



**LSC TRANSPORTATION CONSULTANTS, INC.**  
545 East Pikes Peak Avenue, Suite 210  
Colorado Springs, CO 80903  
(719) 633-2868  
FAX (719) 633-5430  
E-mail: [lsc@lsctrans.com](mailto:lsc@lsctrans.com)  
Website: <http://www.lsctrans.com>

September 10, 2019

Kyle Campbell, P.E.  
Division Manager  
Classic Consulting Engineers and Surveyors  
619 North Cascade Avenue, Suite 200  
Colorado Springs, CO 80903

RE: Greenways at Sand Creek  
Colorado Springs, CO  
Traffic Impact Study  
LSC #194500

Dear Mr. Campbell,

LSC Transportation Consultants, Inc. has prepared this traffic impact study for the proposed Greenways at Sand Creek residential redevelopment. Currently, approximately 470 single-family homes, 140 townhome dwelling units, and 330 apartment dwelling units are proposed for the entire site, although these totals may change if the site plan is modified.

Located at El Paso County parcel numbers 5331200050 and 5330100020, the site consists of four areas with the following residential land uses:

- North Commons – north of North Carefree Circle, west of Peterson Road, east of Sand Creek
  - 127 single-family homes
- East Commons – east of Sand Creek, west of Pony Tracks Drive, west of Piros Drive
  - 41 single-family homes
- West Commons – south of North Carefree Circle, east of Tutt Boulevard, west of Sand Creek
  - 277 single-family homes, 70 townhomes
- South Commons – Tutt Sports Complex property boundary
  - 70 townhomes, 330 apartments

In addition to retaining the golf clubhouse access points on Tutt Boulevard for future development (not proposed at this time), the plan shows six new access points are proposed for the entire residential development:

- South access to Tutt Boulevard aligning with South Carefree Circle
- Pony Tracks Drive (approximately 780 feet northwest of Piros Drive)
- North Carefree Circle (approximately 500 feet west of Showhorse Court)
- Two new access points on Showhorse Court (one on each side of the street, approximately 290 feet south of Golf Club Drive)
- Golf Club Drive (approximately 270 feet west of Tee Shot Drive)

- Note: The applicant is requesting that the existing north golf clubhouse access point on Tutt Boulevard (located 250 feet north of the main golf clubhouse access point) be retained as a potential option for use with the commercial parcel development.

This report has been prepared for submittal to the City of Colorado Springs.

## REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on Tutt Boulevard, North Carefree Circle, South Carefree Circle, Constitution Avenue, and Pony Tracks Drive adjacent to the site, including surface conditions, functional classification, widths, pavement markings, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes.
- Researching and gathering information of other planned nearby development.
- Weekday peak-hour turning movement traffic counts at the following intersections (referred to as the “study area intersections”):
  - North Carefree Circle/Tutt Boulevard
  - South Carefree Circle/Tutt Boulevard
  - Constitution Avenue/Tutt Boulevard
  - Tutt Boulevard/Holiday Inn site access/Springs Ranch Golf Club site access
  - Pony Tracks Drive/Piros Drive
  - North Carefree Circle/Showhorse Court
  - Note: The intersection of North Carefree Circle/Peterson Road was **not** included in the study area due to the minimal impacts the project would have on this intersection.
- Estimated average weekday traffic (AWT) volumes for all access points adjacent to the proposed residential development on Tutt Boulevard, North Carefree Circle, and Pony Tracks Drive.
- Projections of 20-year background traffic volumes on Tutt Boulevard, North Carefree Circle, South Carefree Circle, Constitution Avenue, and Pony Tracks Drive adjacent to the site.
- The proposed site land use and access plan.
- Estimates of average weekday and weekday peak-hour trip generation for the proposed Greenways at Sand Creek redevelopment and the estimated directional distribution of site-generated vehicle-trips on the streets and intersections adjacent to the site.

- Projected site-generated and resulting total peak-hour intersection traffic volumes at the site access points on Tutt Boulevard, North Carefree Circle, and Pony Tracks Drive.
- Projected total daily and peak-hour traffic volumes on Tutt Boulevard, North Carefree Circle, South Carefree Circle, Constitution Avenue, and Pony Tracks Drive adjacent to the site.
- Intersection level of service analysis at all access points adjacent to the proposed residential development on Tutt Boulevard, North Carefree Circle, South Carefree Circle, Constitution Avenue, and Pony Tracks Drive.
- Evaluation of existing and long-term projected intersection volumes to determine the short-term requirements for auxiliary right-/left-turn lanes on Tutt Boulevard adjacent to the site based on the criteria in Colorado Springs's *Traffic Criteria Manual*. Also included are potential long-term lane requirements.
- Street classification recommendations.
- A summary of findings and recommendations.

## LAND USE AND ACCESS

Figure 1 shows the site location relative to the adjacent and nearby streets. Located at El Paso County parcel numbers 5331200050 and 5330100020, the site consists of four areas with the following residential land uses:

- North Commons – north of North Carefree Circle, west of Peterson Road, east of Sand Creek
  - 127 single-family homes
- East Commons – east of Sand Creek, west of Pony Tracks Drive, west of Piros Drive
  - 41 single-family homes
- West Commons – south of North Carefree Circle, east of Tutt Boulevard, west of Sand Creek
  - 277 single-family homes, 70 townhomes
- South Commons – Tutt Sports Complex property boundary
  - 70 townhomes, 330 apartments

A small commercial site is also planned northeast of Tutt Boulevard and the north access drive. A retail building of about 10,000 square feet is envisioned for this site, which could potentially contain a quick-serve restaurant.

Figure 1 shows the area circulation and access points to the public streets and Figure 2 contains the proposed site plan showing the individual residential units, on-site circulation, and the development entry points.

Six new access points are proposed for the entire residential development:

- South access to Tutt Boulevard aligning with South Carefree Circle
- Pony Tracks Drive (approximately 780 feet northwest of Piros Drive)
- North Carefree Circle (approximately 500 feet west of Showhorse Court)
- Two new access points on Showhorse Court (one on each side of the street, approximately 290 feet south of Golf Club Drive)
- Golf Club Drive (approximately 270 feet west of Tee Shot Drive)
- Note: The applicant is requesting that the existing north golf clubhouse access point on Tutt Boulevard (located 250 feet north of the main golf clubhouse access point) be retained as a potential option for use with the commercial parcel development.

## **ROAD AND TRAFFIC CONDITIONS**

Figure 1 shows the streets adjacent to and in the vicinity of the site. Adjacent streets serving the site are identified below followed by a brief description of each:

**Powers Boulevard** (State Highway 21) is a six-lane median-divided Expressway (classified as a “Freeway” by CDOT), with planned north/south continuity throughout the Colorado Springs metropolitan area. Powers Boulevard is signalized at its intersections with North Carefree Circle, South Carefree Circle, and Constitution Avenue. The posted speed limit on Powers Boulevard adjacent to the site is 55 mph.

