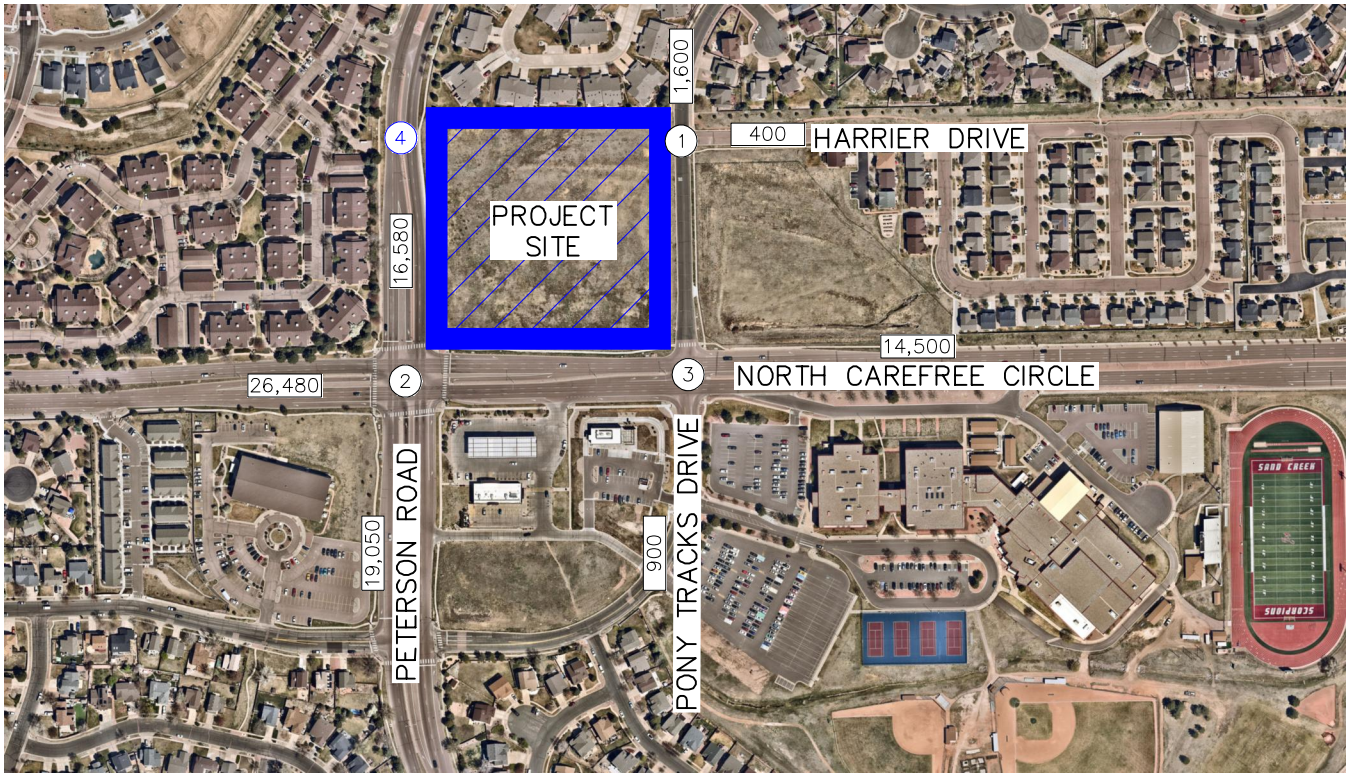
LEGEND

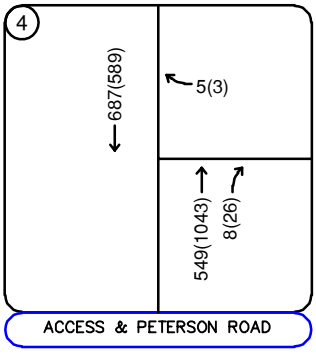
(X)	Study Area Key Intersection
(X)	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

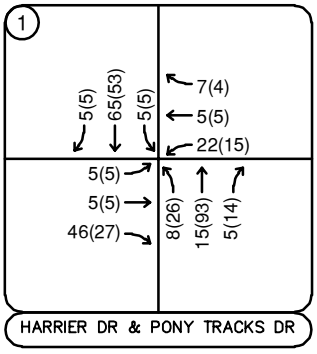
Kimley»Horn NORTH
NTS 296008000

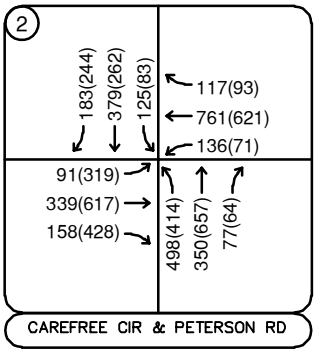
FIGURE 9
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
2027 TOTAL TRAFFIC VOLUMES

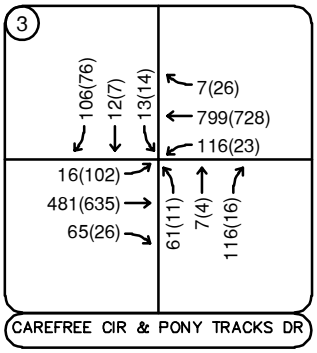
Kimley»Horn











LEGEND

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

Kimley»Horn NORTH
NTS 296008000

FIGURE 10
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
2045 TOTAL TRAFFIC VOLUMES

Kimley»Horn

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2027 and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual (HCM)*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Seventh Edition, Transportation Research Board, 2022.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.

[2] Transportation Research Board, *Highway Capacity Manual*, Seventh Edition, Washington DC, 2022.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix F**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Existing peak hour factors were utilized in the existing and 2027 horizon analysis years while the HCM urban standard of 0.92 was used for the long-term 2045 horizon analysis. The existing heavy vehicle percentages obtained from the turning movement counts were also used in each horizon year. Signal timing was obtained from the City of Colorado Springs. Signal timing data sheets are included in **Appendix E**. Synchro 12 traffic analysis software was used to analyze the signalized and unsignalized key intersections for HCM level of service.

Harrier Drive/Access and Pony Tracks Drive (#1)

The unsignalized T-intersection of Harrier Drive and Pony Tracks Drive (#1) currently operates with stop control on the westbound approach. The movements at this intersection currently operate acceptably with LOS A during the morning and afternoon peak hours. With development of the Sand Creek Multifamily project, a private access aligning with Harrier Drive is anticipated to extend to the west to intersect with Peterson Road. Therefore, there will be a west leg at the intersection of Harrier Drive and Pony Tracks Drive upon project construction. When this west leg is constructed, it is recommended that a R1-1 STOP sign be installed on the westbound approach and that all four approaches consist of a single lane for shared movements. With this west leg, the movements at this intersection operate acceptably throughout 2045 with the addition of project traffic. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – Harrier Drive/Access & Pony Tracks Drive (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2024 Existing				
Westbound Approach	8.9	A	9.3	A
Southbound Left	7.3	A	7.4	A
2027 Background				
Westbound Approach	9.0	A	9.3	A
Southbound Left	7.3	A	7.4	A
2027 Background Plus Project				
Northbound Left	7.4	A	7.4	A
Eastbound Approach	9.0	A	9.4	A
Westbound Approach	9.5	A	10.6	B
Southbound Left	7.3	A	7.5	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2045 Background				
Westbound Approach	9.0	A	9.4	A
Southbound Left	7.3	A	7.5	A
2045 Background Plus Project				
Northbound Left	7.4	A	7.4	A
Eastbound Approach	9.1	A	9.3	A
Westbound Approach	9.6	A	10.3	B
Southbound Left	7.3	A	7.5	A

North Carefree Circle and Peterson Road (#2)

The signalized intersection of North Carefree Circle and Peterson Road (#2) operates with protected/permitted left turn phasing on all approaches. This intersection currently operates unacceptably with LOS E during the morning peak hour and acceptably with LOS C during the afternoon peak hour. With the addition of project traffic, this intersection continues to operate with LOS E in the morning peak hour. To improve the LOS, it is recommended that a northbound dual left turn lane be delineated at the intersection of North Carefree Circle and Peterson Road (#2). There is space currently striped out between the northbound left turn lane and the inside through lane for implementation of this second left turn lane. To accommodate the dual left turn lane the signal timing and corresponding traffic signal heads should be modified to provide protected phasing for the northbound left turn movement. Of note, project traffic does not contribute to this northbound left turn movement. With the northbound dual left turn lane, the intersection operates with acceptable LOS, LOS D or better throughout the 2045 Horizon with the proposed intersection configuration. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – North Carefree Circle & Peterson Road (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2024 Existing	55.7	E	32.6	C
2027 Background	59.1	E	33.4	C
2027 Background Plus Project	58.4	E	33.4	C
2027 Background Plus Project*	39.8	D	33.3	C
2045 Background*	38.3	C	37.5	C
2045 Background Plus Project*	54.7	D	41.6	D

**Includes northbound dual left turn lanes*

North Carefree Circle and Pony Tracks Drive (#3)

The unsignalized intersection of North Carefree Circle and Pony Tracks Drive (#3) operates with stop-control on the northbound and southbound approaches. The movements at this intersection currently operate acceptably with LOS C or better during the morning and afternoon peak hours. With this the addition of project traffic, the movements at this intersection are anticipated to continue to operate acceptable throughout 2045 without the need for modification. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – North Carefree Circle & Pony Tracks Drive (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2024 Existing				
Northbound Left	18.4	C	16.1	C
Northbound Through/Right	10.4	B	11.2	B
Eastbound Left	11.6	B	11.9	B
Westbound Left	9.8	A	9.6	A
Southbound Approach	14.4	B	13.4	B
2027 Background				
Northbound Left	19.5	C	16.1	C
Northbound Through/Right	10.4	B	11.2	B
Eastbound Left	11.8	B	12.2	B
Westbound Left	10.0	A	9.4	A
Southbound Approach	14.9	B	13.6	B
2027 Background Plus Project				
Northbound Left	21.4	C	23.2	C
Northbound Through/Right	10.5	B	13.2	B
Eastbound Left	11.9	B	15.0	B
Westbound Left	10.0	A	10.0	A
Southbound Approach	17.5	C	17.9	C
2045 Background				
Northbound Left	27.6	D	20.6	C
Northbound Through/Right	11.3	B	12.7	B
Eastbound Left	13.2	B	14.2	B
Westbound Left	10.5	B	9.9	A
Southbound Approach	18.4	C	16.2	C
2045 Background Plus Project				
Northbound Left	31.9	D	22.8	C
Northbound Through/Right	11.3	B	13.1	B
Eastbound Left	13.3	B	14.8	B
Westbound Left	10.5	B	9.9	A
Southbound Approach	23.4	C	17.6	C

Project Accesses

With development of the Sand Creek Multifamily project, an access which aligns with Harrier Drive is proposed to be extended to Peterson Road. This intersection of the planned access and Peterson Road will operate with right-in/right-out movements only due to the existing raised median island within Peterson Road. It is recommended that the westbound access approach include a R1-1 STOP sign R3-2 No Left Turn signs installed underneath the STOP Sign to identify the turn movement restriction. A separate northbound right turn lane is not anticipated to be needed as the northbound approach is recommended to have two through lanes with the outside lane being a shared through/right turn lane. With this configuration, the movements at this intersection are anticipated to operate acceptably throughout 2045 with the addition of project traffic. **Table 6** provides the results of the level of service analysis for this intersection.

Table 6 – Project Access Level of Service Results

Intersection	2027 Total				2045 Total			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Peterson Access Westbound Approach	9.8	A	11.6	B	10.2	B	12.8	B

5.3 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 7** with calculations provided within the level of service operational sheets of **Appendix F** for unsignalized intersections and **Appendix G** for signalized intersections.

Table 7 – Turn Lane Queuing Analysis Results

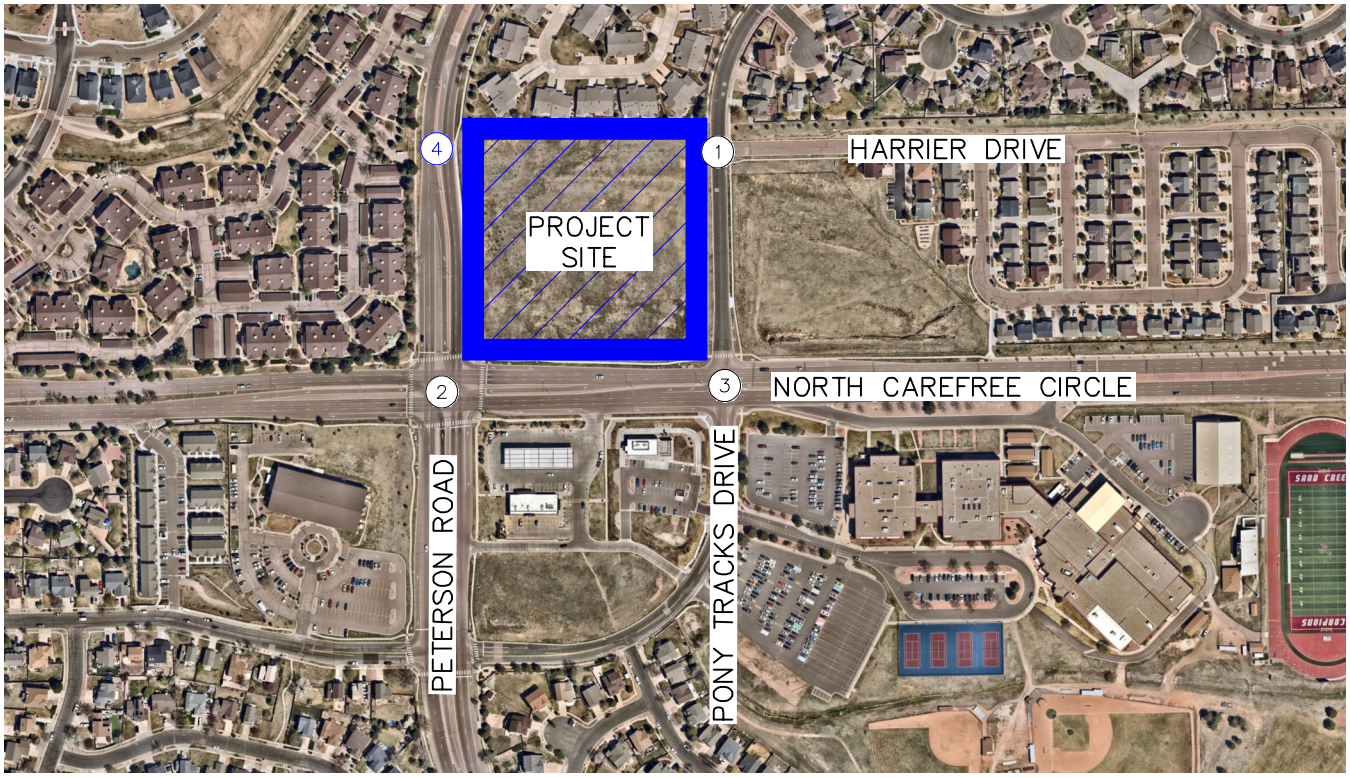
Intersection Turn Lane	Existing Turn Lane Length (feet)	2027 Calculated Queue (feet)	2027 Recommended Length (feet)	2045 Calculated Queue (feet)	2045 Recommended Length (feet)
North Carefree Circle and Peterson Road (#2)					
Eastbound Left	350’	180’	350’	298’	350’
Eastbound Right	175’	62’	175’	76’	175’
Westbound Left	225’	73’	225’	95’	225’
Westbound Right	100’	23’	100’	42’	100’
Northbound Left	275’	183’	275’ DL	148’	275’ DL
Northbound Right	150’	3’	150’	17’	150’
Southbound Left	350’	100’	350’	115’	350’
Southbound Right	200’	61’	200’	64’	200’
North Carefree Circle and Pony Tracks Drive (#3)					
Eastbound Left	100’	25’	100’	25’	100’
Eastbound Right	250’	25’	250’	25’	250’
Westbound Left	200’	25’	200’	25’	200’
Westbound Right	200’	25’	200’	25’	200’
Northbound Left	200’	33’	200’	83’	200’

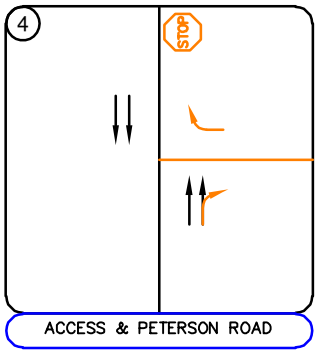
Blue Text = Recommendation; DL = Dual Left Turn Lanes

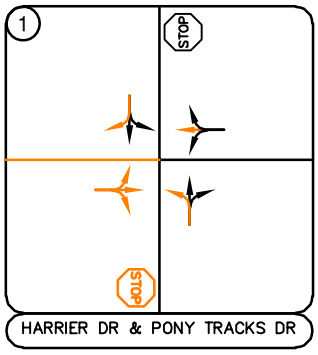
The vehicle queues are all anticipated to remain within the existing or recommended turn lane lengths throughout the 2045 horizon. As documented earlier, dual northbound left turn lanes are recommended at the North Carefree Circle and Peterson Road intersection based on both existing level of service and vehicle queues.

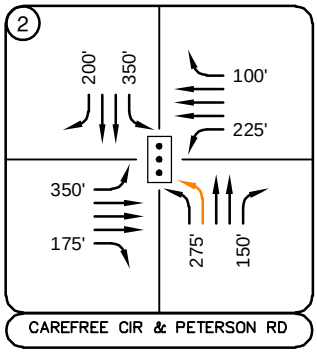
5.4 Improvement Summary

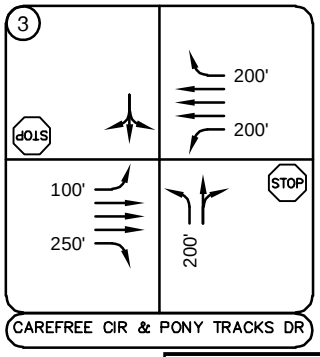
Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 11**.











LEGEND

- Study Area Key Intersection
- Project Access Intersection
- Signalized Intersection
- STOP Stop Controlled Approach
- Improvement
- 100' Turn Lane Length (feet)

Kimley»Horn NORTH
NTS 296008000

FIGURE 11
SAND CREEK MULTIFAMILY
COLORADO SPRINGS, COLORADO
RECOMMENDED GEOMETRY AND CONTROL

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes Sand Creek Multifamily will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

- With development of the Sand Creek Multifamily project, a proposed private road aligning with Harrier Drive is anticipated to extend to the west to intersect with Peterson Road. Therefore, there will be a west leg at the intersection of Harrier Drive and Pony Tracks Drive (#1) with project construction. When this west leg is constructed, it is recommended that a R1-1 STOP sign be installed on the eastbound approach and that all four approaches consist of a single lane for shared movements.

- It is recommended that a northbound dual left turn lane be delineated at the intersection of North Carefree Circle and Peterson Road (#2). There is space currently striped out between the northbound left turn lane and the inside through lane for implementation of this second left turn lane. To accommodate the dual left turn lanes, the signal timing and corresponding traffic signal heads should be modified to provide protected phasing for the northbound left turn movement. Of note, project traffic does not contribute to this northbound left turn movement.

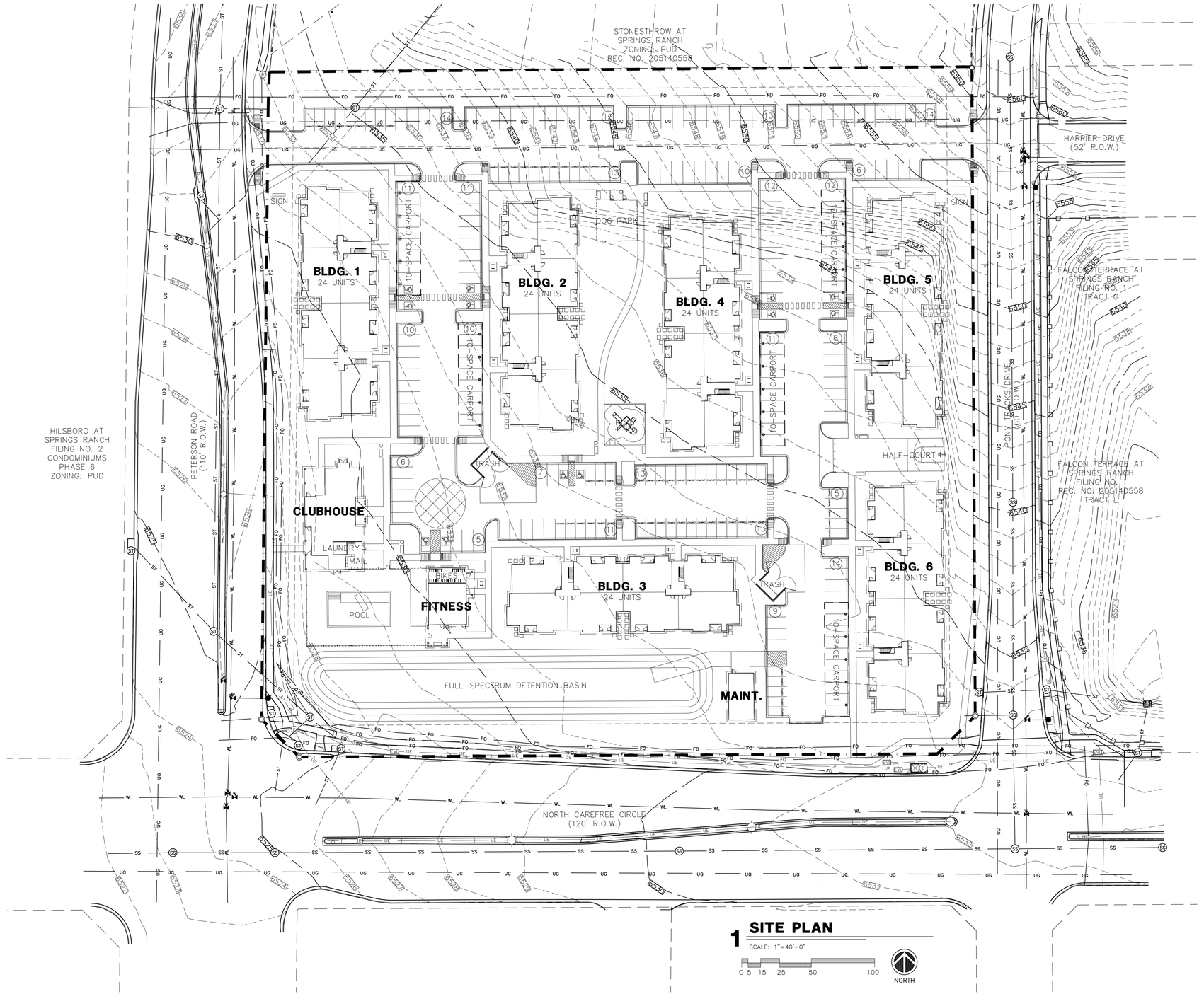
- When a proposed private road aligning with Harrier Drive is constructed to intersect with Peterson Road, the intersection of the private road and Peterson Road will operate with right-in/right-out movements only due to the existing raised median island within Peterson Road. It is recommended that the westbound private road approach include a R1-1 “STOP” sign with a R3-2 No Left Turn signs installed underneath the STOP sign to identify the turn movement restriction. A separate northbound right turn lane is not anticipated to be warranted, and the northbound approach is recommended to have two through lanes with the outside lane being a shared through/right turn lane.

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the Colorado Springs and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

APPENDICES

APPENDIX A

Conceptual Site Plan



1 SITE PLAN

SCALE: 1"=40'-0"

0 5 15 25 50 100

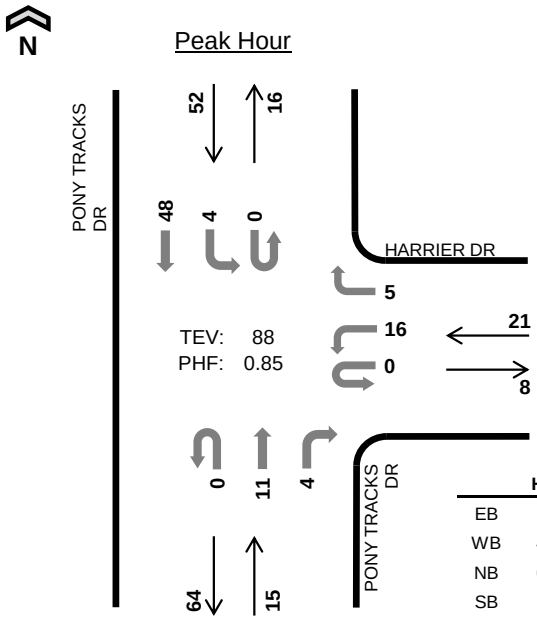
NORTH

APPENDIX B

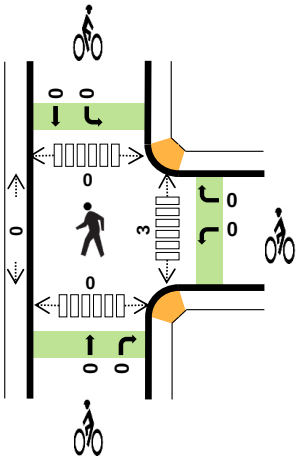
Intersection Count Sheets

PONY TRACKS DR
HARRIER DR

Date: 04-08-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	-	-
WB	4.8%	0.75
NB	0.0%	0.63
SB	1.9%	0.81
TOTAL	2.3%	0.85



Two-Hour Count Summaries

Interval Start	0 Eastbound				HARRIER DR Westbound				PONY TRACKS DR Northbound				PONY TRACKS DR Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**1**	**15**	**0**	**26**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**0**	**2**	**2**	**0**	**2**	**13**	**0**	**25**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**10**	**0**	**16**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**4**	**2**	**0**	**0**	**10**	**0**	**21**	**88**
8:00 AM	0	0	0	0	0	1	0	1	0	0	8	3	0	1	8	0	22	84
8:15 AM	0	0	0	0	0	2	0	1	0	0	3	0	0	2	8	0	16	75
8:30 AM	0	0	0	0	0	2	0	3	0	0	2	2	0	0	7	0	16	75
8:45 AM	0	0	0	0	0	0	0	3	0	0	4	3	0	0	7	0	17	71
Count Total	0	0	0	0	0	21	0	13	0	0	28	12	0	7	78	0	159	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**5**	**0**	**0**	**11**	**4**	**0**	**4**	**48**	**0**	**88**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**20%**	**-**	**-**	**0%**	**0%**	**-**	**0%**	**2%**	**-**	**2%**	**0**

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

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

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	0				HARRIER DR				PONY TRACKS DR				PONY TRACKS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**

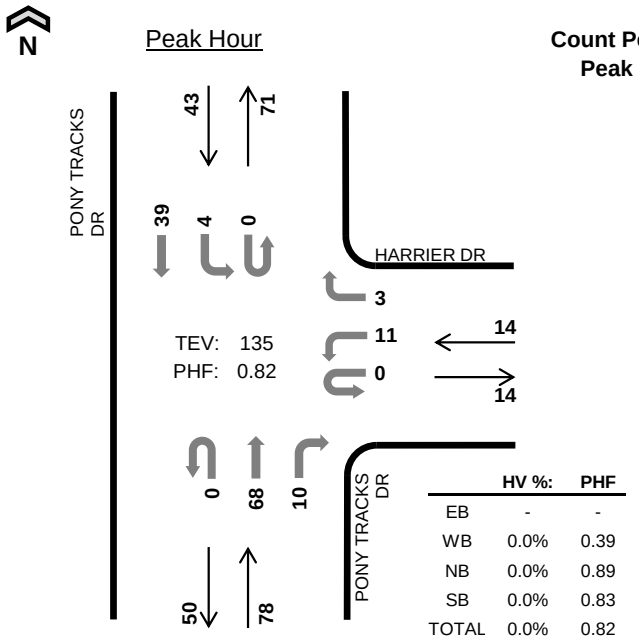
Two-Hour Count Summaries - Bikes

Interval Start	0			HARRIER DR			PONY TRACKS DR			PONY TRACKS DR			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

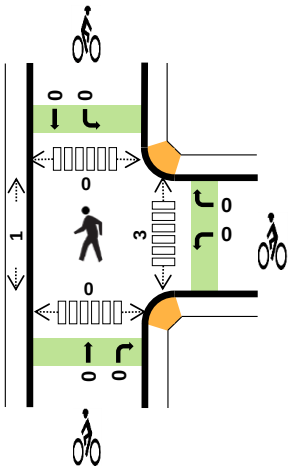
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

PONY TRACKS DR
HARRIER DR

Date: 04-08-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.39
NB	0.0%	0.89
SB	0.0%	0.83
TOTAL	0.0%	0.82



Two-Hour Count Summaries

Interval Start	0 Eastbound				HARRIER DR Westbound				PONY TRACKS DR Northbound				PONY TRACKS DR Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	9	1	0	0	8	0	19	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	15	3	0	0	9	0	29	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**16**	**3**	**0**	**1**	**9**	**0**	**34**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**1**	**0**	**1**	**9**	**0**	**31**	113
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**2**	**0**	**2**	**11**	**0**	**29**	123
5:15 PM	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**2**	**0**	**0**	**18**	**4**	**0**	**0**	**10**	**0**	**41**	**135**
5:30 PM	0	0	0	0	0	1	0	1	0	0	9	10	0	0	4	0	25	126
5:45 PM	0	0	0	0	0	4	0	1	0	0	11	4	0	2	8	0	30	125
Count Total	0	0	0	0	0	17	0	7	0	0	112	28	0	6	68	0	238	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**3**	**0**	**0**	**68**	**10**	**0**	**4**	**39**	**0**	**135**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**0%**	**0%**	**-**	**0%**	**0%**	**-**	**0%**	**0**

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

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

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	0				HARRIER DR				PONY TRACKS DR				PONY TRACKS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

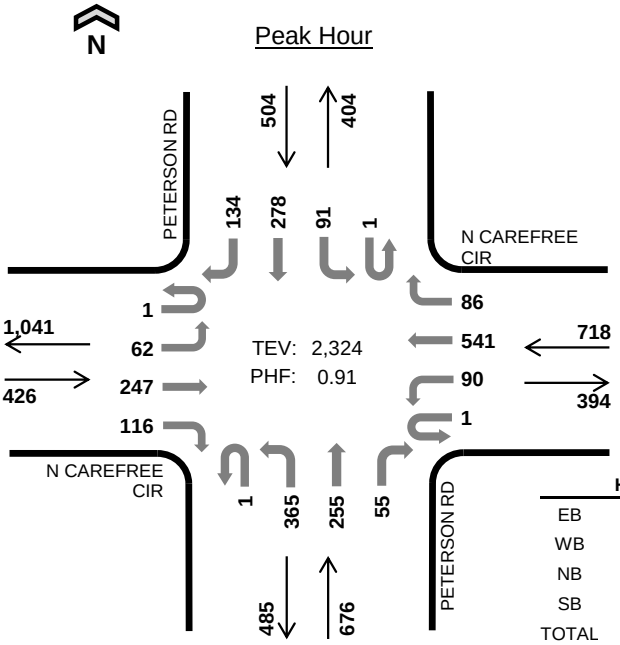
Two-Hour Count Summaries - Bikes

Interval Start	0			HARRIER DR			PONY TRACKS DR			PONY TRACKS DR			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

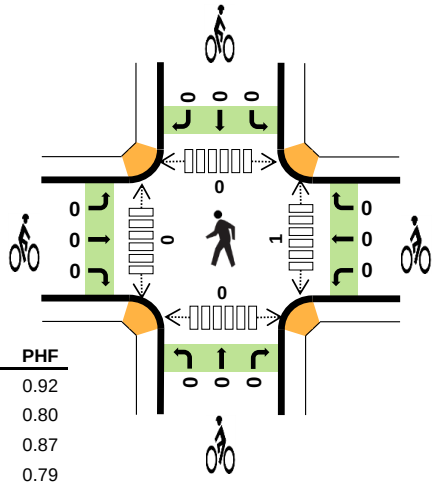
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

PETERSON RD
N CAREFREE CIR

Date: 04-08-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	0.7%	0.92
WB	0.7%	0.80
NB	2.5%	0.87
SB	0.6%	0.79
TOTAL	1.2%	0.91



Two-Hour Count Summaries

Interval Start	N CAREFREE CIR Eastbound				N CAREFREE CIR Westbound				PETERSON RD Northbound				PETERSON RD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	12	61	31	0	11	77	12	0	60	38	9	0	25	50	42	428	0
7:15 AM	**0**	**8**	**50**	**32**	**1**	**16**	**144**	**16**	**0**	**85**	**63**	**10**	**0**	**37**	**90**	**32**	**584**	0
7:30 AM	**1**	**19**	**72**	**24**	**0**	**28**	**123**	**25**	**0**	**116**	**66**	**13**	**1**	**23**	**75**	**28**	**614**	0
7:45 AM	**0**	**11**	**70**	**31**	**0**	**35**	**159**	**29**	**1**	**91**	**62**	**24**	**0**	**18**	**64**	**41**	**636**	2,262
8:00 AM	**0**	**24**	**55**	**29**	**0**	**11**	**115**	**16**	**0**	**73**	**64**	**8**	**0**	**13**	**49**	**33**	**490**	**2,324**
8:15 AM	0	20	58	32	0	7	73	12	0	47	52	4	0	14	42	46	407	2,147
8:30 AM	0	17	48	29	0	5	72	5	0	62	29	2	0	10	24	44	347	1,880
8:45 AM	0	9	46	34	1	7	79	6	0	45	20	0	0	10	36	38	331	1,575
Count Total	1	120	460	242	2	120	842	121	1	579	394	70	1	150	430	304	3,837	0
Peak Hour All	**1**	**62**	**247**	**116**	**1**	**90**	**541**	**86**	**1**	**365**	**255**	**55**	**1**	**91**	**278**	**134**	**2,324**	**0**
Peak Hour HV	**0**	**0**	**2**	**1**	**0**	**2**	**3**	**0**	**0**	**6**	**6**	**5**	**0**	**2**	**1**	**0**	**28**	**0**
Peak Hour HV%	**0%**	**0%**	**1%**	**1%**	**0%**	**2%**	**1%**	**0%**	**0%**	**2%**	**2%**	**9%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	4	0	*7*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**1**	**4**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:30 AM	**0**	**2**	**1**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**1**	**5**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**2**	**1**	**7**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	5	2	2	1	*10*	0	0	0	0	*0*	0	0	0	1	*1*
8:30 AM	4	1	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	14	10	23	4	*51*	0	0	0	0	*0*	1	0	0	1	*2*
Peak Hour	**3**	**5**	**17**	**3**	***28***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	N CAREFREE CIR Eastbound				N CAREFREE CIR Westbound				PETERSON RD Northbound				PETERSON RD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	2	0	0	0	1	1	2	0	0	0	0	7	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**5**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**5**	0
7:45 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**2**	**0**	**1**	**0**	**0**	**8**	25
8:00 AM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**2**	**2**	**0**	**0**	**0**	**0**	**10**	**28**
8:15 AM	0	1	2	2	0	0	1	1	0	1	0	1	0	1	0	0	10	33
8:30 AM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5	33
8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	26
Count Total	0	1	9	4	0	4	5	1	0	8	7	8	0	3	1	0	51	0
Peak Hour	**0**	**0**	**2**	**1**	**0**	**2**	**3**	**0**	**0**	**6**	**6**	**5**	**0**	**2**	**1**	**0**	**28**	**0**

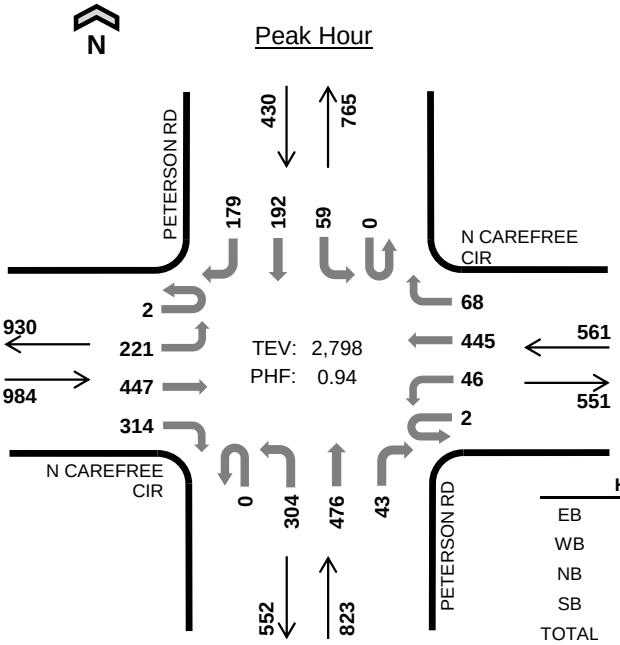
Two-Hour Count Summaries - Bikes

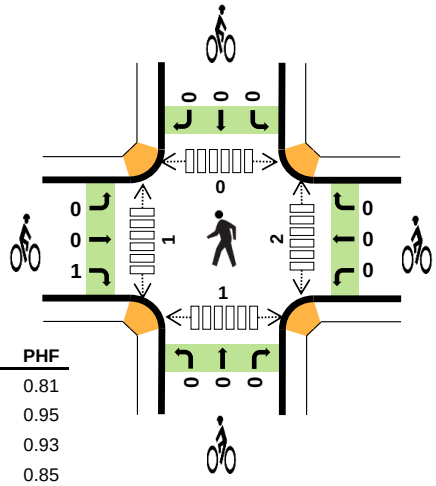
Interval Start	N CAREFREE CIR Eastbound			N CAREFREE CIR Westbound			PETERSON RD Northbound			PETERSON RD Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

PETERSON RD
N CAREFREE CIR

Date: 04-08-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.4%	0.81
WB	0.0%	0.95
NB	0.5%	0.93
SB	0.0%	0.85
TOTAL	0.3%	0.94