**Tutt Boulevard** is classified as a Minor Arterial that extends north/south from Constitution Avenue to Cowpoke Road on the east side of Powers Boulevard. Tutt Boulevard is planned to be extended north to Research Parkway. The intersections of Tutt Boulevard/Constitution Avenue and Tutt Boulevard/North Carefree Circle are signalized, while the intersections of Tutt Boulevard/South Carefree Circle and Tutt Boulevard/Springs Ranch golf course access are stop sign-controlled. Between North Carefree Circle and Constitution Avenue, Tutt Boulevard has a painted center two-way left-turn lane (TWLTL) and a posted speed limit of 35 mph. Auxiliary left- and right-turn lanes exist on all approaches at the intersections of Tutt Boulevard/North Carefree Circle and Tutt Boulevard/Constitution Avenue. The northbound approach at the intersection of Tutt Boulevard/South Carefree Circle has an auxiliary left-turn lane, while the eastbound approach on South Carefree Circle has exclusive left- and right-turn auxiliary turn lanes.

**North Carefree Circle** extends east-to-west from North Academy Boulevard to Marksheffel Road and is classified as a Principal Arterial on the City of Colorado Springs’ *Major Thoroughfare Plan (MTP)*. Adjacent to the site, North Carefree Circle has three through lanes in each direction, a raised center median, and a posted speed limit of 40 miles per hour (mph). The signalized intersections of North Carefree Circle/Powers Boulevard, North Carefree Circle/Tutt Boulevard, and stop sign-controlled intersection of North Carefree Circle/Showhorse Court all consist of auxiliary left- and right-turn lanes.

**South Carefree Circle** extends generally east-to-west from Village Road South to Tutt Boulevard and is classified as a Minor Arterial on the *MTP*. The northbound approach at Tutt Boulevard/South Carefree Circle has an auxiliary left-turn lane, while the eastbound approach on South Carefree Circle has exclusive left- and right-turn auxiliary turn lanes. Tutt Boulevard/South Carefree Circle is stop sign-controlled T-intersection, and the posted speed limit on South Carefree Circle is 30 mph.

**Constitution Avenue** extends generally east-to-west from Paseo Road to US Highway 24 and is classified as a Principal Arterial on the *MTP*. Adjacent to the site, Constitution Avenue has three through lanes in each direction and a posted speed limit of 40 miles per hour (mph). The signalized intersection of Constitution Avenue/Tutt Boulevard consists of auxiliary left- and right-turn lanes on all approaches.

**Pony Tracks Drive** is a two-lane, non-arterial street looping between Ascendant Drive and Bonnie Brae Lane. Adjacent to the proposed north site access point, Pony Tracks Drive is a two-lane street with a posted speed limit of 25 miles per hour (mph) in the vicinity of the site. The street width is 34 feet.

**Showhorse Court** is a two-lane non-arterial street that extends between Golf Club Drive and North Carefree Circle. The stop sign-controlled, full-movement intersection of North Carefree Circle/Showhorse Court consists of auxiliary left- and right-turn lanes. Showhorse Court has a posted speed limit of 25 mph.

### **Existing Traffic Volumes**

Vehicular turning movement counts were conducted at the following intersections, dates, and times, as shown in Table 1:

**Table 1: Vehicular Turning Movement Count Information**

Major Street	Minor Street	Day	Date	Start	End
North Carefree	Tutt	Wednesday	May 29, 2019	6:30 a.m.	8:30 a.m.
		Tuesday	June 11, 2019	4:00 p.m.	6:00 p.m.
Tutt	Holiday Inn/ Golf Course	Wednesday	May 22, 2019	6:30 a.m.	8:30 a.m.
		Wednesday	May 22, 2019	4:00 p.m.	6:00 p.m.
North Carefree	South Carefree	Tuesday	May 28, 2018	6:30 a.m.	8:30 a.m.
		Tuesday	July 9, 2019	11:00 a.m.	1:00 p.m.
		Tuesday	July 9, 2019	1:30 a.m.	3:30 p.m.
		Tuesday	May 28, 2019	4:00 p.m.	6:00 p.m.
Constitution	Tutt	Thursday	May 23, 2019	6:30 a.m.	8:30 a.m.
		Thursday	May 23, 2019	4:00 p.m.	6:00 p.m.
North Carefree	Showhorse	Thursday	June 27, 2019	6:30 a.m.	8:30 a.m.
		Wednesday	June 26, 2019	4:00 p.m.	6:00 p.m.
Pony Tracks	Piros	Tuesday	June 25, 2019	6:30 a.m.	8:30 a.m.
		Thursday	June 27, 2019	4:00 p.m.	6:00 p.m.

Figure 3 shows these turning movement volumes, as well as the average weekday traffic volumes (estimated based on factored peak-hour count data) on the study area streets. Raw count data is attached.

**TRIP GENERATION**

Estimates of the vehicle-trips projected to be generated by the Greenways at Sand Creek redevelopment residential development have been made using the nationally published trip generation rates from *Trip Generation, 10<sup>th</sup> Edition, 2017* by the Institute of Transportation Engineers (ITE). ITE Land Use Categories “210 – Single-Family Detached Housing,” “220 – Multi-Family Housing (Low-Rise),” and “820 – Shopping Center,” along with corresponding trip generation rates, have been used to develop the trip generation estimates for site buildout. Figure 2 shows the site plan with all dwelling units and retail shopping space within the proposed development.

Table 2 below presents a summary of the estimated site trip generation. A detailed trip generation estimate for the development, including ITE rates for the proposed land uses, is presented in Table 14 (attached).

**Table 2: Estimated Site Vehicle-Trip Generation**

Analysis Period	Weekday		
	In	Out	Total
Morning Peak Hour	225	464	688
Evening Peak Hour	473	301	773
Daily/24-hour	4,405	4,405	8,809

The proposed Greenways at Sand Creek redevelopment residential development is projected to generate about 8,809 vehicle-trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site. During the morning peak hour, approximately 225 entering vehicles and 464 exiting vehicles would be generated. Approximately 473 entering and 301 exiting vehicles would be generated by the site during the evening peak hour.

## **TRIP DISTRIBUTION AND ASSIGNMENT**

### **Trip Directional Distribution**

Estimating the directional distribution of site-generated vehicle-trips to the study area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 5 shows the percentages of the site-generated vehicle-trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: the proposed new land use, the area street and road system serving the site, and the site's geographic location relative to unincorporated El Paso County and the City of Colorado Springs.

### **Site-Generated Traffic**

Site-generated traffic volumes at the proposed site access points on Tutt Boulevard, North Carefree Circle, and Pony Tracks Drive have been calculated by applying the directional distribution percentages estimated by LSC (from Figure 5) to the trip generation estimates (from Table 14). Figure 6 shows the projected site-generated traffic volumes for the weekday morning and evening peak hours.

### **Existing-Plus-Site-Generated Traffic Volumes**

Figure 7 shows the sum of the existing traffic volumes (from Figure 3) and site-generated peak-hour traffic volumes (shown in Figure 6). These volumes represent the projected short-term total traffic following site buildout.