Two-Hour Count Summaries

Interval Start		N CAREFREE CIR Eastbound				N CAREFREE CIR Westbound				PETERSON RD Northbound				PETERSON RD Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		1	38	90	80	1	10	80	15	0	81	112	18	0	13	41	28	608	0
4:15 PM		0	57	121	80	1	5	123	8	0	78	91	17	0	14	44	47	686	0
4:30 PM		**1**	**45**	**94**	**60**	**0**	**10**	**116**	**15**	**0**	**83**	**116**	**9**	**0**	**14**	**55**	**43**	**661**	0
4:45 PM		**1**	**54**	**118**	**86**	**1**	**7**	**117**	**23**	**0**	**75**	**116**	**9**	**0**	**12**	**37**	**44**	**700**	2,655
5:00 PM		**0**	**56**	**90**	**74**	**1**	**12**	**98**	**16**	**0**	**83**	**125**	**14**	**0**	**20**	**52**	**54**	**695**	2,742
5:15 PM		**0**	**66**	**145**	**94**	**0**	**17**	**114**	**14**	**0**	**63**	**119**	**11**	**0**	**13**	**48**	**38**	**742**	**2,798**
5:30 PM		0	47	114	94	1	13	84	4	0	61	83	6	0	15	56	47	625	2,762
5:45 PM		0	62	131	66	0	10	105	8	0	54	67	7	0	6	47	40	603	2,665
Count Total		3	425	903	634	5	84	837	103	0	578	829	91	0	107	380	341	5,320	0
Peak Hour	**All**	**2**	**221**	**447**	**314**	**2**	**46**	**445**	**68**	**0**	**304**	**476**	**43**	**0**	**59**	**192**	**179**	**2,798**	**0**
	HV	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**0**
	HV%	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**-**	**1%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	3	2	0	*6*	0	0	0	0	*0*	2	0	0	0	*2*
4:15 PM	3	4	1	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**1**	**0**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
4:45 PM	**2**	**0**	**1**	**0**	***3***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**0**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***
5:30 PM	0	1	1	0	*2*	0	0	0	0	*0*	0	1	0	2	*3*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	1	0	2	0	*3*
Count Total	8	8	8	1	*25*	1	0	0	0	*1*	5	2	2	3	*12*
Peak Hour	**4**	**0**	**4**	**0**	***8***	**1**	**0**	**0**	**0**	***1***	**2**	**1**	**0**	**1**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	N CAREFREE CIR				N CAREFREE CIR				PETERSON RD				PETERSON RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	2	0	0	1	1	0	0	0	0	6	0
4:15 PM	0	1	2	0	0	0	4	0	0	0	1	0	0	0	0	0	8	0
4:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	19
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	15
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**8**
5:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Count Total	0	2	4	2	0	0	6	2	0	2	5	1	0	0	1	0	25	0
Peak Hour	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**0**

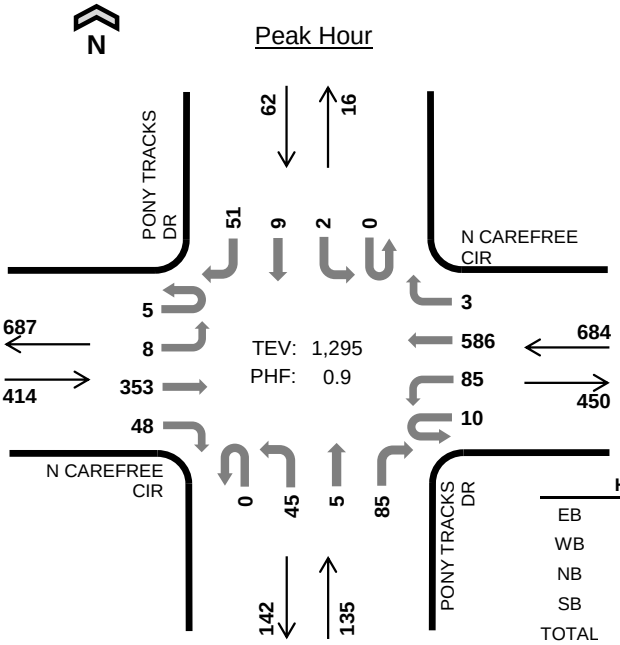
Two-Hour Count Summaries - Bikes

Interval Start	N CAREFREE CIR			N CAREFREE CIR			PETERSON RD			PETERSON RD			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

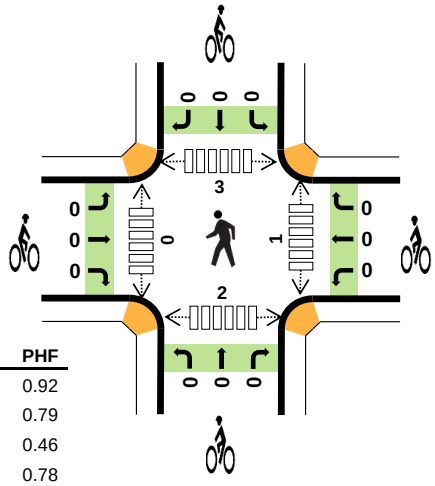
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

PONY TRACKS DR
N CAREFREE CIR

Date: 04-08-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	1.9%	0.92
WB	1.0%	0.79
NB	2.2%	0.46
SB	1.6%	0.78
TOTAL	1.5%	0.90



Two-Hour Count Summaries

Interval Start	N CAREFREE CIR Eastbound				N CAREFREE CIR Westbound				PONY TRACKS DR Northbound				PONY TRACKS DR Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**2**	**75**	**16**	**2**	**28**	**78**	**0**	**0**	**10**	**1**	**20**	**0**	**2**	**5**	**13**	**252**	0
7:15 AM	**2**	**2**	**68**	**24**	**5**	**39**	**133**	**0**	**0**	**27**	**2**	**44**	**0**	**0**	**2**	**13**	**361**	0
7:30 AM	**2**	**1**	**106**	**4**	**1**	**8**	**173**	**0**	**0**	**5**	**1**	**14**	**0**	**0**	**2**	**11**	**328**	0
7:45 AM	**1**	**3**	**104**	**4**	**2**	**10**	**202**	**3**	**0**	**3**	**1**	**7**	**0**	**0**	**0**	**14**	**354**	**1,295**
8:00 AM	1	5	60	2	1	2	129	4	0	1	1	1	0	3	1	6	217	1,260
8:15 AM	1	2	71	4	2	2	82	0	0	0	1	1	0	2	1	7	176	1,075
8:30 AM	2	4	61	1	0	8	73	0	0	3	0	1	0	1	0	8	162	909
8:45 AM	1	7	44	3	1	6	84	0	0	0	0	0	0	0	0	7	153	708
Count Total	10	26	589	58	14	103	954	7	0	49	7	88	0	8	11	79	2,003	0
Peak Hour All	**5**	**8**	**353**	**48**	**10**	**85**	**586**	**3**	**0**	**45**	**5**	**85**	**0**	**2**	**9**	**51**	**1,295**	**0**
Peak Hour HV	**0**	**0**	**7**	**1**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**19**	**0**
Peak Hour HV%	**0%**	**0%**	**2%**	**2%**	**0%**	**2%**	**1%**	**0%**	**-**	**0%**	**0%**	**4%**	**-**	**0%**	**0%**	**2%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**3**	**3**	**2**	**1**	***9***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**2**	*5*
7:15 AM	**1**	**1**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**1**	**2**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:45 AM	**3**	**1**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	4	2	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	0	1	*1*
8:30 AM	5	1	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	20	12	3	1	*36*	0	0	0	0	*0*	1	0	3	3	*7*
Peak Hour	**8**	**7**	**3**	**1**	***19***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**3**	**2**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	N CAREFREE CIR Eastbound				N CAREFREE CIR Westbound				PONY TRACKS DR Northbound				PONY TRACKS DR Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**3**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**9**	0
7:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	0
7:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
7:45 AM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**19**
8:00 AM	0	0	4	0	0	1	1	0	0	0	0	0	0	0	0	0	6	16
8:15 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	18
8:30 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6	21
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Count Total	0	0	19	1	0	3	9	0	0	0	0	3	0	0	0	1	36	0
Peak Hour	**0**	**0**	**7**	**1**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**19**	**0**

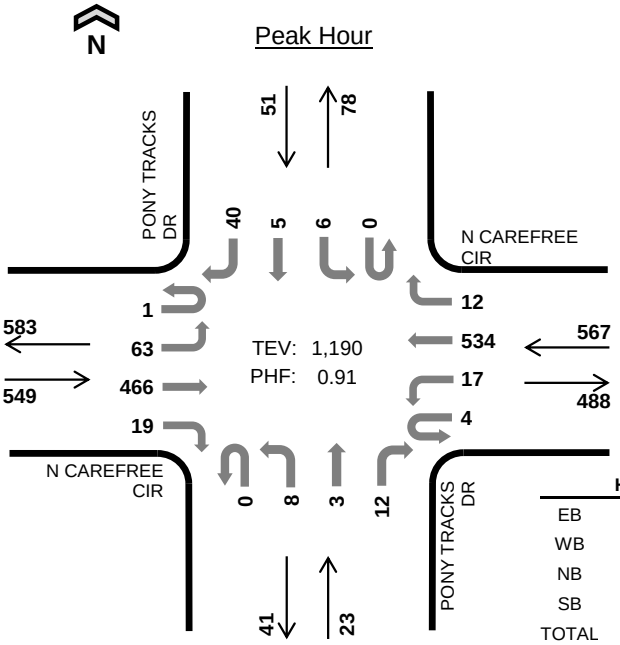
Two-Hour Count Summaries - Bikes

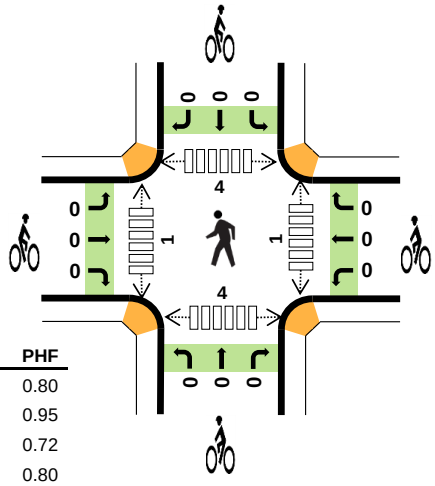
Interval Start	N CAREFREE CIR Eastbound			N CAREFREE CIR Westbound			PONY TRACKS DR Northbound			PONY TRACKS DR Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

PONY TRACKS DR
N CAREFREE CIR

Date: 04-08-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.2%	0.80
WB	0.0%	0.95
NB	0.0%	0.72
SB	0.0%	0.80
TOTAL	0.1%	0.91

Two-Hour Count Summaries

Interval Start	N CAREFREE CIR Eastbound				N CAREFREE CIR Westbound				PONY TRACKS DR Northbound				PONY TRACKS DR Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	8	101	7	0	5	108	2	0	1	0	3	0	0	1	7	244	0
4:15 PM	1	14	130	8	0	10	124	4	0	1	0	7	0	1	0	7	307	0
4:30 PM	**0**	**14**	**98**	**3**	**1**	**5**	**139**	**3**	**0**	**4**	**2**	**1**	**0**	**1**	**1**	**13**	**285**	0
4:45 PM	**0**	**17**	**121**	**6**	**2**	**5**	**139**	**4**	**0**	**1**	**0**	**4**	**0**	**1**	**0**	**6**	**306**	1,142
5:00 PM	**0**	**14**	**99**	**5**	**1**	**3**	**132**	**3**	**0**	**1**	**0**	**2**	**0**	**2**	**2**	**9**	**273**	1,171
5:15 PM	**1**	**18**	**148**	**5**	**0**	**4**	**124**	**2**	**0**	**2**	**1**	**5**	**0**	**2**	**2**	**12**	**326**	**1,190**
5:30 PM	3	15	116	2	0	3	105	2	0	2	2	3	0	0	1	5	259	1,164
5:45 PM	0	12	130	4	0	7	107	4	0	0	0	1	0	0	2	10	277	1,135
Count Total	6	112	943	40	4	42	978	24	0	12	5	26	0	7	9	69	2,277	0
Peak Hour All	**1**	**63**	**466**	**19**	**4**	**17**	**534**	**12**	**0**	**8**	**3**	**12**	**0**	**6**	**5**	**40**	**1,190**	**0**
Peak Hour HV	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
Peak Hour HV%	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	3	1	0	*6*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	2	4	0	0	*6*	0	0	0	0	*0*	1	0	0	1	*2*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**2**	*5*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**2**	***3***
5:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	1	0	0	1	*2*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	1	*2*
Count Total	5	8	1	0	*14*	0	0	0	0	*0*	3	1	6	7	*17*
Peak Hour	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**4**	**4**	***10***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	N CAREFREE CIR				N CAREFREE CIR				PONY TRACKS DR				PONY TRACKS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	6	0
4:15 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	7
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	5	0	0	0	8	0	0	0	0	1	0	0	0	0	14	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	N CAREFREE CIR			N CAREFREE CIR			PONY TRACKS DR			PONY TRACKS DR			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

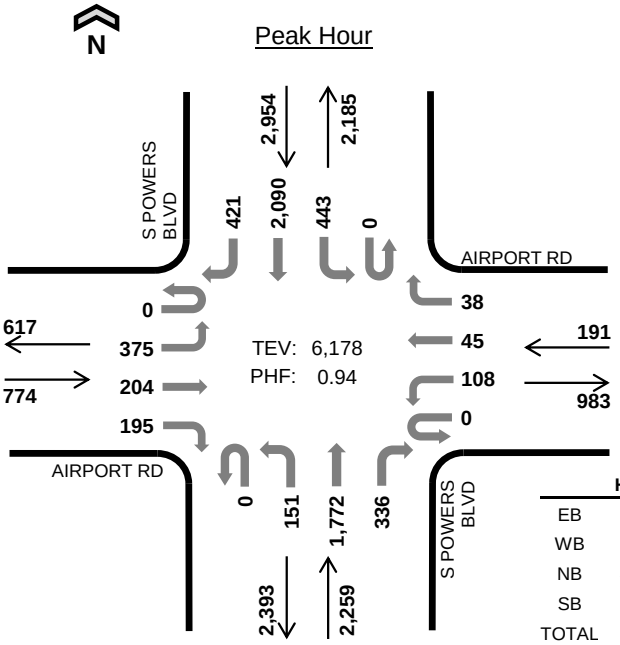
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

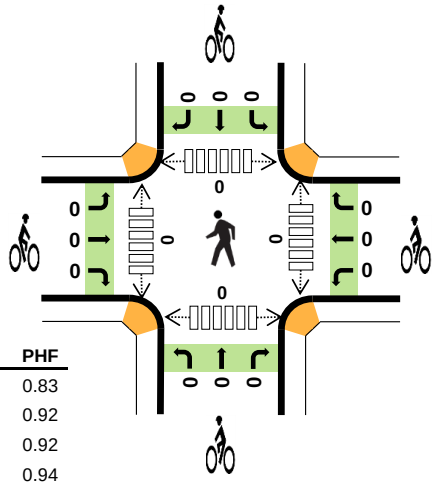
Sand Creek Townhomes: COVID-19 Adjustment Calculations

Location	2018 Counts (Grown to 2021 Equivalent)		2021 COVID		COVID Factor	
	AM	PM	AM	PM	AM	PM
Powers Boulevard S/O Airport Road	4680	4995	4652	5008	101%	100%

S POWERS BLVD
AIRPORT RD

Date: 04-06-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	1.3%	0.83
WB	1.6%	0.92
NB	4.7%	0.92
SB	3.5%	0.94
TOTAL	3.6%	0.94

Two-Hour Count Summaries

Interval Start	AIRPORT RD Eastbound				AIRPORT RD Westbound				S POWERS BLVD Northbound				S POWERS BLVD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	106	38	39	0	26	5	3	0	23	413	77	0	92	488	95	1,405	0
7:15 AM	**0**	**104**	**63**	**65**	**0**	**21**	**11**	**8**	**0**	**31**	**438**	**90**	**0**	**131**	**522**	**83**	**1,567**	0
7:30 AM	**0**	**106**	**49**	**45**	**0**	**33**	**10**	**4**	**0**	**34**	**406**	**65**	**0**	**115**	**495**	**115**	**1,477**	0
7:45 AM	**0**	**100**	**54**	**51**	**0**	**28**	**13**	**11**	**0**	**45**	**466**	**100**	**0**	**96**	**568**	**118**	**1,650**	6,099
8:00 AM	**0**	**65**	**38**	**34**	**0**	**26**	**11**	**15**	**0**	**41**	**462**	**81**	**0**	**101**	**505**	**105**	**1,484**	**6,178**
8:15 AM	0	70	26	40	0	33	18	11	0	23	335	60	0	80	467	85	1,248	5,859
8:30 AM	0	79	30	32	0	37	16	7	0	27	275	60	1	70	412	76	1,122	5,504
8:45 AM	0	67	36	33	0	42	22	13	0	30	285	52	1	67	398	72	1,118	4,972
Count Total	0	697	334	339	0	246	106	72	0	254	3,080	585	2	752	3,855	749	11,071	0
Peak Hour All	**0**	**375**	**204**	**195**	**0**	**108**	**45**	**38**	**0**	**151**	**1,772**	**336**	**0**	**443**	**2,090**	**421**	**6,178**	**0**
Peak Hour HV	**0**	**4**	**0**	**6**	**0**	**3**	**0**	**0**	**0**	**2**	**104**	**0**	**0**	**1**	**98**	**4**	**222**	**0**
Peak Hour HV%	**-**	**1%**	**0%**	**3%**	**-**	**3%**	**0%**	**0%**	**-**	**1%**	**6%**	**0%**	**-**	**0%**	**5%**	**1%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	0	39	19	*62*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**1**	**0**	**19**	**26**	***46***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**2**	**2**	**26**	**25**	***55***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**3**	**0**	**28**	**27**	***58***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**4**	**1**	**33**	**25**	***63***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	4	1	30	46	*81*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	1	5	23	31	*60*	1	0	0	0	*1*	0	0	0	0	*0*
8:45 AM	1	7	27	24	*59*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	20	16	225	223	*484*	1	0	0	0	*1*	0	0	0	0	*0*
Peak Hour	**10**	**3**	**106**	**103**	***222***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	AIRPORT RD Eastbound				AIRPORT RD Westbound				S POWERS BLVD Northbound				S POWERS BLVD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	2	0	0	0	0	0	1	37	1	0	0	17	2	62	0
7:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**25**	**1**	**46**	0
7:30 AM	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**1**	**23**	**1**	**55**	0
7:45 AM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**0**	**0**	**0**	**26**	**1**	**58**	221
8:00 AM	**0**	**2**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**31**	**0**	**0**	**0**	**24**	**1**	**63**	**222**
8:15 AM	0	0	0	4	0	1	0	0	0	1	28	1	0	1	43	2	81	257
8:30 AM	0	1	0	0	0	4	1	0	0	1	22	0	0	0	31	0	60	262
8:45 AM	0	1	0	0	0	6	1	0	0	1	26	0	0	0	24	0	59	263
Count Total	0	8	0	12	0	14	2	0	0	6	217	2	0	2	213	8	484	0
Peak Hour	**0**	**4**	**0**	**6**	**0**	**3**	**0**	**0**	**0**	**2**	**104**	**0**	**0**	**1**	**98**	**4**	**222**	**0**

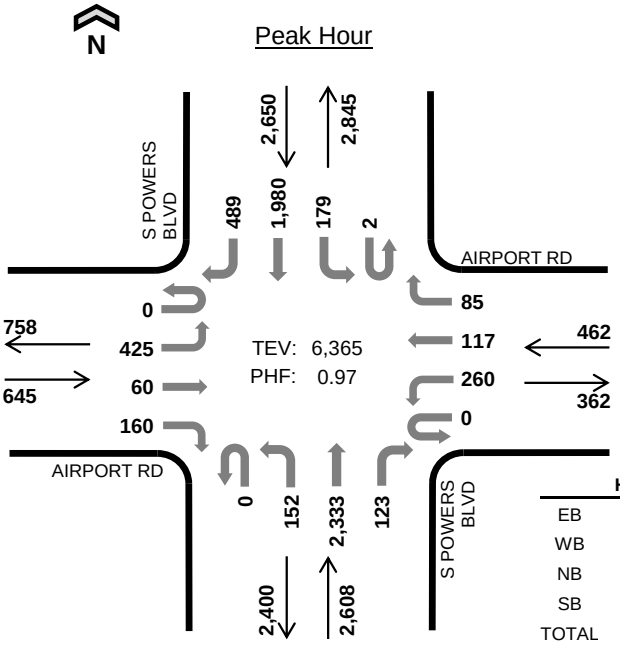
Two-Hour Count Summaries - Bikes

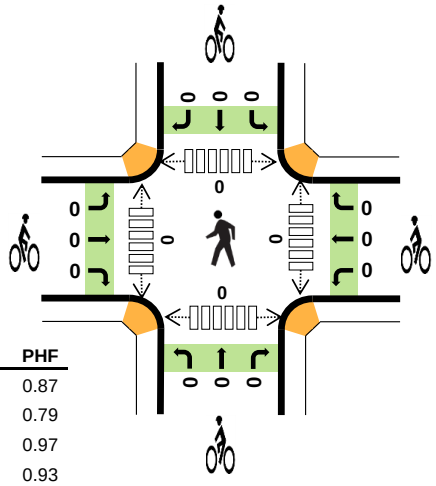
Interval Start	AIRPORT RD Eastbound			AIRPORT RD Westbound			S POWERS BLVD Northbound			S POWERS BLVD Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S POWERS BLVD
AIRPORT RD

Date: 04-06-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.4%	0.87
WB	0.6%	0.79
NB	3.1%	0.97
SB	3.3%	0.93
TOTAL	2.8%	0.97

Two-Hour Count Summaries

Interval Start	AIRPORT RD Eastbound				AIRPORT RD Westbound				S POWERS BLVD Northbound				S POWERS BLVD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	99	18	25	0	73	30	18	0	36	611	45	0	33	481	103	1,572	0
4:15 PM	**0**	**122**	**18**	**45**	**0**	**80**	**20**	**20**	**0**	**45**	**556**	**28**	**1**	**45**	**456**	**121**	**1,557**	0
4:30 PM	**0**	**112**	**15**	**45**	**0**	**75**	**44**	**28**	**0**	**34**	**587**	**38**	**0**	**35**	**525**	**105**	**1,643**	0
4:45 PM	**0**	**87**	**11**	**40**	**0**	**61**	**28**	**13**	**0**	**40**	**579**	**28**	**0**	**54**	**463**	**131**	**1,535**	6,307
5:00 PM	**0**	**104**	**16**	**30**	**0**	**44**	**25**	**24**	**0**	**33**	**611**	**29**	**1**	**45**	**536**	**132**	**1,630**	**6,365**
5:15 PM	0	127	17	30	0	32	21	9	0	29	552	16	0	31	477	123	1,464	6,272
5:30 PM	0	93	14	38	0	27	11	14	0	33	541	28	0	40	463	113	1,415	6,044
5:45 PM	0	96	16	25	0	32	23	11	0	26	397	12	1	45	414	96	1,194	5,703
Count Total	0	840	125	278	0	424	202	137	0	276	4,434	224	3	328	3,815	924	12,010	0
Peak Hour All	**0**	**425**	**60**	**160**	**0**	**260**	**117**	**85**	**0**	**152**	**2,333**	**123**	**2**	**179**	**1,980**	**489**	**6,365**	**0**
Peak Hour HV	**0**	**4**	**3**	**2**	**0**	**1**	**1**	**1**	**0**	**8**	**66**	**6**	**0**	**4**	**62**	**21**	**179**	**0**
Peak Hour HV%	**-**	**1%**	**5%**	**1%**	**-**	**0%**	**1%**	**1%**	**-**	**5%**	**3%**	**5%**	**0%**	**2%**	**3%**	**4%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	22	29	*52*	0	1	0	0	*1*	0	0	0	0	*0*
4:15 PM	**3**	**0**	**21**	**13**	***37***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**1**	**0**	**18**	**24**	***43***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**2**	**19**	**25**	***47***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**4**	**1**	**22**	**25**	***52***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	1	14	22	*37*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	9	23	*32*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	10	13	*24*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	11	4	135	174	*324*	0	1	0	0	*1*	0	0	0	0	*0*
Peak Hour	**9**	**3**	**80**	**87**	***179***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	AIRPORT RD Eastbound				AIRPORT RD Westbound				S POWERS BLVD Northbound				S POWERS BLVD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	2	19	1	0	1	21	7	52	0
4:15 PM	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**15**	**3**	**0**	**0**	**11**	**2**	**37**	0
4:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**2**	**0**	**1**	**18**	**5**	**43**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**3**	**15**	**1**	**0**	**1**	**19**	**5**	**47**	179
5:00 PM	**0**	**3**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**20**	**0**	**0**	**2**	**14**	**9**	**52**	**179**
5:15 PM	0	0	0	0	0	1	0	0	0	2	10	2	0	4	12	6	37	179
5:30 PM	0	0	0	0	0	0	0	0	0	1	7	1	0	0	18	5	32	168
5:45 PM	0	0	0	1	0	0	0	0	0	1	9	0	0	1	8	4	24	145
Count Total	0	4	4	3	0	2	1	1	0	14	111	10	0	10	121	43	324	0
Peak Hour	**0**	**4**	**3**	**2**	**0**	**1**	**1**	**1**	**0**	**8**	**66**	**6**	**0**	**4**	**62**	**21**	**179**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	AIRPORT RD Eastbound			AIRPORT RD Westbound			S POWERS BLVD Northbound			S POWERS BLVD Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

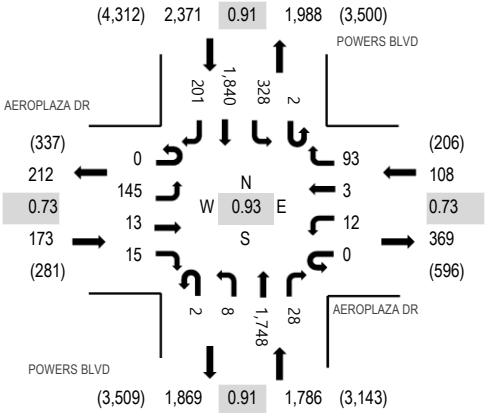
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

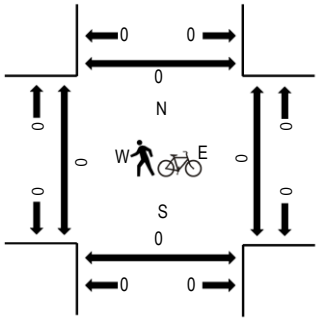
Location: 1 POWERS BLVD & AEROPLAZA DR AM
Date and Start Time: Tuesday, June 19, 2018
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



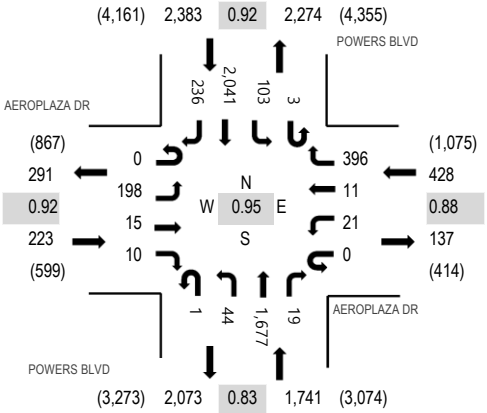
Traffic Counts

Interval Start Time	AEROPLAZA DR Eastbound				AEROPLAZA DR Westbound				POWERS BLVD Northbound				POWERS BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	30	1	3	0	5	0	32	2	1	402	8	0	75	464	34	1,057	4,438	0	0	0	0
7:15 AM	0	38	4	2	0	2	1	24	0	4	483	5	1	92	439	52	1,147	4,271	0	0	0	0
7:30 AM	0	47	5	7	0	3	2	23	0	0	451	5	1	85	504	63	1,196	3,976	0	0	0	0
7:45 AM	0	30	3	3	0	2	0	14	0	3	412	10	0	76	433	52	1,038	3,703	0	0	0	0
8:00 AM	0	23	3	0	0	3	0	23	1	0	335	5	0	51	407	39	890	3,504	0	0	0	0
8:15 AM	0	33	1	5	0	2	1	24	0	2	342	5	1	40	373	23	852		0	0	0	0
8:30 AM	0	17	1	5	0	2	0	24	1	1	336	3	0	54	454	25	923		0	1	0	0
8:45 AM	0	19	0	1	0	3	1	15	0	0	320	6	0	58	383	33	839		0	0	0	0
Count Total	0	237	18	26	0	22	5	179	4	11	3,081	47	3	531	3,457	321	7,942		0	1	0	0
Peak Hour	0	145	13	15	0	12	3	93	2	8	1,748	28	2	328	1,840	201	4,438		0	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

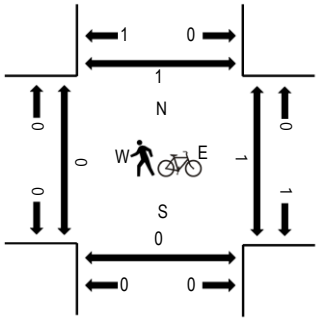
Location: 1 POWERS BLVD & AEROPLAZA DR PM
Date and Start Time: Tuesday, June 19, 2018
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	AEROPLAZA DR Eastbound				AEROPLAZA DR Westbound				POWERS BLVD Northbound				POWERS BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	40	1	2	0	7	4	85	0	3	468	1	2	21	514	51	1,199	4,775	0	0	0	0
4:15 PM	0	50	0	2	0	6	0	84	0	5	516	3	1	15	526	53	1,261	4,713	0	1	0	1
4:30 PM	0	49	1	4	0	3	1	93	0	7	431	1	0	29	572	50	1,241	4,522	0	0	0	0
4:45 PM	0	59	13	2	0	5	6	134	1	29	262	14	0	38	429	82	1,074	4,283	0	0	0	0
5:00 PM	0	51	40	3	1	4	9	171	0	24	274	9	9	50	314	178	1,137	4,134	0	0	0	0
5:15 PM	0	65	37	0	0	4	5	154	1	32	300	3	4	34	313	118	1,070		0	0	0	0
5:30 PM	0	68	26	2	0	3	5	150	0	22	340	2	1	25	283	75	1,002		0	0	0	0
5:45 PM	0	53	29	2	0	4	8	129	0	12	312	2	0	19	267	88	925		0	0	0	0
Count Total	0	435	147	17	1	36	38	1,000	2	134	2,903	35	17	231	3,218	695	8,909		0	1	0	1
Peak Hour	0	198	15	10	0	21	11	396	1	44	1,677	19	3	103	2,041	236	4,775		0	1	0	1

APPENDIX C

Future Traffic Projections

CDOT OTIS Projection: Sand Creek Multifamily

Projected Year	Station ID	Route	Beg Ref	End Ref	AADT	Year	AADT Single	AADT Comb	Pct Trucks	DH V	DESC	Projected AADT	Projected Single Trucks	Projected Combined Trucks	20-Year Factor	Annual Growth Rate
2044	106027	021B	142.983	145.495	67000	2022	2200	1500	5.6	8	ON POWERS BLVD N/O GALLEY RD COLO SPGS	83951	2757	1880	1.23	1.0%
2044	106030	021B	145.495	147.741	63000	2022	2300	1600	6.3	10	ON POWERS BLVD N/O BARNES RD COLO SPGS	81018	2958	2058	1.26	1.2%

APPENDIX D

Trip Generation Worksheets

Kimley»Horn

Project	Sand Creek Multifamily				
Subject	Trip Generation for Multifamily Housing (Low-Rise)				
Designed by	BPA	*Date*	June 12, 2024	*Job No.*	296008000
Checked by	JRP	*Date*	June 14, 2024	*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Low-Rise) (220)

Independent Variable - Dwelling Units (X)

X = 144
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 255)

(T) = 0.31 (X) + 22.85
(T) = 0.31 * (144.0) + 22.85

Directional Distribution: 24% ent. 76% exit.
T = 67 Average Vehicle Trip Ends
16 entering 51 exiting

16 + 51 = 67

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 256)

(T) = 0.43 (X) + 20.55
(T) = 0.43 * (144.0) + 20.55

Directional Distribution: 63% ent. 37% exit.
T = 82 Average Vehicle Trip Ends
52 entering 30 exiting

52 + 30 = 82

Weekday (200 Series Page 254)

(T) = 6.41 (X) + 75.31
(T) = 6.41 * (144.0) + 75.31

Directional Distribution: 50% ent. 50% exit.
T = 1000 Average Vehicle Trip Ends
500 entering 500 exiting

500 + 500 = 1000

APPENDIX E

Signal Timing Data Sheets

Intersection 259 at Carefree Cir North and Peterson Road - Timing table, page 3

Page 3	Phases											
	1	2	3	4	5	6	7	8	9	10	11	12
Min Green	4	25	4	4	4	25	4	4	0	0	0	0
Passage Time I	1.0	5.0	1.0	1.0	1.0	5.0	1.0	1.0	0.0	0.0	0.0	0.0
Passage Time II	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Green I	8	25	8	35	8	25	8	35	0	0	0	0
Max Green II	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Clearance	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5	0.0	0.0	0.0	0.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0
Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0
Min Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Green Time	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk Time	0	0	0	0	0	0	0	0	0	0	0	0
Walk Time	0	7	0	7	0	7	0	7	0	0	0	0
Pedestrian Clearance	0	36	0	31	0	36	0	31	0	0	0	0
Handicap Walk	0	0	0	0	0	0	0	0	0	0	0	0
Handicap Ped Clearance	0	0	0	0	0	0	0	0	0	0	0	0
Carefree Cir North	X	X			X	X						
Peterson Road			X	X			X	X				
Compass Direction	W	E	S	N	E	W	N	S				
Through, Turn or XPed	Left,p/p	Thru	Left,p/p	Thru	Left,p/p	Thru	Left,p/p	Thru				

Intersection 259 at Carefree Cir North and Peterson Road - Phases control table, page 3

Page 3	Vehicle Phases 111 123456789012		Ped Phases 111 123456789012
Min Recalls		Ped Recalls	
Max Recalls	2 6	Handicap Ped Recalls	
Recall If Maxed		Soft Ped Recalls	
Dual Entry	4 8	Do Not Recall Ped	2 4 6 8
Do Not Skip		Allow Walk Reduction	
Simultaneous Gap Out		Hold In Walk	
Restricted Phases		Allow Ped Re-service	
Sequential Initial Timing		Rest In Walk	No
Max Timer Starts For Call			
Reduction Starts For Call			
Red To Avoid Left Turn Trap			
Rest In Red	No		

Intersection 259 at Carefree Cir North and Peterson Road - Timing table, page 1

Page 1	Phases											
	1	2	3	4	5	6	7	8	9	10	11	12
Min Green	4	4	4	4	4	4	4	4	0	0	0	0
Passage Time I	2.0	4.0	2.0	2.0	2.0	4.0	2.0	2.0	0.0	0.0	0.0	0.0
Passage Time II	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Green I	8	25	12	35	8	25	12	35	0	0	0	0
Max Green II	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Clearance	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5	0.0	0.0	0.0	0.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0
Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0
Min Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Green Time	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk Time	0	0	0	0	0	0	0	0	0	0	0	0
Walk Time	0	7	0	7	0	7	0	7	0	0	0	0
Pedestrian Clearance	0	33	0	28	0	33	0	28	0	0	0	0
Handicap Walk	0	0	0	0	0	0	0	0	0	0	0	0
Handicap Ped Clearance	0	0	0	0	0	0	0	0	0	0	0	0
Carefree Cir North	X	X			X	X						
Peterson Road			X	X			X	X				
Compass Direction	W	E	S	N	E	W	N	S				
Through, Turn or XPed	Left,prt	Thru	Left,prt	Thru	Left,prt	Thru	Left,prt	Thru				

Intersection 259 at Carefree Cir North and Peterson Road - Schedule table, events 1-25

Event	Ena-		Event Parameters		Start					Duration	Stop		Repetition		
Num	bled	Event Type	Param 1	Param 2	Mon	Day	Hour	Min	Sec	Minutes	Mon	Day	Repeat	Intervals	Priority
1	Yes	Run Plan	Plan 1	Ofst #1	1	1	06	31	00	120	12	31	Weekly	MTWTF	Low
2	Yes	Run Plan	Plan 1	Ofst #1	1	1	14	30	00	210	12	31	Weekly	MTWTF	Low
3	Yes	Run Plan	Plan 3	Ofst #1	1	1	08	30	00	360	12	31	Weekly	MTWTF	Low
4	Yes	Run Plan	Plan 3	Ofst #1	1	1	09	00	00	540	12	31	Weekly	S S	Low
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															

Intersection 259 at Carefree Cir North and Peterson Road - Sequence table, page 1

Page 1	Ring 1 Phases				Ring 2 Phases				Ring 3 Phases			
	1	2	3	4	5	6	7	8	9	10	11	12
State 1	Vehicle				Vehicle							
Barrier 1												
State 2		V & P				V & P						
Barrier 2	XXXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXXX							
State 3			Vehicle				Vehicle					
Barrier 3												
State 4				V & P				V & P				
Barrier 4	XXXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXXX							
State 5												
Barrier 5												
State 6												
Barrier 6												
State 7												
Barrier 7												
State 8												
Barrier 8												
State 9												
Barrier 9												
State 10												
Barrier 10												
State 11												
Barrier 11												
State 12												
Barrier 12												

Intersection 259 at Carefree Cir North and Peterson Road - Sequence table, page 3

Page 3	Ring 1 Phases				Ring 2 Phases				Ring 3 Phases			
	1	2	3	4	5	6	7	8	9	10	11	12
State 1	Vehicle				Vehicle							
Barrier 1												
State 2		V & P				V & P						
Barrier 2	XXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXX							
State 3			Vehicle				Vehicle					
Barrier 3												
State 4				V & P				V & P				
Barrier 4	XXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXX							
State 5												
Barrier 5												
State 6												
Barrier 6												
State 7												
Barrier 7												
State 8												
Barrier 8												
State 9												
Barrier 9												
State 10												
Barrier 10												
State 11												
Barrier 11												
State 12												
Barrier 12												

Intersection 259 at Carefree Cir North and Peterson Road - Phases control table, page 1

Page 1	Vehicle Phases 111 123456789012		Ped Phases 111 123456789012
Min Recalls		Ped Recalls	
Max Recalls	2 6	Handicap Ped Recalls	
Recall If Maxed		Soft Ped Recalls	
Dual Entry	4 8	Do Not Recall Ped	2 4 6 8
Do Not Skip		Allow Walk Reduction	
Simultaneous Gap Out		Hold In Walk	
Restricted Phases		Allow Ped Re-service	2 6
Sequential Initial Timing		Rest In Walk	No
Max Timer Starts For Call			
Reduction Starts For Call			
Red To Avoid Left Turn Trap			
Rest In Red	No		