### Estimated Future 2040 Background Traffic Volumes

Figure 8 shows the projected 20-year background traffic volumes for the year 2040. Background volumes include increases in through traffic and trips generated by other area future development, but do **not** include projected traffic to be generated by the proposed Greenways at Sand Creek development.

### Future 2040 Total Traffic Volumes

Figure 9 shows the projected 2040 total traffic volumes, which are the sum of 2040 background traffic volumes (from Figure 8) plus the site-generated traffic volumes (from Figure 6).

### LEVEL OF SERVICE ANALYSIS

The following intersections have been analyzed to determine the projected intersection levels of service for short- and long-term traffic scenarios for the morning and evening peak-hour time periods:

- North Carefree Circle/Tutt Boulevard
- South Carefree Circle/Tutt Boulevard
- Constitution Avenue/Tutt Boulevard
- Tutt Boulevard/Holiday Inn access/Springs Ranch Golf Club site access
- Pony Tracks Drive/Piros Drive
- North Carefree Circle/Showhorse Court

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 3 shows the level of service delay ranges for signalized and unsignalized intersections.

**Table 3: Intersection Levels of Service Delay Ranges**

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (Seconds per Vehicle)	Average Control Delay (Seconds per Vehicle) <sup>1</sup>
A	≤ 10.0	≤ 10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	≥ 80.1	≥ 50.1

<sup>1</sup> For unsignalized intersections, if v/c is > 1.00, then LOS is LOS F, regardless of the projected average control delay per vehicle



Detailed Synchro and SimTraffic reports are attached. A summary of LOS during the weekday morning and evening peak hours for the following unsignalized intersections is shown in the following figures:

- Figure 3: 2019 Existing
- Figure 7: 2019 Existing + Site
- Figure 8: 2040 Background
- Figure 9: 2040 Background + Site

Note: all unmentioned individual turning movements at the intersections below currently operate at and are projected to operate at LOS D or better through 2040 during both peak hours, with or without the addition of site-generated traffic. No modifications have been assumed to the existing lane geometry or traffic control at each intersection unless described below.

### **North Carefree Circle/Tutt Boulevard**

Overall, the intersection of North Carefree Circle/Tutt Boulevard would operate at LOS D or better during both peak hours, whether or not site-generated trips are considered. The following turning movements currently operate at and are projected to remain at LOS E or worse through the 20-year horizon, with or without site buildout:

- Westbound left (AM and PM)
- Southbound left (PM peak only)
- Southbound through (AM and PM)
- Northbound through (AM and PM)

### **Tutt Boulevard/Holiday Inn Site Access/Springs Ranch Golf Club Site Access**

Currently, the southeast shared through/left turning movement operates at LOS E during the PM peak hour and is projected to operate at LOS F in the future for the northwest and southeast left-turning movements (if the intersection were to remain stop sign-controlled). However, all individual turning movements at this intersection would operate at LOS D or better through the 20-year horizon if the intersection were to be signalized, with the intersection operating at LOS B overall during both peak hours. Additionally, in order to facilitate safe pedestrian and bicycle crossing of Tutt, the developer proposes the installation of a full traffic signal at this intersection.

### **South Carefree Circle/Tutt Boulevard**

Currently, the intersection of South Carefree Circle/Tutt Boulevard is a T-intersection, but a new westbound approach would be constructed as part of this development. The following lane geometry modifications are recommended upon site buildout:

- Eastbound approach – exclusive left-turn lane and a shared right/through turn lane
- Westbound approach – exclusive left-turn lane and a shared right/through turn lane
- Northbound approach – exclusive left-turn lane, through lane, and exclusive right-turn lane
- Southbound approach – exclusive left-turn lane and a shared right/through turn lane

### Unsignalized

All individual turning movements would remain at LOS D or better during both peak hours through the 20-year horizon without the addition of site-generated traffic (as a T-intersection). However, the following turning movements are projected to operate at LOS E or worse upon site buildout (as a full-movement intersection with four approaches):

- Westbound shared right/through (PM peak only)
- Westbound left (PM peak only)
- Eastbound left (PM peak only)

### Signalized

All individual turning movements are projected to operate at LOS D or better through 2040 during both peak hours if the intersection of South Carefree Circle/Tutt Boulevard were to be signalized.

### **Constitution Avenue/Tutt Boulevard**

Overall, the intersection of Constitution Avenue/Tutt Boulevard would operate at LOS D or better during both peak hours, whether or not site-generated trips are considered. The following turning movements currently operate at and are projected to remain at LOS E or worse through the 20-year horizon, with or without site buildout:

- Southwest-bound through (PM peak only)
- Southwest-bound left (PM peak only)
- Northeast-bound shared through/right (PM peak only)

### **Pony Tracks Drive/Piros Drive and Pony Tracks Drive/Site Access**

All turning movements/intersection approaches at the intersection of Pony Tracks Drive/Piros Drive and the proposed site access intersection with Pony Tracks Drive are projected to operate at LOS A during both peak periods through the 20-year horizon.

### **North Carefree Circle/Showhorse Court**

The southbound shared left/through turn lane currently operate at LOS E during the PM peak hour and is projected to remain at LOS E or worse through the 2040 horizon year, with or without additional traffic from this development. The northbound single-lane approach currently operates at LOS D during the afternoon peak hour but is projected to operate at LOS E during all

other afternoon peak-hour traffic scenarios through the 2040 horizon year with or without the additional traffic from this development.

Despite these E or worse individual movement level of service on the northbound approach, analysis results show a volume-to-capacity (v/c) ratio to be well below 1.00 for all turning movements/approaches during the short-term buildout traffic scenario. This is not uncommon for minor street approaches on arterial streets to operate at levels of service E or even F during peak periods. It is unlikely that a signal warrant would be met at this intersection.

### **North Carefree Circle/North Commons Access**

All individual turning movements at the proposed North Commons access to North Carefree Circle (right-in/right-out) are projected to operate at LOS C or better during both peak hours through 2040 as a stop sign-controlled intersection.

### **TRAFFIC SIGNAL WARRANT ANALYSIS – TUTT BOULEVARD/SOUTH CAREFREE CIRCLE**

The intersection of **Tutt Boulevard/South Carefree Circle** has been analyzed to evaluate the potential for meeting a warrant(s) for a traffic control signal in the future. The combination of major street approach volumes (includes the sum of northbound and southbound approach volumes) and minor street left-turn volumes (greater of the eastbound or westbound approach volume each hour) were analyzed to determine **if** the combination would exceed the threshold criteria for Four-Hour Vehicular Volume Traffic Signal Warrants and applicable other warrants in the *2009 Manual on Uniform Traffic Control Devices (MUTCD)*.

Eight separate one-hour periods within the following morning, early-afternoon, and late-afternoon/evening periods have been analyzed:

- 6:30 a.m. – 7:30 a.m.
- 7:30 a.m. -- 8:30 a.m.
- 11:00 a.m. – 12:00 p.m.
- 12:00 p.m. – 1:00 p.m.
- 1:30 p.m. – 2:30 p.m.
- 2:30 p.m. – 3:30 p.m.
- 4:00 p.m. – 5:00 p.m.
- 5:00 p.m. - 6:30 p.m.

### **Warrant No. 1 - Eight-Hour Vehicular Warrant**

According to “Warrant 1, Eight-Hour Vehicular Warrant,” as described in Section 4C.02 of the 2009 MUTCD:

*Standard:*

*04 The need for a traffic control signal shall be considered if an engineering study finds that **one** of the following conditions exist for each of any 8 hours of an average day:*

- A. *The vehicles per hour given in both of the **100** percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; **or***
- B. *The vehicles per hour given in both of the **100** percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.*

Table 4C-1 of the MUTCD contains the minimum vehicular volumes (Condition A) and the interruption of continuous traffic volumes (Condition B) required to satisfy “Warrant 1, Eight-Hour Vehicular Volume.”

**Warrant 1 – Eight-Hour Vehicular Volume Warrant**

Details of this warrant are contained in Section 4C.02 of the MUTCD.

Condition A

All eight of the eight studied one-hour analysis periods are projected to meet eight-hour vehicular volume criteria for the existing-plus-site traffic scenario. A minimum of 500 vehicles on the major street (total of both approaches) and 150 vehicles (higher-volume minor street approach, one direction only) are required to satisfy “Condition A” during each of the eight hours analyzed. Refer to Table 4 for the major/minor street volume combinations used for the “Condition A” Eight-Hour Vehicular Volume Warrant analysis during the existing plus site-generated traffic condition.

**Table 4: Major/Minor Volumes for Signal Warrant No. 1 (Condition A) – Existing Plus Site**

Start Time	End Time	Volumes		Condition A Threshold		Meets 8-Hr Warrant Thresholds?
		Major Street	Minor Street	Major Street (One Lane)	Minor Street (Two Lanes)	
6:30 AM	7:30 AM	505	190	500	150	Yes
7:30 AM	8:30 AM	621	190	500	150	Yes
11:00 AM	12:00 PM	736	210	500	150	Yes
12:00 PM	1:00 PM	866	250	500	150	Yes
1:30 PM	2:30 PM	859	234	500	150	Yes
2:30 PM	3:30 PM	829	215	500	150	Yes
4:00 PM	5:00 PM	1159	215	500	150	Yes
5:00 PM	6:00 PM	1220	259	500	150	Yes
<b>Number of hours meeting warrant thresholds/ hours required to satisfy the warrant</b>						<b>8 / 8</b>
Note: Condition A thresholds are based on MUTCD Table 4C-1 (100% values)						

During the 2040 background plus site-generated traffic scenario, all eight of the eight studied one-hour analysis periods are projected to meet eight-hour vehicular volume criteria for Condition A, as shown in Table 5.

**Table 5: Major/Minor Volumes for Signal Warrant No. 1 (Condition A) – 2040 Total**

Start Time	End Time	Volumes		Condition A Threshold		Meets 8-Hr Warrant Thresholds?
		Major Street	Minor Street	Major Street (One Lane)	Minor Street (Two Lanes)	
6:30 AM	7:30 AM	570	190	500	150	Yes
7:30 AM	8:30 AM	706	190	500	150	Yes
11:00 AM	12:00 PM	746	251	500	150	Yes
12:00 PM	1:00 PM	806	280	500	150	Yes
1:30 PM	2:30 PM	904	297	500	150	Yes
2:30 PM	3:30 PM	1006	313	500	150	Yes
4:00 PM	5:00 PM	1312	307	500	150	Yes
5:00 PM	6:00 PM	1384	339	500	150	Yes
<b>Number of hours meeting warrant thresholds/ hours required to satisfy the warrant</b>						<b>8 / 8</b>
Note: Condition A thresholds are based on MUTCD Table 4C-1 (100% values)						

Condition B

Five of the eight studied one-hour analysis periods are projected to meet eight-hour vehicular volume criteria for the short-term background-plus-site traffic condition. A minimum of 750 vehicles on the major street (total of both approaches) and 75 vehicles (higher-volume minor street approach, one direction only) are required to satisfy “Condition B” during each of the eight hours. Refer to Table 6 for the major/minor street volume combinations used for the “Condition B” Eight-Hour Vehicular Volume Warrant analysis during the existing plus site-generated traffic condition.

**Table 6: Major/Minor Volumes for 8-Hour Signal Warrants (Condition B) – Existing Plus Site**

Start Time	End Time	Volumes		Condition B Threshold		Meets 8-Hr Warrant Thresholds?
		Major Street	Minor Street	Major Street (One Lane)	Minor Street (Two Lanes)	
6:30 AM	7:30 AM	505	190	750	75	No
7:30 AM	8:30 AM	621	190	750	75	No
11:00 AM	12:00 PM	736	210	750	75	No
12:00 PM	1:00 PM	866	250	750	75	Yes
1:30 PM	2:30 PM	859	234	750	75	Yes
2:30 PM	3:30 PM	829	215	750	75	Yes
4:00 PM	5:00 PM	1159	215	750	75	Yes
5:00 PM	6:00 PM	1220	259	750	75	Yes
<b>Number of hours meeting warrant thresholds/ hours required to satisfy the warrant</b>						<b>5 / 8</b>
Note: Condition B thresholds are based on MUTCD Table 4C-1 (100% values)						

During the 2040 background plus site-generated traffic scenario, five of the eight studied one-hour analysis periods are projected to meet eight-hour vehicular volume criteria for Condition B, as shown in Table 7.

**Table 7: Major/Minor Volumes for Signal Warrant No. 1 (Condition B) – 2040 Total**

Start Time	End Time	Volumes		Condition B Threshold		Meets 8-Hr Warrant Thresholds?
		Major Street	Minor Street	Major Street (One Lane)	Minor Street (Two Lanes)	
6:30 AM	7:30 AM	570	190	750	75	No
7:30 AM	8:30 AM	706	190	750	75	No
11:00 AM	12:00 PM	746	251	750	75	No
12:00 PM	1:00 PM	806	280	750	75	Yes
1:30 PM	2:30 PM	904	297	750	75	Yes
2:30 PM	3:30 PM	1006	313	750	75	Yes
4:00 PM	5:00 PM	1312	307	750	75	Yes
5:00 PM	6:00 PM	1384	339	750	75	Yes
<b>Number of hours meeting warrant thresholds/ hours required to satisfy the warrant</b>						<b>5 / 8</b>
Note: Condition B thresholds are based on MUTCD Table 4C-1 (100% values)						

Conditions A + B

As shown in the analysis above, eight-hour vehicular warrant criteria for the 100 percent columns is **not** satisfied for either Condition A or Condition B during the existing plus site-generated and 2040 background plus site-generated traffic scenarios. However, warrant criteria from the 80

percent columns in MUTCD Table 4C-1 may be used to determine if a combination of Condition A **and** Condition B major street and minor street volumes would meet warrant thresholds. Per Section 4C.02 of the 2009 MUTCD:

*Standard:*

*07 The need for a traffic control signal shall be considered if an engineering study finds that **both** of the following conditions exist for each of any 8 hours of an average day:*

- A. The vehicles per hour given in both of the **80** percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; **and***
- B. The vehicles per hour given in both of the **80** percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection*

A minimum of 400 vehicles on the major street (total of both approaches) and 120 vehicles (higher-volume minor street approach, one direction only) are required to satisfy “Condition A” during each of the eight hours analyzed using 80-percent criteria. In order to satisfy “Condition B” 80-percent criteria, a minimum of 600 vehicles are required on the major street (total of both approaches) and 60 vehicles (higher-volume minor street approach, one direction only) are required. All eight analyzed hours must meet **both** “Condition A” and “Condition B” thresholds in order to satisfy the 80-percent combination warrant criteria.