Intersection 259 at Carefree Cir North and Peterson Road - Spec signaling cntrl tbl, pg 1

Page 1							
Signaling Control 1				Signaling Control 2			
Function	Flashing permissive left turn	Timer 1	2.0	Function	Flashing permissive left turn	Timer 1	2.0
Operand	0	Timer 2	0.0	Operand	0	Timer 2	0.0
Trigger	Always enabled	Timer 3	0.0	Trigger	Always enabled	Timer 3	0.0
	_____111	Output 1	1		_____111	Output 1	25
	123456789012	Output 2	35		123456789012	Output 2	34
Phases 1	1	Output 3	40	Phases 1	5	Output 3	41
Phases 2	2 6	Output 4	1	Phases 2	2 6	Output 4	1
Overlaps 1				Overlaps 1			
Overlaps 2				Overlaps 2			
Signaling Control 3				Signaling Control 4			
Function	Flashing permissive left turn	Timer 1	2.0	Function	Flashing permissive left turn	Timer 1	2.0
Operand	0	Timer 2	0.0	Operand	0	Timer 2	0.0
Trigger	Always enabled	Timer 3	0.0	Trigger	Always enabled	Timer 3	0.0
	_____111	Output 1	17		_____111	Output 1	9
	123456789012	Output 2	36		123456789012	Output 2	33
Phases 1	3	Output 3	44	Phases 1	7	Output 3	43
Phases 2	8	Output 4	1	Phases 2	4	Output 4	1
Overlaps 1				Overlaps 1			
Overlaps 2				Overlaps 2			

Intersection 259 at Carefree Cir North and Peterson Road - Coordination table, plans 1-2

	_____111	Cycle Length	120			Alternate	Alternate	Alternate
Plan 1	123456789012	Offset 1	0	Phases	Splits	Mins	Passages	Maxes
Coordinated		Offset 2	0	1	18	0	0.0	18
Phases	2 6	Offset 3	0	2	43	0	0.0	47
Secondary		Offset 4	0	3	20	0	0.0	21
Coordinated		Relative Secondary Offset	0	4	39	0	0.0	42
Phases		Permissive Period	Auto	5	15	0	0.0	14
Extra Time		Max Cycle Addition	30	6	46	0	0.0	51
Phases		Max Cycle Subtraction	30	7	29	0	0.0	32
Additional		Coord Actuated Period	0	8	30	0	0.0	31
Max Recalls		Top Of Cycle Green Point	End	9	0	0	0.0	0
Units	Seconds	Big Bang Preempt Recvry	No	10	0	0	0.0	0
		Big Bang Ped Recovery	No	11	0	0	0.0	0
		Min Lagging Left Split	0%	12	0	0	0.0	0
	_____111	Cycle Length	120			Alternate	Alternate	Alternate
Plan 2	123456789012	Offset 1	105	Phases	Splits	Mins	Passages	Maxes
Coordinated		Offset 2	0	1	15	0	0.0	14
Phases	4 8	Offset 3	0	2	48	0	0.0	54
Secondary		Offset 4	0	3	15	0	0.0	14
Coordinated		Relative Secondary Offset	0	4	42	0	0.0	46
Phases		Permissive Period	Auto	5	15	0	0.0	14
Extra Time		Max Cycle Addition	30	6	48	0	0.0	54
Phases		Max Cycle Subtraction	30	7	15	0	0.0	14
Additional		Coord Actuated Period	0	8	42	0	0.0	46
Max Recalls		Top Of Cycle Green Point	End	9	0	0	0.0	0
Units	Seconds	Big Bang Preempt Recvry	No	10	0	0	0.0	0
		Big Bang Ped Recovery	No	11	0	0	0.0	0
		Min Lagging Left Split	0%	12	0	0	0.0	0

Intersection 259 at Carefree Cir North and Peterson Road - Coordination table, plans 3-4

	_____111	Cycle Length	90			Alternate	Alternate	Alternate
Plan 3	123456789012	Offset 1	70	Phases	Splits	Mins	Passages	Maxes
Coordinated		Offset 2	0	1	15	0	0.0	14
Phases	2 6	Offset 3	0	2	33	0	0.0	35
Secondary		Offset 4	0	3	15	0	0.0	14
Coordinated		Relative Secondary Offset	0	4	27	0	0.0	27
Phases		Permissive Period	Auto	5	18	0	0.0	18
Extra Time		Max Cycle Addition	22	6	30	0	0.0	31
Phases		Max Cycle Subtraction	22	7	18	0	0.0	18
Additional		Coord Actuated Period	0	8	24	0	0.0	24
Max Recalls		Top Of Cycle Green Point	End	9	0	0	0.0	0
Units	Seconds	Big Bang Preempt Recvry	No	10	0	0	0.0	0
		Big Bang Ped Recovery	No	11	0	0	0.0	0
		Min Lagging Left Split	0%	12	0	0	0.0	0
	_____111	Cycle Length	0			Alternate	Alternate	Alternate
Plan 4	123456789012	Offset 1	0	Phases	Splits	Mins	Passages	Maxes
Coordinated		Offset 2	0	1	0	0	0.0	0
Phases		Offset 3	0	2	0	0	0.0	0
Secondary		Offset 4	0	3	0	0	0.0	0
Coordinated		Relative Secondary Offset	0	4	0	0	0.0	0
Phases		Permissive Period	Auto	5	0	0	0.0	0
Extra Time		Max Cycle Addition	0	6	0	0	0.0	0
Phases		Max Cycle Subtraction	0	7	0	0	0.0	0
Additional		Coord Actuated Period	0	8	0	0	0.0	0
Max Recalls		Top Of Cycle Green Point	End	9	0	0	0.0	0
Units	Seconds	Big Bang Preempt Recvry	No	10	0	0	0.0	0
		Big Bang Ped Recovery	No	11	0	0	0.0	0
		Min Lagging Left Split	0%	12	0	0	0.0	0

APPENDIX F

Intersection Analysis Worksheets

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	5	11	4	4	50
Future Vol, veh/h	17	5	11	4	4	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	20	6	13	5	5	59

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	84	15	0	0	18	0
Stage 1	15	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	911	1055	-	-	1599	-
Stage 1	1000	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	908	1055	-	-	1599	-
Mov Cap-2 Maneuver	908	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	944	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	8.95	0	0.54
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	938	133	-
HCM Lane V/C Ratio	-	-	0.028	0.003	-
HCM Control Delay (s/veh)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	3	71	10	4	41
Future Vol, veh/h	11	3	71	10	4	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	4	87	12	5	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	152	93	0	0	99	0
Stage 1	93	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	839	964	-	-	1494	-
Stage 1	931	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	836	964	-	-	1494	-
Mov Cap-2 Maneuver	836	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.27	0	0.66
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	861	160	-
HCM Lane V/C Ratio	-	-	0.02	0.003	-
HCM Control Delay (s/veh)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	5	12	4	4	52
Future Vol, veh/h	17	5	12	4	4	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	20	6	14	5	5	61

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	87	16	0	0	19	0
Stage 1	16	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	907	1054	-	-	1598	-
Stage 1	999	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	904	1054	-	-	1598	-
Mov Cap-2 Maneuver	904	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	8.96	0	0.52
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	934	129	-
HCM Lane V/C Ratio	-	-	0.028	0.003	-
HCM Control Delay (s/veh)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	3	73	11	4	42
Future Vol, veh/h	12	3	73	11	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	4	89	13	5	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	96	0	0	102	0
Stage 1	96	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	835	961	-	-	1490	-
Stage 1	928	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	832	961	-	-	1490	-
Mov Cap-2 Maneuver	832	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.3	0	0.65
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	855	157	-
HCM Lane V/C Ratio	-	-	0.021	0.003	-
HCM Control Delay (s/veh)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	46	17	5	5	8	12	4	4	52	5
Future Vol, veh/h	5	5	46	17	5	5	8	12	4	4	52	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	2	2	2
Mvmt Flow	6	6	54	20	6	6	9	14	5	5	61	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	109	111	64	109	112	16	67	0	0	19	0	0
Stage 1	74	74	-	35	35	-	-	-	-	-	-	-
Stage 2	36	38	-	74	76	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.15	6.55	6.25	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.545	4.045	3.345	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	869	779	1000	863	773	1054	1534	-	-	1598	-	-
Stage 1	936	834	-	973	860	-	-	-	-	-	-	-
Stage 2	980	864	-	928	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	850	772	1000	802	766	1054	1534	-	-	1598	-	-
Mov Cap-2 Maneuver	850	772	-	802	766	-	-	-	-	-	-	-
Stage 1	933	831	-	967	854	-	-	-	-	-	-	-
Stage 2	962	858	-	869	823	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.03	9.5	2.45	0.48
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	571	-	-	960	832	116	-	-
HCM Lane V/C Ratio	0.006	-	-	0.069	0.038	0.003	-	-
HCM Control Delay (s/veh)	7.4	0	-	9	9.5	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	27	15	5	4	26	93	14	5	53	5
Future Vol, veh/h	5	5	27	15	5	4	26	93	14	5	53	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	6	33	18	6	5	32	113	17	6	65	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	260	274	68	265	268	122	71	0	0	130	0	0
Stage 1	80	80	-	185	185	-	-	-	-	-	-	-
Stage 2	180	194	-	80	83	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	693	633	996	687	638	929	1530	-	-	1455	-	-
Stage 1	929	829	-	816	746	-	-	-	-	-	-	-
Stage 2	822	740	-	929	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	665	616	996	641	621	929	1530	-	-	1455	-	-
Mov Cap-2 Maneuver	665	616	-	641	621	-	-	-	-	-	-	-
Stage 1	925	825	-	798	730	-	-	-	-	-	-	-
Stage 2	793	724	-	887	822	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.39	10.61	1.45	0.59
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	343	-	-	865	671	140	-	-
HCM Lane V/C Ratio	0.021	-	-	0.052	0.044	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.4	10.6	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	7	15	5	5	65
Future Vol, veh/h	22	7	15	5	5	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	24	8	16	5	5	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	101	19	0	0	22	0
Stage 1	19	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	891	1051	-	-	1594	-
Stage 1	996	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	888	1051	-	-	1594	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	931	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.04	0	0.52
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	922	129	-
HCM Lane V/C Ratio	-	-	0.034	0.003	-
HCM Control Delay (s/veh)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	4	93	14	5	53
Future Vol, veh/h	15	4	93	14	5	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	4	101	15	5	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	177	109	0	0	116	0
Stage 1	109	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	813	945	-	-	1472	-
Stage 1	916	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	809	945	-	-	1472	-
Mov Cap-2 Maneuver	809	-	-	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.42	0	0.64
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	835	155	-
HCM Lane V/C Ratio	-	-	0.025	0.004	-
HCM Control Delay (s/veh)	-	-	9.4	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	46	22	5	7	8	15	5	5	65	5
Future Vol, veh/h	5	5	46	22	5	7	8	15	5	5	65	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	2	2	2
Mvmt Flow	5	5	50	24	5	8	9	16	5	5	71	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	123	73	121	123	19	76	0	0	22	0	0
Stage 1	84	84	-	36	36	-	-	-	-	-	-	-
Stage 2	36	39	-	84	87	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.15	6.55	6.25	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.545	4.045	3.345	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	855	767	988	848	761	1051	1523	-	-	1594	-	-
Stage 1	924	825	-	971	859	-	-	-	-	-	-	-
Stage 2	979	862	-	916	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	834	760	988	792	754	1051	1523	-	-	1594	-	-
Mov Cap-2 Maneuver	834	760	-	792	754	-	-	-	-	-	-	-
Stage 1	920	822	-	966	854	-	-	-	-	-	-	-
Stage 2	960	857	-	861	814	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.06	9.55	2.11	0.48
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	490	-	-	947	828	118	-	-
HCM Lane V/C Ratio	0.006	-	-	0.064	0.045	0.003	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.1	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

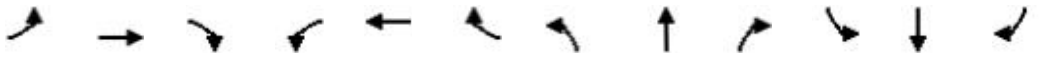
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	27	15	5	4	26	93	14	5	53	5
Future Vol, veh/h	5	5	27	15	5	4	26	93	14	5	53	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	29	16	5	4	28	101	15	5	58	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	232	244	60	236	239	109	63	0	0	116	0	0
Stage 1	71	71	-	165	165	-	-	-	-	-	-	-
Stage 2	160	173	-	71	74	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	723	658	1005	718	662	945	1540	-	-	1472	-	-
Stage 1	939	836	-	837	762	-	-	-	-	-	-	-
Stage 2	842	756	-	939	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	697	642	1005	675	647	945	1540	-	-	1472	-	-
Mov Cap-2 Maneuver	697	642	-	675	647	-	-	-	-	-	-	-
Stage 1	935	832	-	820	747	-	-	-	-	-	-	-
Stage 2	815	741	-	902	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.26	10.33	1.44	0.59
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	343	-	-	885	702	140	-	-
HCM Lane V/C Ratio	0.018	-	-	0.045	0.037	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.3	10.3	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	257	121	94	562	89	379	265	57	95	289	139
Future Volume (veh/h)	64	257	121	94	562	89	379	265	57	95	289	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	70	282	133	103	618	98	416	291	63	104	318	153
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	458	2611	810	606	2641	820	320	656	293	296	457	204
Arrive On Green	0.04	0.51	0.51	0.04	0.52	0.52	0.13	0.19	0.19	0.07	0.13	0.13
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1767	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	70	282	133	103	618	98	416	291	63	104	318	153
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1767	1763	1572	1781	1777	1585
Q Serve(g_s), s	2.2	3.4	5.4	3.3	8.0	3.8	15.0	8.8	4.1	6.0	10.3	11.2
Cycle Q Clear(g_c), s	2.2	3.4	5.4	3.3	8.0	3.8	15.0	8.8	4.1	6.0	10.3	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	458	2611	810	606	2641	820	320	656	293	296	457	204
V/C Ratio(X)	0.15	0.11	0.16	0.17	0.23	0.12	1.30	0.44	0.22	0.35	0.70	0.75
Avail Cap(c_a), veh/h	540	2611	810	722	2641	820	320	955	426	399	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	15.2	15.6	12.7	15.9	14.9	42.5	43.3	41.4	41.2	50.1	50.4
Incr Delay (d2), s/veh	0.2	0.1	0.4	0.1	0.2	0.3	155.9	0.5	0.4	0.7	1.9	5.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.3	2.0	1.3	3.0	1.4	16.1	3.8	1.6	2.6	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.1	15.3	16.1	12.8	16.1	15.2	198.4	43.8	41.8	41.9	52.0	55.9
LnGrp LOS	B	B	B	B	B	B	F	D	D	D	D	E
Approach Vol, veh/h		485			819			770			575	
Approach Delay, s/veh		15.2			15.6			127.2			51.2	
Approach LOS		B			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	67.9	20.0	21.9	9.5	68.6	13.1	28.8
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	5.3	7.4	17.0	13.2	4.2	10.0	8.0	10.8
Green Ext Time (p_c), s	0.1	2.2	0.0	2.2	0.1	4.6	0.1	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	55.7
HCM 7th LOS	E

Notes

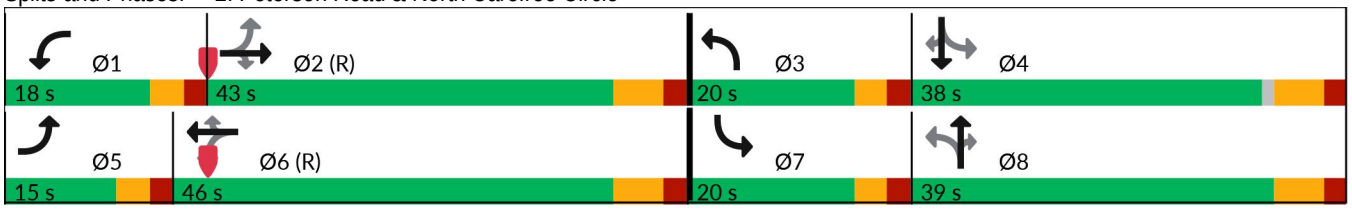
User approved pedestrian interval to be less than phase max green.