During the existing plus site-generated traffic scenario, only seven one-hour analysis periods are projected to satisfy Condition B 80-percent criteria, as shown in Table 8. Thus, the eight-hour vehicular warrant for the combination of Conditions A and B would **not** be met in the short term.

**Table 8: Major/Minor Volumes for 8-Hour Signal Warrants (Conditions A + B) – Existing + Site**

Start Time	End Time	Volumes		Condition A Threshold		Condition B Threshold		Meets 8-Hr Warrant Thresholds?
		Major Street	Minor Street	Major Street (One Lane)	Minor Street (Two Lanes)	Major Street (One Lane)	Minor Street (Two Lanes)	
6:30 AM	7:30 AM	505	190	400	120	600	60	No
7:30 AM	8:30 AM	621	190	400	120	600	60	Yes
11:00 AM	12:00 PM	736	210	400	120	600	60	Yes
12:00 PM	1:00 PM	866	250	400	120	600	60	Yes
1:30 PM	2:30 PM	859	234	400	120	600	60	Yes
2:30 PM	3:30 PM	829	215	400	120	600	60	Yes
4:00 PM	5:00 PM	1159	215	400	120	600	60	Yes
5:00 PM	6:00 PM	1220	259	400	120	600	60	Yes
<b>Number of hours meeting warrant thresholds/ hours required to satisfy the warrant</b>								<b>7 / 8</b>
Note: Condition A and B thresholds are based on MUTCD Table 4C-1 (80% values)								

Seven of the one-hour analysis periods studied are projected to satisfy 80-percent Condition A vehicular volume during the 2040 background plus site-generated traffic scenario. However, only

six one-hour analysis periods are projected to satisfy Condition B 80-percent criteria, as shown in Table 9. Thus, the eight-hour vehicular warrant for the combination of Conditions A and B would not be met in the short term.

**Table 9: Major/Minor Volumes for 8-Hour Signal Warrants (Conditions A + B) – 2040 Total**

Start Time	End Time	Volumes		Condition A Threshold		Condition B Threshold		Meets 8-Hr Warrant Thresholds?
		Major Street	Minor Street	Major Street (One Lane)	Minor Street (Two Lanes)	Major Street (One Lane)	Minor Street (Two Lanes)	
6:30 AM	7:30 AM	570	190	400	120	600	60	No
7:30 AM	8:30 AM	706	190	400	120	600	60	Yes
11:00 AM	12:00 PM	746	251	400	120	600	60	Yes
12:00 PM	1:00 PM	806	280	400	120	600	60	Yes
1:30 PM	2:30 PM	904	297	400	120	600	60	Yes
2:30 PM	3:30 PM	1006	313	400	120	600	60	Yes
4:00 PM	5:00 PM	1312	307	400	120	600	60	Yes
5:00 PM	6:00 PM	1384	339	400	120	600	60	Yes
<b>Number of hours meeting warrant thresholds/ hours required to satisfy the warrant</b>								<b>7 / 8</b>
Note: Condition A and B thresholds are based on MUTCD Table 4C-1 (80% values)								

**Warrant 2 - Four-Hour Vehicular Warrant**

The MUTCD Warrant 2 (Four-Hour Vehicular Volume) contains a graph with threshold curves based on major and minor street traffic volumes, the number of intersection approach lanes on the major and minor streets, and the speed of the major street. This graph is shown in MUTCD Figure 4C-1. Details of this warrant are contained in Section 4C.03 of the MUTCD.

MUTCD Warrant 2 (Four-Hour Vehicular Volume) contains a graph (shown in MUTCD Figure 4C-1) with threshold curves based on major and minor street traffic volumes, the number of intersection approach lanes on the major and minor streets, and the speed of the major street.

**Short-Term Baseline Plus Site-Generated Traffic**

Results from the four-hour traffic signal warrant analysis for the short-term baseline plus site-generated traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 10. Five separate major/minor street volume data points exceeded the minimum threshold curve for an intersection with one lane for the major approach and two lanes for the minor approach (higher-volume minor street). As a result, the Four-Hour Vehicular Volume Traffic Signal Warrant threshold at the intersection of South Carefree Circle/Tutt Boulevard is projected to be exceeded based on the short-term baseline plus site-generated traffic scenario.

Note: all turning movements have been included in the side-street volumes.



**Figure 10: MUTCD Warrant 2, Four-Hour Vehicular Volume (2019 Existing + Site)**



Major and minor street volumes shown in Figure 10 above are summarized in Table 10 below.

**Table 10: Major/Minor Volumes for 4-Hour Signal Warrants (Existing + Site)**

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?
6:30	7:30	505	190	No
7:30	8:30	621	190	No
11:00	12:00	736	210	No
12:00	13:00	866	250	Yes
13:30	14:30	859	234	Yes
14:30	15:30	829	215	Yes
16:00	17:00	1159	215	Yes
17:00	18:00	1220	259	Yes
<b># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</b>				<b>5 / 4 (Yes)</b>

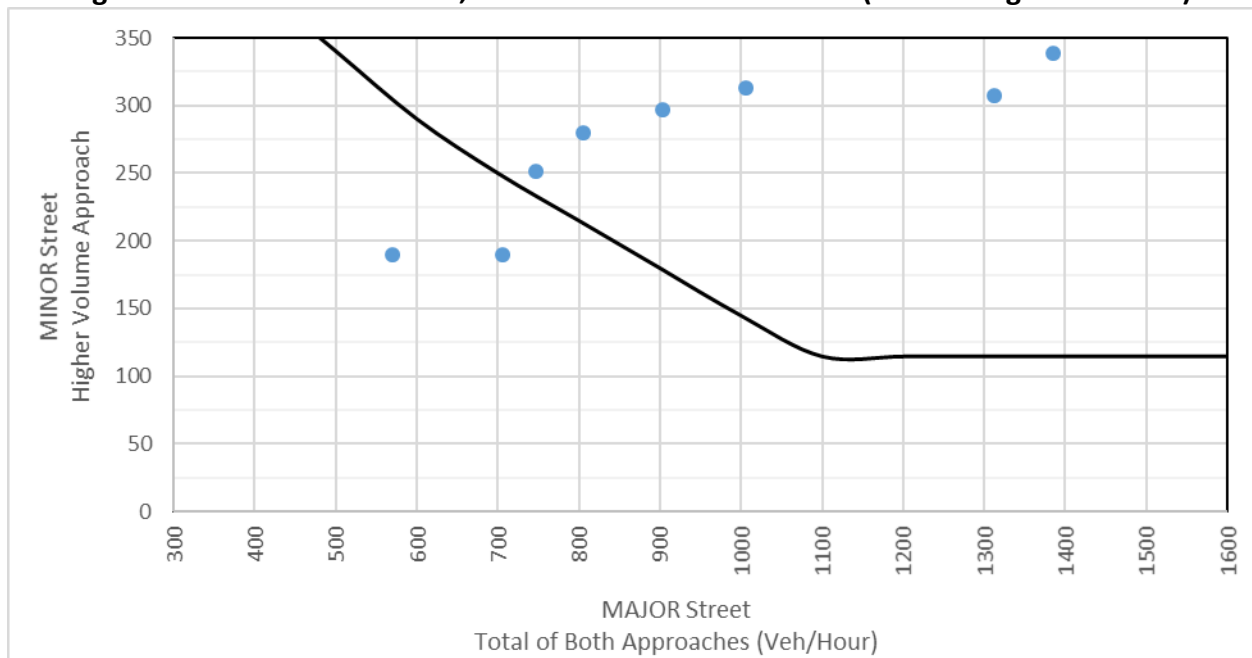
2040 Total Traffic

Results from the four-hour traffic signal warrant analysis for the 2040 background-plus-site-generated traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 11. Greater than four (six) separate major/minor street volume data points exceeded the minimum threshold curve to meet a signal warrant. As a result,

the Four-Hour Vehicular Volume Traffic Signal Warrant is projected to be met at the intersection of South Carefree Circle/Tutt Boulevard for the 2040 background plus site-generated traffic scenario.

Note: all turning movements have been included in the side-street volumes.

**Figure 11: MUTCD Warrant 2, Four-Hour Vehicular Volume (2040 Background + Site)**



Major and minor street volumes shown in Figure 11 above are summarized in Table 11 below.

**Table 11: Major/Minor Volumes for 4-Hour Volume Signal Warrants (2040 Background + Site)**

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?
6:30	7:30	570	190	No
7:30	8:30	706	190	No
11:00	12:00	746	251	Yes
12:00	13:00	806	280	Yes
13:30	14:30	904	297	Yes
14:30	15:30	1006	313	Yes
16:00	17:00	1312	307	Yes
17:00	18:00	1384	339	Yes
<b># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</b>				<b>6 / 4 (Yes)</b>

## **TRAFFIC SIGNAL WARRANT ANALYSIS – TUTT BOULEVARD/ GOLF CLUB SITE ACCESS**

The intersection of **Tutt Boulevard/Holiday Inn Site Access/Site Access** has been analyzed to evaluate the potential for meeting a warrant(s) for a traffic control signal in the future. The combination of major street approach volumes (includes the sum of northbound and southbound approach volumes) and minor street left-turn volumes (greater of the eastbound or westbound approach volume each hour) were analyzed to determine if the combination would exceed the threshold criteria for Four-Hour Vehicular Volume Traffic Signal Warrants in the *2009 MUTCD*.

Four separate one-hour periods within the following morning, early-afternoon, and late-afternoon/evening periods have been analyzed:

- 6:30 a.m. – 7:30 a.m.
- 7:30 a.m. -- 8:30 a.m.
- 4:00 p.m. – 5:00 p.m.
- 5:00 p.m. - 6:30 p.m.

### **Short-Term Baseline Plus Site-Generated Traffic**

Results from the four-hour traffic signal warrant analysis for the short-term baseline plus site-generated traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 12. Two separate major/minor street volume data points exceeded the minimum threshold curve for an intersection with one lane for the major approach and two lanes for the minor approach (higher-volume minor street). The two late afternoon/evening peak period data points analyzed are shown to exceed the Four-Hour Vehicular Volume Traffic Signal Warrant threshold at the intersection of Tutt Boulevard/Holiday Inn Site Access/Springs Ranch Golf Club Site Access. The morning peak period data points are not shown to exceed the threshold based on the short-term baseline plus site-generated traffic scenario. There is the potential for a warrant to be met based on additional hours of the day – such as the midday period and mid-afternoon period due to the high commercial/retail nature of the area served by Tutt Boulevard.

Note: all turning movements have been included in the side-street volumes.

**Figure 12: MUTCD Warrant 2, Four-Hour Vehicular Volume (2019 Existing + Site)**



Major and minor street volumes shown in Figure 12 above are summarized in Table 12 below.

**Table 12: Major/Minor Volumes for 4-Hour Signal Warrants (Existing + Site)**

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?
6:30	7:30	573	184	No
7:30	8:30	797	185	No
16:00	17:00	1391	132	Yes
17:00	18:00	1495	126	Yes
<b># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</b>				<b>2 / 4 (No)</b>