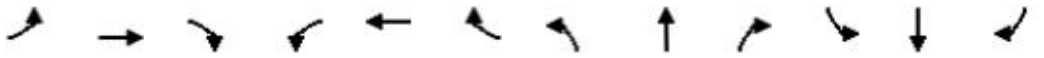
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	257	121	94	562	89	379	265	57	95	289	139
Future Volume (vph)	64	257	121	94	562	89	379	265	57	95	289	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	465	326	48	463	71	316	495	45	61	200	186
Future Volume (veh/h)	230	465	326	48	463	71	316	495	45	61	200	186
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	495	347	51	493	76	336	527	48	65	213	198
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	537	2542	789	411	2290	711	378	813	363	224	538	240
Arrive On Green	0.08	0.50	0.50	0.03	0.45	0.45	0.13	0.23	0.23	0.05	0.15	0.15
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	245	495	347	51	493	76	336	527	48	65	213	198
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.6	6.5	16.9	1.8	7.1	3.3	15.0	16.1	2.9	3.6	6.5	14.5
Cycle Q Clear(g_c), s	8.6	6.5	16.9	1.8	7.1	3.3	15.0	16.1	2.9	3.6	6.5	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	537	2542	789	411	2290	711	378	813	363	224	538	240
V/C Ratio(X)	0.46	0.19	0.44	0.12	0.22	0.11	0.89	0.65	0.13	0.29	0.40	0.82
Avail Cap(c_a), veh/h	537	2542	789	543	2290	711	378	962	429	362	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	16.8	19.4	16.5	20.2	19.2	40.0	41.9	36.8	40.2	46.0	49.4
Incr Delay (d2), s/veh	0.6	0.2	1.8	0.1	0.2	0.3	22.1	1.2	0.2	0.7	0.5	7.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.5	6.3	0.7	2.8	1.3	4.7	7.1	1.1	1.6	2.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.3	16.9	21.1	16.7	20.4	19.5	62.1	43.1	37.0	40.9	46.4	56.4
LnGrp LOS	B	B	C	B	C	B	E	D	D	D	D	E
Approach Vol, veh/h		1087			620			911			476	
Approach Delay, s/veh		17.9			20.0			49.8			49.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	66.2	20.0	24.7	15.0	60.3	10.7	34.0
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	3.8	18.9	17.0	16.5	10.6	9.1	5.6	18.1
Green Ext Time (p_c), s	0.0	4.1	0.0	1.6	0.0	3.6	0.1	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	32.6
HCM 7th LOS	C

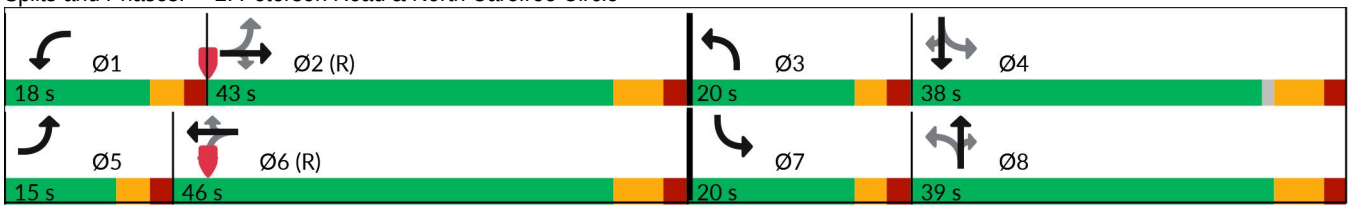
Notes

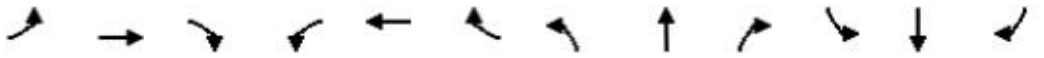
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	465	326	48	463	71	316	495	45	61	200	186
Future Volume (vph)	230	465	326	48	463	71	316	495	45	61	200	186
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	267	125	97	585	93	394	276	59	98	300	145
Future Volume (veh/h)	67	267	125	97	585	93	394	276	59	98	300	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	74	293	137	107	643	102	433	303	65	108	330	159
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	444	2581	801	596	2617	812	320	665	297	297	472	210
Arrive On Green	0.04	0.51	0.51	0.05	0.51	0.51	0.13	0.19	0.19	0.07	0.13	0.13
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1767	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	74	293	137	107	643	102	433	303	65	108	330	159
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1767	1763	1572	1781	1777	1585
Q Serve(g_s), s	2.4	3.6	5.6	3.4	8.4	4.0	15.0	9.2	4.2	6.2	10.7	11.6
Cycle Q Clear(g_c), s	2.4	3.6	5.6	3.4	8.4	4.0	15.0	9.2	4.2	6.2	10.7	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	444	2581	801	596	2617	812	320	665	297	297	472	210
V/C Ratio(X)	0.17	0.11	0.17	0.18	0.25	0.13	1.35	0.46	0.22	0.36	0.70	0.76
Avail Cap(c_a), veh/h	525	2581	801	708	2617	812	320	955	426	397	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	15.6	16.1	13.0	16.3	15.2	42.1	43.2	41.2	40.7	49.7	50.2
Incr Delay (d2), s/veh	0.2	0.1	0.5	0.1	0.2	0.3	177.3	0.5	0.4	0.7	1.9	5.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.4	2.1	1.3	3.2	1.5	18.0	4.0	1.6	2.7	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.5	15.7	16.5	13.1	16.5	15.6	219.5	43.7	41.6	41.5	51.6	55.6
LnGrp LOS	B	B	B	B	B	B	F	D	D	D	D	E
Approach Vol, veh/h		504			852			801			597	
Approach Delay, s/veh		15.6			16.0			138.5			50.9	
Approach LOS		B			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	67.2	20.0	22.4	9.6	68.0	13.3	29.1
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	5.4	7.6	17.0	13.6	4.4	10.4	8.2	11.2
Green Ext Time (p_c), s	0.1	2.3	0.0	2.3	0.1	4.8	0.1	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	59.1
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Timings
2: Peterson Road & North Carefree Circle

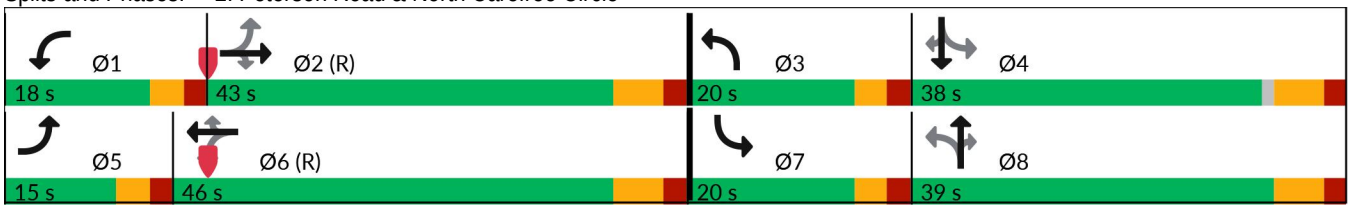
06/18/2024

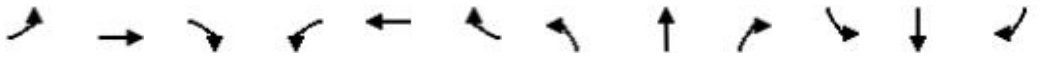
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	267	125	97	585	93	394	276	59	98	300	145
Future Volume (vph)	67	267	125	97	585	93	394	276	59	98	300	145
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	483	339	50	481	73	328	514	46	64	207	193
Future Volume (veh/h)	239	483	339	50	481	73	328	514	46	64	207	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	514	361	53	512	78	349	547	49	68	220	205
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	524	2516	781	398	2267	704	379	825	368	223	554	247
Arrive On Green	0.08	0.49	0.49	0.03	0.44	0.44	0.13	0.23	0.23	0.05	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	254	514	361	53	512	78	349	547	49	68	220	205
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.1	6.8	18.0	1.9	7.4	3.5	15.0	16.8	2.9	3.8	6.7	15.0
Cycle Q Clear(g_c), s	9.1	6.8	18.0	1.9	7.4	3.5	15.0	16.8	2.9	3.8	6.7	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	524	2516	781	398	2267	704	379	825	368	223	554	247
V/C Ratio(X)	0.48	0.20	0.46	0.13	0.23	0.11	0.92	0.66	0.13	0.30	0.40	0.83
Avail Cap(c_a), veh/h	524	2516	781	529	2267	704	379	962	429	359	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	17.2	20.0	16.8	20.6	19.5	40.3	41.8	36.5	39.7	45.6	49.1
Incr Delay (d2), s/veh	0.7	0.2	2.0	0.2	0.2	0.3	27.3	1.4	0.2	0.8	0.5	7.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.6	6.8	0.8	2.9	1.3	5.8	7.4	1.1	1.7	2.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.8	17.3	22.0	17.0	20.8	19.8	67.6	43.2	36.7	40.5	46.0	56.1
LnGrp LOS	B	B	C	B	C	B	E	D	D	D	D	E
Approach Vol, veh/h		1129			643			945			493	
Approach Delay, s/veh		18.5			20.4			51.9			49.4	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	65.6	20.0	25.2	15.0	59.8	10.9	34.4
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	3.9	20.0	17.0	17.0	11.1	9.4	5.8	18.8
Green Ext Time (p_c), s	0.0	4.2	0.0	1.7	0.0	3.7	0.1	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	33.4
HCM 7th LOS	C

Notes

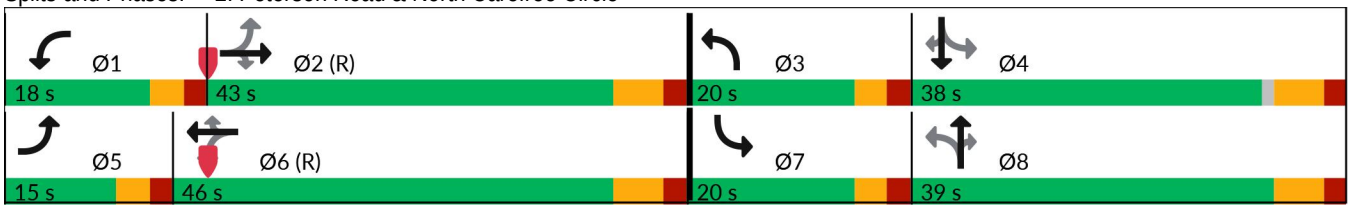
User approved pedestrian interval to be less than phase max green.

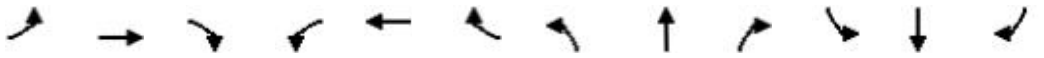
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	483	339	50	481	73	328	514	46	64	207	193
Future Volume (vph)	239	483	339	50	481	73	328	514	46	64	207	193
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	269	125	110	608	93	394	278	61	99	300	145
Future Volume (veh/h)	73	269	125	110	608	93	394	278	61	99	300	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	80	296	137	121	668	102	433	305	67	109	330	159
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	435	2558	794	598	2613	811	320	663	296	296	472	210
Arrive On Green	0.04	0.50	0.50	0.05	0.51	0.51	0.13	0.19	0.19	0.07	0.13	0.13
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1767	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	80	296	137	121	668	102	433	305	67	109	330	159
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1767	1763	1572	1781	1777	1585
Q Serve(g_s), s	2.6	3.7	5.7	3.9	8.8	4.0	15.0	9.2	4.3	6.2	10.7	11.6
Cycle Q Clear(g_c), s	2.6	3.7	5.7	3.9	8.8	4.0	15.0	9.2	4.3	6.2	10.7	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	2558	794	598	2613	811	320	663	296	296	472	210
V/C Ratio(X)	0.18	0.12	0.17	0.20	0.26	0.13	1.35	0.46	0.23	0.37	0.70	0.76
Avail Cap(c_a), veh/h	515	2558	794	702	2613	811	320	955	426	395	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	15.9	16.4	13.1	16.5	15.3	42.1	43.3	41.3	40.7	49.7	50.2
Incr Delay (d2), s/veh	0.2	0.1	0.5	0.2	0.2	0.3	177.3	0.5	0.4	0.8	1.9	5.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.4	2.1	1.5	3.4	1.5	18.0	4.0	1.7	2.8	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.8	16.0	16.8	13.2	16.7	15.6	219.5	43.8	41.7	41.5	51.6	55.6
LnGrp LOS	B	B	B	B	B	B	F	D	D	D	D	E
Approach Vol, veh/h		513			891			805			598	
Approach Delay, s/veh		15.9			16.1			138.1			50.8	
Approach LOS		B			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	66.6	20.0	22.4	9.7	67.9	13.4	29.1
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	5.9	7.7	17.0	13.6	4.6	10.8	8.2	11.2
Green Ext Time (p_c), s	0.1	2.3	0.0	2.3	0.1	5.0	0.1	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	58.4
HCM 7th LOS	E

Notes

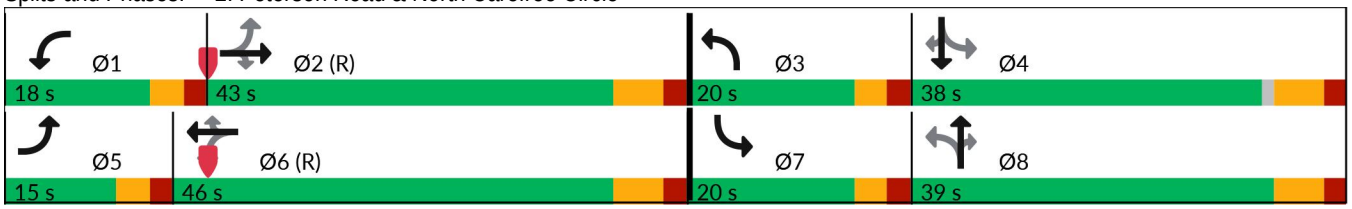
User approved pedestrian interval to be less than phase max green.

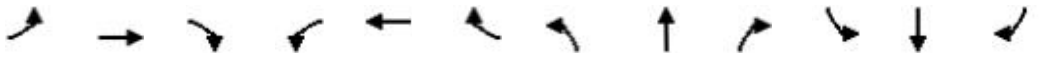
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	269	125	110	608	93	394	278	61	99	300	145
Future Volume (vph)	73	269	125	110	608	93	394	278	61	99	300	145
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	491	339	58	495	73	328	522	51	67	207	193
Future Volume (veh/h)	257	491	339	58	495	73	328	522	51	67	207	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	522	361	62	527	78	349	555	54	71	220	205
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	518	2507	778	397	2267	704	379	820	366	221	554	247
Arrive On Green	0.08	0.49	0.49	0.04	0.44	0.44	0.13	0.23	0.23	0.05	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	273	522	361	62	527	78	349	555	54	71	220	205
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.9	7.0	18.0	2.2	7.7	3.5	15.0	17.1	3.3	4.0	6.7	15.0
Cycle Q Clear(g_c), s	9.9	7.0	18.0	2.2	7.7	3.5	15.0	17.1	3.3	4.0	6.7	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	518	2507	778	397	2267	704	379	820	366	221	554	247
V/C Ratio(X)	0.53	0.21	0.46	0.16	0.23	0.11	0.92	0.68	0.15	0.32	0.40	0.83
Avail Cap(c_a), veh/h	518	2507	778	525	2267	704	379	962	429	354	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	17.3	20.1	16.8	20.7	19.5	40.3	42.1	36.8	39.7	45.6	49.1
Incr Delay (d2), s/veh	1.0	0.2	2.0	0.2	0.2	0.3	27.3	1.5	0.2	0.8	0.5	7.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	2.7	6.8	0.9	3.0	1.3	5.8	7.5	1.3	1.8	2.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.3	17.5	22.1	17.0	20.9	19.8	67.6	43.6	36.9	40.5	46.0	56.1
LnGrp LOS	B	B	C	B	C	B	E	D	D	D	D	E
Approach Vol, veh/h		1156			667			958			496	
Approach Delay, s/veh		18.7			20.4			52.0			49.4	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	65.4	20.0	25.2	15.0	59.8	11.0	34.2
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	4.2	20.0	17.0	17.0	11.9	9.7	6.0	19.1
Green Ext Time (p_c), s	0.1	4.3	0.0	1.7	0.0	3.8	0.1	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	33.4
HCM 7th LOS	C

Notes

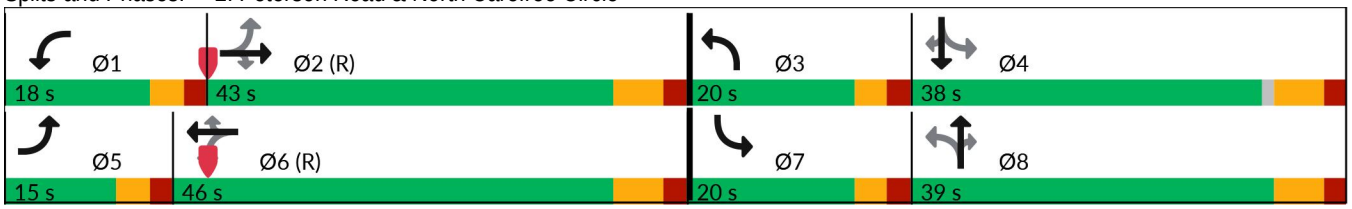
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	491	339	58	495	73	328	522	51	67	207	193
Future Volume (vph)	257	491	339	58	495	73	328	522	51	67	207	193
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

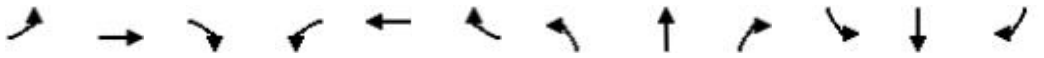
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	269	125	110	608	93	394	278	61	99	300	145
Future Volume (veh/h)	73	269	125	110	608	93	394	278	61	99	300	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	80	296	137	121	668	102	433	305	67	109	330	159
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	435	2558	794	598	2613	811	429	663	296	296	472	210
Arrive On Green	0.04	0.50	0.50	0.05	0.51	0.51	0.13	0.19	0.19	0.07	0.13	0.13
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3428	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	80	296	137	121	668	102	433	305	67	109	330	159
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1714	1763	1572	1781	1777	1585
Q Serve(g_s), s	2.6	3.7	5.7	3.9	8.8	4.0	15.0	9.2	4.3	6.2	10.7	11.6
Cycle Q Clear(g_c), s	2.6	3.7	5.7	3.9	8.8	4.0	15.0	9.2	4.3	6.2	10.7	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	2558	794	598	2613	811	429	663	296	296	472	210
V/C Ratio(X)	0.18	0.12	0.17	0.20	0.26	0.13	1.01	0.46	0.23	0.37	0.70	0.76
Avail Cap(c_a), veh/h	515	2558	794	702	2613	811	429	955	426	395	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	15.9	16.4	13.1	16.5	15.3	52.5	43.3	41.3	40.7	49.7	50.2
Incr Delay (d2), s/veh	0.2	0.1	0.5	0.2	0.2	0.3	46.1	0.5	0.4	0.8	1.9	5.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.4	2.1	1.5	3.4	1.5	9.1	4.0	1.7	2.8	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.8	16.0	16.8	13.2	16.7	15.6	98.6	43.8	41.7	41.5	51.6	55.6
LnGrp LOS	B	B	B	B	B	B	F	D	D	D	D	E
Approach Vol, veh/h		513			891			805			598	
Approach Delay, s/veh		15.9			16.1			73.1			50.8	
Approach LOS		B			B			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	66.6	20.0	22.4	9.7	67.9	13.4	29.1
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	5.9	7.7	17.0	13.6	4.6	10.8	8.2	11.2
Green Ext Time (p_c), s	0.1	2.3	0.0	2.3	0.1	5.0	0.1	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	39.8
HCM 7th LOS	D

Notes

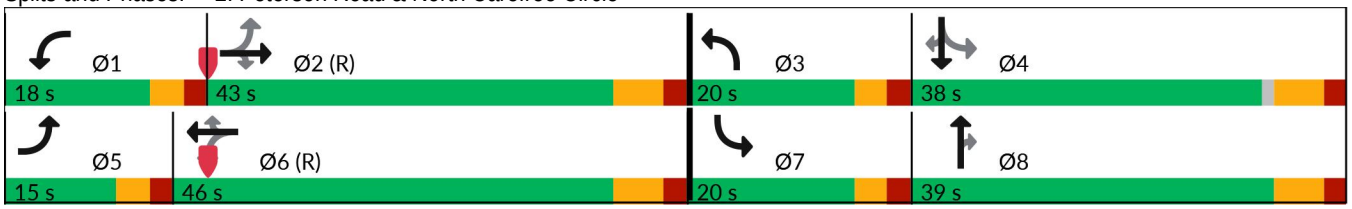
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	269	125	110	608	93	394	278	61	99	300	145
Future Volume (vph)	73	269	125	110	608	93	394	278	61	99	300	145
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