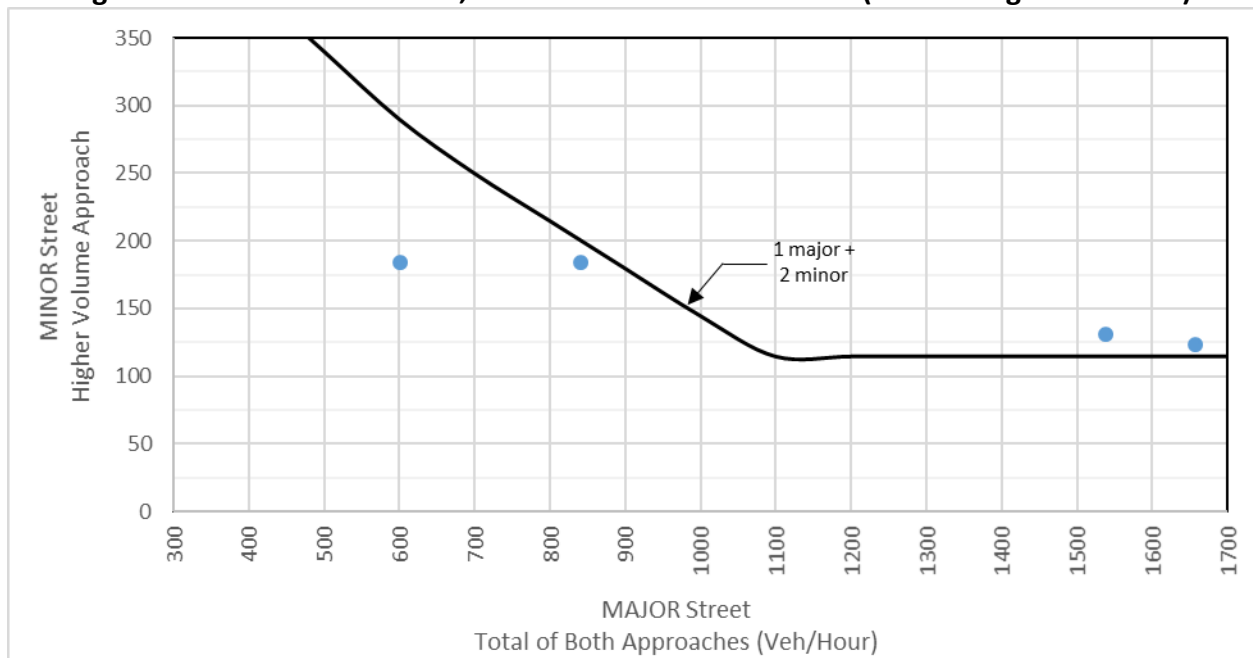
**2040 Total Traffic Scenario**

Results from the four-hour traffic signal warrant analysis for the short-term baseline plus site-generated traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 13. Two separate major/minor street volume data points exceeded the minimum threshold curve for an intersection with one lane for the major approach and two lanes for the minor approach (higher-volume minor street). The two late afternoon/evening peak period data points analyzed are shown to exceed the Four-Hour Vehicular Volume Traffic Signal Warrant threshold at the intersection of Tutt Boulevard/Holiday Inn Site Access/Springs Ranch Golf Club Site Access. The morning peak period data points are not shown to exceed the threshold based on the 2040 background plus site-generated traffic

scenario. There is the potential for a warrant to be met based on additional hours of the day – such as the midday period and mid-afternoon period due to the high commercial/retail nature of the area served by Tutt Boulevard.

Note: all turning movements have been included in the side-street volumes.

**Figure 13: MUTCD Warrant 2, Four-Hour Vehicular Volume (2040 Background + Site)**



Major and minor street volumes shown in Figure 13 above are summarized in Table 13 below.

**Table 13: Major/Minor Volumes for 4-Hour Signal Warrants (Existing + Site)**

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?
6:30	7:30	601	184	No
7:30	8:30	841	184	No
16:00	17:00	1538	131	Yes
17:00	18:00	1657	123	Yes
<b># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</b>				<b>2 / 4 (No)</b>

The Tutt Boulevard/North First & Main/Internal Loop Street intersection is projected to be close to meeting a traffic signal warrant based on projected late afternoon peak period volumes. The proposed Greenways at Sand Creek development is located adjacent to a busy shopping plaza

with several restaurants, so it would likely experience an increase in entering/exiting traffic during mid-day peak period.

In order to facilitate safe pedestrian and bicycle crossing of Tutt, the developer proposes the installation of a full traffic signal at this intersection. Advantages to signalizing this intersection include:

- The level of service for would be significantly better
- The access is on the inside of a horizontal curve
- The intersection is a four-leg intersection
- A traffic signal would provide pedestrian/bicycle crossing capability between North Carefree and the proposed signalized intersection to the south at S. Carefree Circle
- A traffic signal would create traffic gaps in north/south traffic, which could be utilized by motorists exiting numerous apartment complexes and other businesses (with unsignalized access points) to the north and south of this intersection.
- If a Mountain Metro Transit bus pullout were constructed on the north side of this intersection, the traffic signal would be beneficial to the bus in reentering the northbound through lane

#### **TRAFFIC SIGNAL WARRANT ANALYSIS – NORTH CAREFREE CIRCLE/SHOWHORSE DRIVE**

The projected combinations of major plus minor street peak-hour traffic volumes would **not** exceed Four-Hour Vehicular Volume traffic signal warrant thresholds. Minor street approaches at this should remain stop sign-controlled upon site buildout.

#### **AUXILIARY TURN LANE ANALYSIS**

Table 2 of the City of Colorado Springs' *Traffic Criteria Manual* contains turning volume thresholds which require auxiliary left or right turn lanes by roadway classifications. Roadway classifications for key thoroughfares in the vicinity of the site are based on the City of Colorado Springs' *Major Thoroughfare Plan (MTP)*:

- Principal Arterial – North Carefree Circle, Constitution Avenue
- Minor Arterial – Tutt Boulevard, South Carefree Circle
- Non-arterial street – Pony Tracks Drive, Piros Drive, Showhorse Court

#### **Principal Arterial**

Left-turn auxiliary turn lanes are required for an access with a projected peak-hour left ingress turning volume of 10 vehicles per hour (vph) or greater. Right-turn auxiliary turn lanes are required for an access with a projected peak-hour left ingress turning volume of 25 vph or greater. Left-turn and right-turn acceleration lanes are generally not required.

The posted speed limit on North Carefree Circle and Constitution Avenue is 40 mph. Per the *Traffic Criteria Manual*, the required turn lane length on these Principal Arterials is 315 feet, consisting of 155 feet of lane length and a 160-foot approach taper.

#### North Carefree Circle/Tutt Boulevard

All existing auxiliary left- and right-turn lanes at the intersection of North Carefree Circle/Tutt Boulevard currently meet the *Traffic Criteria Manual's* 315-foot turn lane length criteria. No lane geometry modifications are required.

#### North Carefree Circle/Showhorse Court

All existing auxiliary left- and right-turn lanes at the intersection of North Carefree Circle/Showhorse Court currently meet the *Traffic Criteria Manual's* 315-foot turn lane length criteria. No lane geometry modifications are required.

#### North Carefree Circle/Proposed North Site Access

An auxiliary westbound right-turn lane would **not** be required on North Carefree Circle at its intersection with the proposed north site access. The projected morning and afternoon right-turn volumes (4 and 14, respectively) would **not** exceed the 25 vph threshold for a right-turn lane for this turning movement. Eastbound left turns will not be permitted at this intersection, as this access point will be restricted to right-in/right-out (RIRO) movements.

#### Constitution Avenue/Tutt Boulevard

Due to existing intersection spacing constraint for back-to-back left-turn lanes on Constitution Avenue between New Center Point and Tutt Boulevard, the existing southeast-bound left-turn lane at the intersection of Constitution Avenue/Tutt Boulevard does not meet the *Traffic Criteria Manual's* 315-foot criteria.

Additionally, the outermost southeast-bound lane at the intersection of Constitution Avenue/Tutt Boulevard is a shared through/right lane. The existing morning and afternoon right-turn volumes (84 and 52, respectively) both exceed the 25 vph threshold for a right-turn lane for this turning movement. However, despite this turn lane deficiency, this project will not create additional traffic to this turning movement.

All other existing turn lanes at the intersection of Constitution Avenue/Tutt Boulevard currently meet the *Traffic Criteria Manual's* 315-foot turn lane length criteria.

## Minor Arterials

Left-turn auxiliary turn lanes are required for an access with a projected peak-hour left ingress turning volume of 25 vph or greater. Right-turn auxiliary turn lanes are required for an access with a projected peak-hour left ingress turning volume of 50 vph or greater. Left-turn and right-turn acceleration lanes are generally not required.

The posted speed limit on South Carefree Circle is 30 mph, while the posted speed limit on Tutt Boulevard is 35 mph. Per the *Traffic Criteria Manual*, the required total lane length on South Carefree Circle is 235 feet, consisting of full-width 115 feet of lane length and a 120-foot approach taper. The required total auxiliary lane length on Tutt Boulevard is 260 feet, consisting of 120 feet of full-width lane length and a 140-foot approach taper.