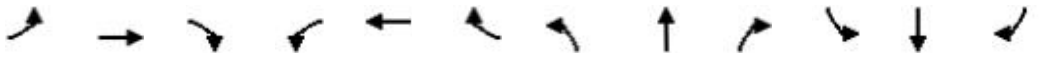
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	491	339	58	495	73	328	522	51	67	207	193
Future Volume (veh/h)	257	491	339	58	495	73	328	522	51	67	207	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	522	361	62	527	78	349	555	54	71	220	205
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	525	2547	791	403	2307	716	405	792	353	214	554	247
Arrive On Green	0.08	0.50	0.50	0.04	0.45	0.45	0.12	0.22	0.22	0.05	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	273	522	361	62	527	78	349	555	54	71	220	205
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.7	6.8	17.7	2.2	7.6	3.4	11.9	17.3	3.3	4.0	6.7	15.0
Cycle Q Clear(g_c), s	9.7	6.8	17.7	2.2	7.6	3.4	11.9	17.3	3.3	4.0	6.7	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	525	2547	791	403	2307	716	405	792	353	214	554	247
V/C Ratio(X)	0.52	0.20	0.46	0.15	0.23	0.11	0.86	0.70	0.15	0.33	0.40	0.83
Avail Cap(c_a), veh/h	525	2547	791	531	2307	716	432	962	429	347	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	16.8	19.5	16.3	20.1	19.0	52.0	42.9	37.5	39.8	45.6	49.1
Incr Delay (d2), s/veh	0.9	0.2	1.9	0.2	0.2	0.3	15.6	1.8	0.2	0.9	0.5	7.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	2.6	6.7	0.9	3.0	1.3	5.9	7.6	1.3	1.8	2.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.7	17.0	21.4	16.5	20.3	19.3	67.6	44.7	37.7	40.7	46.0	56.1
LnGrp LOS	B	B	C	B	C	B	E	D	D	D	D	E
Approach Vol, veh/h		1156			667			958			496	
Approach Delay, s/veh		18.1			19.8			52.6			49.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	66.4	19.1	25.2	15.0	60.7	11.0	33.2
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	4.2	19.7	13.9	17.0	11.7	9.6	6.0	19.3
Green Ext Time (p_c), s	0.1	4.3	0.2	1.7	0.0	3.8	0.1	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	33.3
HCM 7th LOS	C

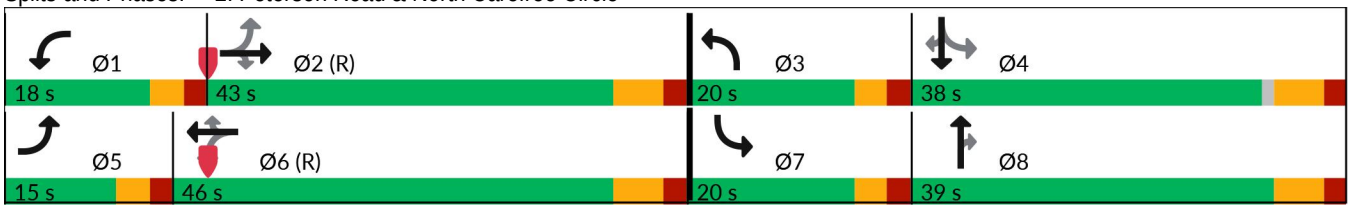
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	491	339	58	495	73	328	522	51	67	207	193
Future Volume (vph)	257	491	339	58	495	73	328	522	51	67	207	193
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

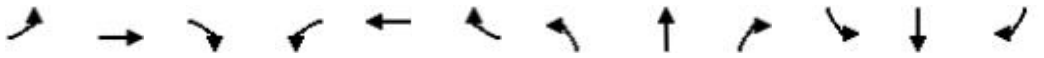
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	337	158	123	738	117	498	348	75	124	379	183
Future Volume (veh/h)	85	337	158	123	738	117	498	348	75	124	379	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	92	366	172	134	802	127	541	378	82	135	412	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	340	2168	673	495	2246	697	571	861	384	346	561	250
Arrive On Green	0.04	0.42	0.42	0.06	0.44	0.44	0.17	0.24	0.24	0.08	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3428	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	92	366	172	134	802	127	541	378	82	135	412	199
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1714	1763	1572	1781	1777	1585
Q Serve(g_s), s	3.5	5.3	8.4	5.0	12.5	5.9	18.7	10.9	5.0	7.5	13.3	14.5
Cycle Q Clear(g_c), s	3.5	5.3	8.4	5.0	12.5	5.9	18.7	10.9	5.0	7.5	13.3	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	2168	673	495	2246	697	571	861	384	346	561	250
V/C Ratio(X)	0.27	0.17	0.26	0.27	0.36	0.18	0.95	0.44	0.21	0.39	0.73	0.80
Avail Cap(c_a), veh/h	410	2168	673	583	2246	697	571	955	426	426	814	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	21.4	22.3	17.4	22.3	20.5	49.5	38.4	36.2	37.7	48.1	48.7
Incr Delay (d2), s/veh	0.4	0.2	0.9	0.3	0.4	0.6	25.1	0.4	0.3	0.7	2.0	7.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.1	3.2	2.0	5.0	2.2	9.8	4.7	1.9	3.3	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.8	21.6	23.2	17.7	22.8	21.0	74.6	38.7	36.4	38.4	50.1	56.2
LnGrp LOS	B	C	C	B	C	C	E	D	D	D	D	E
Approach Vol, veh/h		630			1063			1001			746	
Approach Delay, s/veh		21.6			21.9			57.9			49.6	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	57.5	25.0	25.4	10.3	59.3	14.6	35.8
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	20.0	27.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	7.0	10.4	20.7	16.5	5.5	14.5	9.5	12.9
Green Ext Time (p_c), s	0.1	2.9	0.0	2.4	0.1	6.0	0.1	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	38.3
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Timings
2: Peterson Road & North Carefree Circle

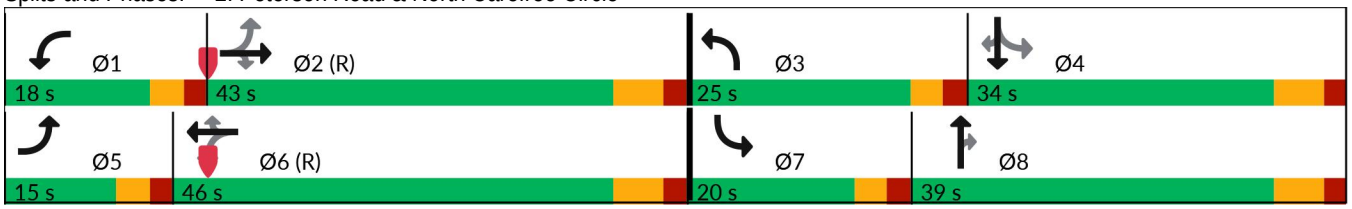
06/18/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	337	158	123	738	117	498	348	75	124	379	183
Future Volume (vph)	85	337	158	123	738	117	498	348	75	124	379	183
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	25.0	39.0	39.0	20.0	34.0	34.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	20.8%	32.5%	32.5%	16.7%	28.3%	28.3%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary

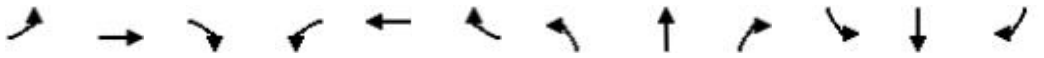
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	301	609	428	63	607	93	414	649	59	80	262	244
Future Volume (veh/h)	301	609	428	63	607	93	414	649	59	80	262	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	327	662	465	68	660	101	450	705	64	87	285	265
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	416	2207	685	300	1972	612	512	1005	448	234	678	302
Arrive On Green	0.08	0.43	0.43	0.04	0.39	0.39	0.15	0.28	0.28	0.06	0.19	0.19
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	327	662	465	68	660	101	450	705	64	87	285	265
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.0	10.2	28.3	2.7	10.9	5.0	15.3	21.3	3.6	4.6	8.5	19.5
Cycle Q Clear(g_c), s	10.0	10.2	28.3	2.7	10.9	5.0	15.3	21.3	3.6	4.6	8.5	19.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	2207	685	300	1972	612	512	1005	448	234	678	302
V/C Ratio(X)	0.79	0.30	0.68	0.23	0.33	0.17	0.88	0.70	0.14	0.37	0.42	0.88
Avail Cap(c_a), veh/h	416	2207	685	427	1972	612	576	1005	448	356	814	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	22.2	27.4	20.8	26.0	24.1	50.1	38.5	32.2	36.3	42.7	47.2
Incr Delay (d2), s/veh	9.5	0.3	5.4	0.4	0.5	0.6	13.4	2.2	0.1	1.0	0.4	18.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	4.0	11.3	1.2	4.4	1.9	7.4	9.3	1.4	2.1	3.7	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	22.6	32.7	21.2	26.4	24.7	63.5	40.7	32.3	37.3	43.1	65.5
LnGrp LOS	C	C	C	C	C	C	E	D	C	D	D	E
Approach Vol, veh/h		1454			829			1219			637	
Approach Delay, s/veh		28.5			25.8			48.7			51.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	58.4	22.8	29.4	15.0	52.8	11.7	40.4
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	20.0	27.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	4.7	30.3	17.3	21.5	12.0	12.9	6.6	23.3
Green Ext Time (p_c), s	0.1	3.1	0.5	1.4	0.0	4.9	0.1	3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	37.5
HCM 7th LOS	D

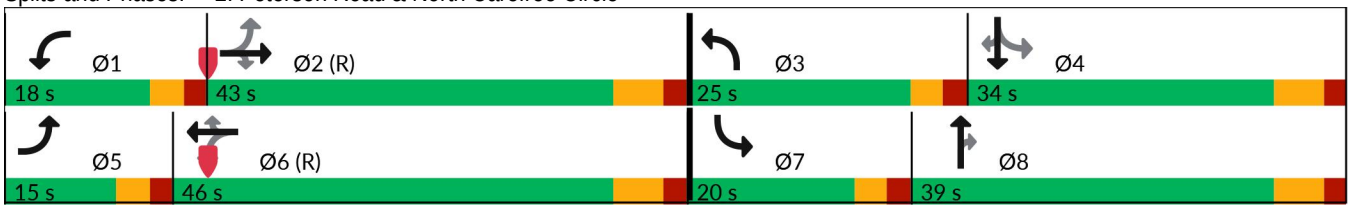
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	609	428	63	607	93	414	649	59	80	262	244
Future Volume (vph)	301	609	428	63	607	93	414	649	59	80	262	244
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	25.0	39.0	39.0	20.0	34.0	34.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	20.8%	32.5%	32.5%	16.7%	28.3%	28.3%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

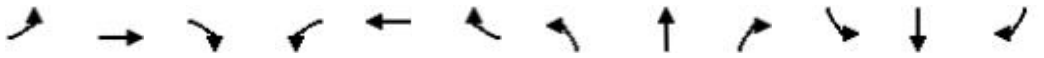
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	339	158	136	761	117	498	350	77	125	379	183
Future Volume (veh/h)	91	339	158	136	761	117	498	350	77	125	379	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	99	368	172	148	827	127	541	380	84	136	412	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	361	2359	732	532	2442	758	429	723	322	305	571	254
Arrive On Green	0.04	0.46	0.46	0.06	0.48	0.48	0.13	0.21	0.21	0.08	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3428	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	99	368	172	148	827	127	541	380	84	136	412	199
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1714	1763	1572	1781	1777	1585
Q Serve(g_s), s	3.5	5.0	7.9	5.2	12.1	5.5	15.0	11.5	5.4	7.5	13.2	14.5
Cycle Q Clear(g_c), s	3.5	5.0	7.9	5.2	12.1	5.5	15.0	11.5	5.4	7.5	13.2	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	2359	732	532	2442	758	429	723	322	305	571	254
V/C Ratio(X)	0.27	0.16	0.23	0.28	0.34	0.17	1.26	0.53	0.26	0.45	0.72	0.78
Avail Cap(c_a), veh/h	430	2359	732	617	2442	758	429	955	426	384	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	18.7	19.5	15.0	19.5	17.8	52.5	42.5	40.1	37.6	47.8	48.4
Incr Delay (d2), s/veh	0.4	0.1	0.8	0.3	0.4	0.5	135.7	0.6	0.4	1.0	1.7	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.0	3.0	2.1	4.7	2.0	14.4	5.0	2.1	3.3	5.9	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.4	18.9	20.2	15.3	19.9	18.2	188.2	43.1	40.5	38.6	49.6	53.6
LnGrp LOS	B	B	C	B	B	B	F	D	D	D	D	D
Approach Vol, veh/h		639			1102			1005			747	
Approach Delay, s/veh		18.8			19.1			121.0			48.6	
Approach LOS		B			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	61.9	20.0	25.8	10.4	63.9	14.7	31.1
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	7.2	9.9	17.0	16.5	5.5	14.1	9.5	13.5
Green Ext Time (p_c), s	0.2	2.9	0.0	2.8	0.1	6.3	0.1	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	54.7
HCM 7th LOS	D

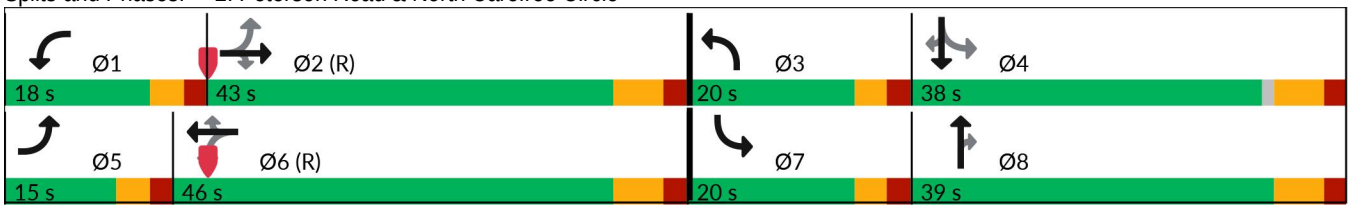
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	339	158	136	761	117	498	350	77	125	379	183
Future Volume (vph)	91	339	158	136	761	117	498	350	77	125	379	183
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

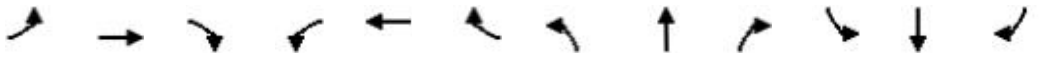
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	617	428	71	621	93	414	657	64	83	262	244
Future Volume (veh/h)	319	617	428	71	621	93	414	657	64	83	262	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	347	671	465	77	675	101	450	714	70	90	285	265
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	428	2297	713	311	2071	643	432	931	415	215	691	308
Arrive On Green	0.08	0.45	0.45	0.04	0.41	0.41	0.13	0.26	0.26	0.06	0.19	0.19
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	347	671	465	77	675	101	450	714	70	90	285	265
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.0	10.0	27.4	3.0	10.9	4.9	15.0	22.3	4.1	4.8	8.4	19.4
Cycle Q Clear(g_c), s	10.0	10.0	27.4	3.0	10.9	4.9	15.0	22.3	4.1	4.8	8.4	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	428	2297	713	311	2071	643	432	931	415	215	691	308
V/C Ratio(X)	0.81	0.29	0.65	0.25	0.33	0.16	1.04	0.77	0.17	0.42	0.41	0.86
Avail Cap(c_a), veh/h	428	2297	713	435	2071	643	432	962	429	335	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	20.9	25.7	19.4	24.4	22.6	52.5	40.9	34.2	36.3	42.3	46.8
Incr Delay (d2), s/veh	11.3	0.3	4.6	0.4	0.4	0.5	54.6	3.7	0.2	1.3	0.4	12.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.9	10.8	1.3	4.3	1.9	9.6	10.0	1.6	2.1	3.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.7	21.2	30.3	19.8	24.8	23.2	107.1	44.6	34.4	37.6	42.7	59.6
LnGrp LOS	D	C	C	B	C	C	F	D	C	D	D	E
Approach Vol, veh/h		1483			853			1234			640	
Approach Delay, s/veh		27.5			24.2			66.8			49.0	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	60.5	20.0	29.8	15.0	55.2	11.9	37.9
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	5.0	29.4	17.0	21.4	12.0	12.9	6.8	24.3
Green Ext Time (p_c), s	0.1	3.4	0.0	1.9	0.0	5.0	0.1	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	41.6
HCM 7th LOS	D

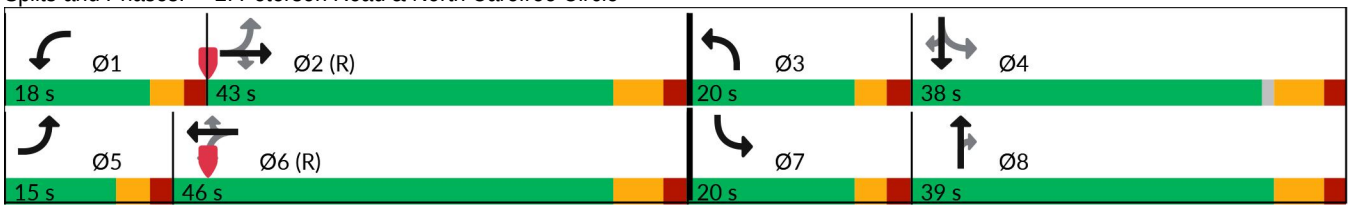
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	617	428	71	621	93	414	657	64	83	262	244
Future Volume (vph)	319	617	428	71	621	93	414	657	64	83	262	244
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	14.0	49.5	49.5	10.0	49.5	49.5	10.0	44.5	44.5	43.0	44.5	44.5
Total Split (s)	15.0	43.0	43.0	18.0	46.0	46.0	20.0	39.0	39.0	20.0	38.0	38.0
Total Split (%)	12.5%	35.8%	35.8%	15.0%	38.3%	38.3%	16.7%	32.5%	32.5%	16.7%	31.7%	31.7%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22.5 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated

Splits and Phases: 2: Peterson Road & North Carefree Circle



Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	367	50	88	609	3	47	5	88	2	9	53
Future Vol, veh/h	8	367	50	88	609	3	47	5	88	2	9	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	408	56	98	677	3	52	6	98	2	10	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	680	0	0	463	0	0	897	1301	204	1056	1353	338
Stage 1	-	-	-	-	-	-	426	426	-	872	872	-
Stage 2	-	-	-	-	-	-	471	876	-	184	481	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	557	-	-	846	-	-	362	193	*871	*289	179	561
Stage 1	-	-	-	-	-	-	656	694	-	*244	366	-
Stage 2	-	-	-	-	-	-	496	365	-	*894	654	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	557	-	-	846	-	-	272	168	*871	*219	156	561
Mov Cap-2 Maneuver	-	-	-	-	-	-	320	257	-	*197	249	-
Stage 1	-	-	-	-	-	-	646	683	-	*216	324	-
Stage 2	-	-	-	-	-	-	380	323	-	*774	644	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.22	1.23	13.09	14.37
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	320	772	557	-	-	846	-	-	455
HCM Lane V/C Ratio	0.163	0.134	0.016	-	-	0.116	-	-	0.156
HCM Control Delay (s/veh)	18.4	10.4	11.6	-	-	9.8	-	-	14.4
HCM Lane LOS	C	B	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.5	0	-	-	0.4	-	-	0.5

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	484	20	18	555	12	8	3	12	6	5	42
Future Vol, veh/h	65	484	20	18	555	12	8	3	12	6	5	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	532	22	20	610	13	9	3	13	7	5	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	623	0	0	554	0	0	961	1337	266	1007	1346	305
Stage 1	-	-	-	-	-	-	675	675	-	649	649	-
Stage 2	-	-	-	-	-	-	286	663	-	357	697	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	593	-	-	811	-	-	354	195	*856	332	192	589
Stage 1	-	-	-	-	-	-	479	561	-	347	463	-
Stage 2	-	-	-	-	-	-	639	457	-	815	548	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	593	-	-	811	-	-	275	167	*856	277	165	589
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	268	-	302	284	-
Stage 1	-	-	-	-	-	-	422	494	-	338	452	-
Stage 2	-	-	-	-	-	-	568	446	-	701	482	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.36	0.29	12.93	13.39
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	332	595	593	-	-	811	-	-	487
HCM Lane V/C Ratio	0.027	0.028	0.121	-	-	0.024	-	-	0.12
HCM Control Delay (s/veh)	16.1	11.2	11.9	-	-	9.6	-	-	13.4
HCM Lane LOS	C	B	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0.4	-	-	0.1	-	-	0.4

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

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	381	52	92	633	3	49	5	92	2	10	55
Future Vol, veh/h	9	381	52	92	633	3	49	5	92	2	10	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	423	58	102	703	3	54	6	102	2	11	61

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	707	0	0	481	0	0	935	1354	212	1100	1409	352
Stage 1	-	-	-	-	-	-	443	443	-	908	908	-
Stage 2	-	-	-	-	-	-	491	911	-	192	501	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	541	-	-	829	-	-	343	178	*871	*272	165	550
Stage 1	-	-	-	-	-	-	638	681	-	*231	352	-
Stage 2	-	-	-	-	-	-	482	351	-	*894	641	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	541	-	-	829	-	-	252	154	*871	*202	142	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	302	243	-	*185	236	-
Stage 1	-	-	-	-	-	-	626	669	-	*202	309	-
Stage 2	-	-	-	-	-	-	362	308	-	*768	629	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.24	1.26	13.49	14.91
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	302	769	541	-	-	829	-	-	437
HCM Lane V/C Ratio	0.18	0.14	0.018	-	-	0.123	-	-	0.17
HCM Control Delay (s/veh)	19.5	10.4	11.8	-	-	10	-	-	14.9
HCM Lane LOS	C	B	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.5	0.1	-	-	0.4	-	-	0.6

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	504	21	18	577	13	9	3	13	6	5	43
Future Vol, veh/h	68	504	21	18	577	13	9	3	13	6	5	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	554	23	20	634	14	10	3	14	7	5	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	648	0	0	577	0	0	999	1391	277	1046	1400	317
Stage 1	-	-	-	-	-	-	703	703	-	674	674	-
Stage 2	-	-	-	-	-	-	296	688	-	373	726	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	576	-	-	840	-	-	360	191	*841	*336	189	579
Stage 1	-	-	-	-	-	-	502	575	-	*334	452	-
Stage 2	-	-	-	-	-	-	631	445	-	*863	560	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	576	-	-	840	-	-	276	163	*841	*278	161	579
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	262	-	*293	280	-
Stage 1	-	-	-	-	-	-	437	500	-	*326	441	-
Stage 2	-	-	-	-	-	-	559	435	-	*734	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.4	0.28	12.98	13.56
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	335	595	576	-	-	840	-	-	480
HCM Lane V/C Ratio	0.03	0.03	0.13	-	-	0.024	-	-	0.124
HCM Control Delay (s/veh)	16.1	11.2	12.2	-	-	9.4	-	-	13.6
HCM Lane LOS	C	B	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0.4	-	-	0.1	-	-	0.4

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	381	52	92	633	6	49	5	92	12	10	91
Future Vol, veh/h	14	381	52	92	633	6	49	5	92	12	10	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	423	58	102	703	7	54	6	102	13	11	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	710	0	0	481	0	0	946	1369	212	1111	1420	352
Stage 1	-	-	-	-	-	-	454	454	-	908	908	-
Stage 2	-	-	-	-	-	-	491	914	-	203	512	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	539	-	-	829	-	-	338	175	*871	*268	162	550
Stage 1	-	-	-	-	-	-	626	673	-	*231	352	-
Stage 2	-	-	-	-	-	-	482	350	-	*894	633	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	539	-	-	829	-	-	225	149	*871	*197	138	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	237	-	*185	233	-
Stage 1	-	-	-	-	-	-	608	654	-	*202	309	-
Stage 2	-	-	-	-	-	-	333	307	-	*760	615	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.37	1.25	14.15	17.46
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	273	765	539	-	-	829	-	-	413
HCM Lane V/C Ratio	0.199	0.141	0.029	-	-	0.123	-	-	0.304
HCM Control Delay (s/veh)	21.4	10.5	11.9	-	-	10	-	-	17.5
HCM Lane LOS	C	B	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.5	0.1	-	-	0.4	-	-	1.3

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	102	635	26	23	728	26	11	4	16	14	7	76
Future Vol, veh/h	102	635	26	23	728	26	11	4	16	14	7	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	112	698	29	25	800	29	12	4	18	15	8	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	829	0	0	726	0	0	1296	1801	349	1356	1801	400
Stage 1	-	-	-	-	-	-	922	922	-	851	851	-
Stage 2	-	-	-	-	-	-	374	879	-	505	951	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	473	-	-	750	-	-	249	109	*827	228	109	512
Stage 1	-	-	-	-	-	-	379	475	-	253	375	-
Stage 2	-	-	-	-	-	-	567	363	-	780	460	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	473	-	-	750	-	-	149	80	*827	161	80	512
Mov Cap-2 Maneuver	-	-	-	-	-	-	209	166	-	210	193	-
Stage 1	-	-	-	-	-	-	289	362	-	244	362	-
Stage 2	-	-	-	-	-	-	448	351	-	576	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2	0.3	16.77	17.86
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	209	460	473	-	-	750	-	-	386
HCM Lane V/C Ratio	0.058	0.048	0.237	-	-	0.034	-	-	0.276
HCM Control Delay (s/veh)	23.2	13.2	15	-	-	10	-	-	17.9
HCM Lane LOS	C	B	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.2	0.9	-	-	0.1	-	-	1.1

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

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	481	65	116	799	4	61	7	116	3	12	70
Future Vol, veh/h	11	481	65	116	799	4	61	7	116	3	12	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	523	71	126	868	4	66	8	126	3	13	76

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	873	0	0	593	0	0	1153	1672	261	1358	1738	434
Stage 1	-	-	-	-	-	-	547	547	-	1121	1121	-
Stage 2	-	-	-	-	-	-	606	1125	-	237	617	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	451	-	-	775	-	-	269	118	*856	*200	107	487
Stage 1	-	-	-	-	-	-	592	645	-	*164	280	-
Stage 2	-	-	-	-	-	-	411	278	-	*879	597	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	451	-	-	775	-	-	174	96	*856	*134	87	487
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	180	-	*125	176	-
Stage 1	-	-	-	-	-	-	576	628	-	*137	234	-
Stage 2	-	-	-	-	-	-	274	233	-	*720	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.26	1.33	16.69	18.41
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	706	451	-	-	775	-	-	360
HCM Lane V/C Ratio	0.295	0.189	0.027	-	-	0.163	-	-	0.257
HCM Control Delay (s/veh)	27.6	11.3	13.2	-	-	10.5	-	-	18.4
HCM Lane LOS	D	B	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	1.2	0.7	0.1	-	-	0.6	-	-	1

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	635	26	23	728	16	11	4	16	8	7	55
Future Vol, veh/h	86	635	26	23	728	16	11	4	16	8	7	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	250	200	-	200	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	690	28	25	791	17	12	4	17	9	8	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	809	0	0	718	0	0	1248	1736	345	1307	1747	396
Stage 1	-	-	-	-	-	-	877	877	-	841	841	-
Stage 2	-	-	-	-	-	-	370	859	-	465	905	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	484	-	-	757	-	-	268	120	*827	245	118	516
Stage 1	-	-	-	-	-	-	410	500	-	256	378	-
Stage 2	-	-	-	-	-	-	570	371	-	828	484	-
Platoon blocked, %		-	-	0	-	-	0	0	0	0	0	
Mov Cap-1 Maneuver	484	-	-	757	-	-	180	94	*827	184	92	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	243	187	-	219	209	-
Stage 1	-	-	-	-	-	-	331	403	-	248	366	-
Stage 2	-	-	-	-	-	-	477	359	-	647	390	-

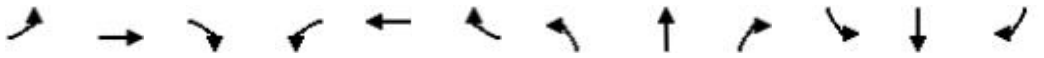
Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.64	0.3	15.48	16.23
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	243	490	484	-	-	757	-	-	396
HCM Lane V/C Ratio	0.049	0.044	0.193	-	-	0.033	-	-	0.192
HCM Control Delay (s/veh)	20.6	12.7	14.2	-	-	9.9	-	-	16.2
HCM Lane LOS	C	B	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	0.7	-	-	0.1	-	-	0.7

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

HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	339	158	136	761	117	498	350	77	125	379	183
Future Volume (veh/h)	91	339	158	136	761	117	498	350	77	125	379	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	99	368	172	148	827	127	541	380	84	136	412	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	361	2359	732	532	2442	758	429	723	322	305	571	254
Arrive On Green	0.04	0.46	0.46	0.06	0.48	0.48	0.13	0.21	0.21	0.08	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3428	3526	1572	1781	3554	1585
Grp Volume(v), veh/h	99	368	172	148	827	127	541	380	84	136	412	199
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1714	1763	1572	1781	1777	1585
Q Serve(g_s), s	3.5	5.0	7.9	5.2	12.1	5.5	15.0	11.5	5.4	7.5	13.2	14.5
Cycle Q Clear(g_c), s	3.5	5.0	7.9	5.2	12.1	5.5	15.0	11.5	5.4	7.5	13.2	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	2359	732	532	2442	758	429	723	322	305	571	254
V/C Ratio(X)	0.27	0.16	0.23	0.28	0.34	0.17	1.26	0.53	0.26	0.45	0.72	0.78
Avail Cap(c_a), veh/h	430	2359	732	617	2442	758	429	955	426	384	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	18.7	19.5	15.0	19.5	17.8	52.5	42.5	40.1	37.6	47.8	48.4
Incr Delay (d2), s/veh	0.4	0.1	0.8	0.3	0.4	0.5	135.7	0.6	0.4	1.0	1.7	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.0	3.0	2.1	4.7	2.0	14.4	5.0	2.1	3.3	5.9	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.4	18.9	20.2	15.3	19.9	18.2	188.2	43.1	40.5	38.6	49.6	53.6
LnGrp LOS	B	B	C	B	B	B	F	D	D	D	D	D
Approach Vol, veh/h		639			1102			1005			747	
Approach Delay, s/veh		18.8			19.1			121.0			48.6	
Approach LOS		B			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	61.9	20.0	25.8	10.4	63.9	14.7	31.1
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	7.2	9.9	17.0	16.5	5.5	14.1	9.5	13.5
Green Ext Time (p_c), s	0.2	2.9	0.0	2.8	0.1	6.3	0.1	2.4

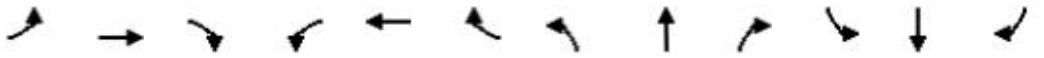
Intersection Summary	
HCM 7th Control Delay, s/veh	54.7
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 7th Signalized Intersection Summary
2: Peterson Road & North Carefree Circle

06/18/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	617	428	71	621	93	414	657	64	83	262	244
Future Volume (veh/h)	319	617	428	71	621	93	414	657	64	83	262	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	347	671	465	77	675	101	450	714	70	90	285	265
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	428	2297	713	311	2071	643	432	931	415	215	691	308
Arrive On Green	0.08	0.45	0.45	0.04	0.41	0.41	0.13	0.26	0.26	0.06	0.19	0.19
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	347	671	465	77	675	101	450	714	70	90	285	265
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.0	10.0	27.4	3.0	10.9	4.9	15.0	22.3	4.1	4.8	8.4	19.4
Cycle Q Clear(g_c), s	10.0	10.0	27.4	3.0	10.9	4.9	15.0	22.3	4.1	4.8	8.4	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	428	2297	713	311	2071	643	432	931	415	215	691	308
V/C Ratio(X)	0.81	0.29	0.65	0.25	0.33	0.16	1.04	0.77	0.17	0.42	0.41	0.86
Avail Cap(c_a), veh/h	428	2297	713	435	2071	643	432	962	429	335	933	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	20.9	25.7	19.4	24.4	22.6	52.5	40.9	34.2	36.3	42.3	46.8
Incr Delay (d2), s/veh	11.3	0.3	4.6	0.4	0.4	0.5	54.6	3.7	0.2	1.3	0.4	12.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.9	10.8	1.3	4.3	1.9	9.6	10.0	1.6	2.1	3.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.7	21.2	30.3	19.8	24.8	23.2	107.1	44.6	34.4	37.6	42.7	59.6
LnGrp LOS	D	C	C	B	C	C	F	D	C	D	D	E
Approach Vol, veh/h		1483			853			1234			640	
Approach Delay, s/veh		27.5			24.2			66.8			49.0	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	60.5	20.0	29.8	15.0	55.2	11.9	37.9
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5
Max Green Setting (Gmax), s	13.0	36.5	15.0	31.5	10.0	39.5	15.0	32.5
Max Q Clear Time (g_c+I1), s	5.0	29.4	17.0	21.4	12.0	12.9	6.8	24.3
Green Ext Time (p_c), s	0.1	3.4	0.0	1.9	0.0	5.0	0.1	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	41.6
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	435	8	0	545
Future Vol, veh/h	0	5	435	8	0	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	473	9	0	592

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	241	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	760	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	760	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.77	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	760	-
HCM Lane V/C Ratio	-	-	0.007	-
HCM Control Delay (s/veh)	-	-	9.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	827	26	0	468
Future Vol, veh/h	0	3	827	26	0	468
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	0	2	0
Mvmt Flow	0	3	899	28	0	509

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	464	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	551	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	551	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.58	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	551	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s/veh)	-	-	11.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	549	8	0	687
Future Vol, veh/h	0	5	549	8	0	687
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	597	9	0	747

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	303	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	693	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	693	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	10.23	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	693	-
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s/veh)	-	-	10.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	1043	26	0	589
Future Vol, veh/h	0	3	1043	26	0	589
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	0	2	0
Mvmt Flow	0	3	1134	28	0	640

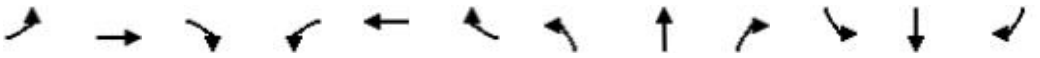
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	581	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	462	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	462	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	12.85	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	462	-
HCM Lane V/C Ratio	-	-	0.007	-
HCM Control Delay (s/veh)	-	-	12.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

APPENDIX G

Queue Analysis Worksheets

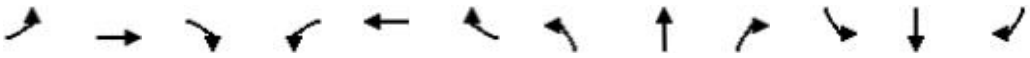


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	80	296	137	121	668	102	433	305	67	109	330	159
v/c Ratio	0.17	0.12	0.16	0.18	0.26	0.12	0.68	0.50	0.17	0.34	0.66	0.44
Control Delay (s/veh)	12.2	19.2	4.1	12.0	19.1	2.6	37.6	47.8	1.1	32.1	55.2	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.2	19.2	4.1	12.0	19.1	2.6	37.6	47.8	1.1	32.1	55.2	10.7
Queue Length 50th (ft)	24	46	0	38	109	0	135	113	0	61	129	0
Queue Length 95th (ft)	52	73	39	73	156	23	183	157	3	100	172	59
Internal Link Dist (ft)		1172			570			640			491	
Turn Bay Length (ft)	350		175	225		100	275		150	350		200
Base Capacity (vph)	490	2381	814	680	2529	849	637	949	514	382	958	544
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.12	0.17	0.18	0.26	0.12	0.68	0.32	0.13	0.29	0.34	0.29

Intersection Summary

Queues
2: Peterson Road & North Carefree Circle

06/18/2024

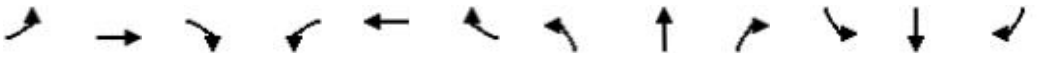


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	273	522	361	62	527	78	349	555	54	71	220	205
v/c Ratio	0.50	0.21	0.37	0.13	0.24	0.10	0.45	0.71	0.12	0.30	0.39	0.48
Control Delay (s/veh)	17.1	19.9	3.7	14.1	24.7	1.4	30.8	49.1	0.5	29.3	45.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.1	19.9	3.7	14.1	24.7	1.4	30.8	49.1	0.5	29.3	45.9	9.3
Queue Length 50th (ft)	100	86	0	20	98	0	102	214	0	38	81	0
Queue Length 95th (ft)	180	133	62	48	143	10	124	260	0	64	110	61
Internal Link Dist (ft)		1172			570			640			491	
Turn Bay Length (ft)	350		175	225		100	275		150	350		200
Base Capacity (vph)	545	2483	957	553	2133	735	779	958	518	323	958	578
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.21	0.38	0.11	0.25	0.11	0.45	0.58	0.10	0.22	0.23	0.35

Intersection Summary

Queues
2: Peterson Road & North Carefree Circle

06/18/2024



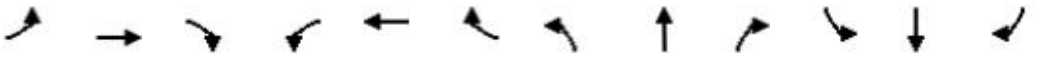
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	99	368	172	148	827	127	541	380	84	136	412	199
v/c Ratio	0.26	0.16	0.22	0.25	0.36	0.16	0.86	0.56	0.20	0.41	0.70	0.46
Control Delay (s/veh)	14.8	22.4	4.5	14.1	23.5	5.0	45.8	47.2	3.4	31.2	53.4	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.8	22.4	4.5	14.1	23.5	5.0	45.8	47.2	3.4	31.2	53.4	9.2
Queue Length 50th (ft)	33	63	0	51	152	2	166	141	0	74	160	0
Queue Length 95th (ft)	67	98	47	95	212	42	#212	188	17	115	203	61
Internal Link Dist (ft)		1172			570			640			491	
Turn Bay Length (ft)	350		175	225		100	275		150	350		200
Base Capacity (vph)	394	2189	779	623	2261	772	628	949	514	375	958	573
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.17	0.22	0.24	0.37	0.16	0.86	0.40	0.16	0.36	0.43	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
2: Peterson Road & North Carefree Circle

06/18/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	347	671	465	77	675	101	450	714	70	90	285	265
v/c Ratio	0.76	0.30	0.49	0.20	0.39	0.16	0.54	0.80	0.14	0.40	0.38	0.49
Control Delay (s/veh)	32.4	25.4	4.6	17.9	32.2	3.8	27.8	49.9	1.1	27.8	41.2	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.4	25.4	4.6	17.9	32.2	3.8	27.8	49.9	1.1	27.8	41.2	7.4
Queue Length 50th (ft)	154	129	0	29	153	0	123	272	0	44	100	0
Queue Length 95th (ft)	#298	186	76	61	192	28	148	331	4	72	131	64
Internal Link Dist (ft)		1172			570			640			491	
Turn Bay Length (ft)	350		175	225		100	275		150	350		200
Base Capacity (vph)	455	2165	941	441	1709	614	832	976	526	301	958	621
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.31	0.49	0.17	0.39	0.16	0.54	0.73	0.13	0.30	0.30	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.