### Tutt Boulevard/Holiday Inn Site Access/Springs Ranch Golf Club Site Access

Projected northbound right-turn volumes would exceed the 50-vph *Traffic Criteria Manual* threshold during the PM peak hour. The required total auxiliary lane length for the proposed northbound right-turn lane on Tutt Boulevard at this access is 260 feet, consisting of 120 feet of full-width lane length and a 140-foot approach taper.

Tutt Boulevard is striped for a center two-way left-turn lane (TWLTL) at this access.

### South Carefree Circle/Tutt Boulevard

Currently, the northbound approach at Tutt Boulevard/South Carefree Circle has an auxiliary left-turn lane, while the eastbound approach on South Carefree Circle has exclusive left- and right-turn auxiliary turn lanes.

A new westbound approach would be constructed as part of this development, converting the intersection of South Carefree Circle/Tutt Boulevard from a T-intersection to a full-movement, four-leg intersection. The following lane geometry is recommended:

- Eastbound approach – shared right/through lane and an exclusive left-turn lane
- Westbound approach – shared right/through lane and an exclusive left-turn lane
- Northbound approach – exclusive left, through and right lanes
- Southbound approach – left-turn lane and a shared right/through lane

Projected northbound right-turn volumes would exceed the 50-vph *Traffic Criteria Manual* threshold during the PM peak hour. The required total auxiliary lane length for the proposed northbound right-turn lane on Tutt Boulevard at its proposed access with South Carefree Circle is 260 feet, consisting of 120 feet of full-width lane length and a 140-foot approach taper.

The southbound approach at the intersection of South Carefree Circle/Tutt Boulevard is a shared through/right lane. The existing painted median could be (and should be) restriped for a



southbound left turn lane. Regarding the southbound right turning volume, the existing morning and afternoon right-turn volumes (86 and 145, respectively) both exceed the 50 vph threshold for a right-turn lane for this turning movement. Although this is an existing deficiency and there is not sufficient ROW to add a southbound right turn lane on the west side of Tutt, there is a relatively large radius on the corner which allows right turning vehicles to turn at a higher speed than if this were a tighter radius. Therefore, the speed differential between through traffic and southbound right turning traffic is lower. Additionally, with planned traffic signal and the relatively high right turn volume, drivers expect right turning movements at this intersection.

Per the City *Traffic Criteria Manual*, the required total lane length for both the eastbound and westbound approach on South Carefree Circle is 235 feet, consisting of full-width 115 feet of lane length and a 120-foot approach taper.

### **Non-Arterial Streets**

Per Table 2 of the *Traffic Criteria Manual*, "Turn lane requirements on lower classification roads (than Minor Arterial) to be determined on a case-by-case basis depending on recommendations from a traffic impact study and approved by City Engineering."

Pony Tracks Drive and Piros Drive are currently both two-lane, non-arterial streets without auxiliary turn lanes. Turn lanes are **not** required at either of the proposed site accesses on Pony Tracks Drive or at the intersection of Pony Tracks Drive/Piros Drive based on projected background plus site-generated traffic volumes.

### **ROADWAY CLASSIFICATIONS**

Per the City of Colorado Springs' *Engineering Criteria Manual*, "mid-block traffic analyses shall be based on volume-to-capacity ratios using the following capacity values:"

- Minor Arterials – 25,000 ADT
- Major Collectors – 10,000 ADT
- Minor Collectors – 3,500 ADT
- Local – 1,500 ADT
- Minor Local – 300 ADT

### **Tutt Boulevard**

Tutt Boulevard is classified as a Minor Arterial street. Existing weekday volumes are about 11,000 vehicles per day (vpd) north of the intersection with Constitution and about 11,000 vpd to 12,000 vpd between S. Carefree Circle and N. Carefree Circle. Projected 2040 total average weekday traffic volumes between North Carefree Circle and Constitution Avenue are projected to reach about 16,000 vpd north of the north site access and 15,000 vpd south of the south site access. These volumes include the addition of trips to projected for this development. These volumes can be accommodated by the three-lane street cross section (one through lane each direction

plus left turn lanes at intersections and access points) plus bike lanes. LSC is also recommending the addition of a northbound right turn deceleration lanes at the site access points on Tutt. This will allow site traffic arriving from the south to turn into the development from a separate lane rather than from the northbound through lane.

### **Proposed Loop Street East of Tutt Boulevard**

The south portion of the proposed loop street on the east side of Tutt Boulevard (extending into the site from the Tutt/South Carefree intersection) is projected to have an ADT of 2,727 vehicles per day (just east of Tutt), as shown on Figure 10a. The north portion of the proposed loop street of Tutt Boulevard (extending into the site from the Tutt Boulevard/Holiday Inn Site Access intersection) is projected to have an ADT of 4,532 vehicles per day (just east of Tutt), as shown on Figure 10a.

Given the above projected daily volumes, the continuity and function of this street, this access should be classified as a Collector.

The proposed cross-section and parking configuration is shown on the Concept PUD title sheet.

### **Pony Tracks Drive**

The estimated current daily traffic volume on Pony Tracks is about 650 vehicles per day north of Piros. This project with 41 single family homes and a street connection to Pony Tracks would add about 200 vehicles per day between Piros and the proposed access connection to existing Pony Tracks. The estimated resulting total of 850 vehicles per day north of Piros would be below the 1,500 design ADT for a city Residential (Local) street.

### **Showhorse Drive**

Showhorse Drive was essentially built as a Collector street from N. Carefree Circle north about 650 feet (north of N. Carefree Circle). This cross-section will be able to accommodate the additional traffic generated by the added development.

## **CONCLUSIONS**

- The site is projected to generate about 8,809 new driveway vehicle-trips on the average weekday.
- During the weekday morning peak hour of adjacent street traffic, 225 vehicles would enter the site while 464 vehicles would exit.

- During the weekday evening peak hour of adjacent street traffic, 473 vehicles would enter the site while 301 vehicles would exit.
- Please refer to the “Level of Service” section above for detailed LOS analysis results for individual turning movements and approaches at all studied intersections during both peak hours through the 2040 horizon year.
- Projected future volumes at the currently unsignalized intersection of South Carefree Circle/Tutt Boulevard would exceed the MUTCD threshold criteria for Four-Hour Vehicular Volume Traffic Signal Warrants based on the eight hours analyzed. Please refer to the “Traffic Signal Warrant Analysis” section for additional details.
- The Tutt Boulevard/North First & Main/Internal Loop Street intersection is projected to be close to meeting a traffic signal warrant based on projected late afternoon peak period hourly volumes. In order to facilitate safe pedestrian and bicycle crossing of Tutt, the developer proposes the installation of a full traffic signal at this intersection. Advantages to signaling this intersection include:
  - The level of service for would be significantly better
  - The access is on the inside of a horizontal curve
  - The intersection is a four-leg intersection
  - A traffic signal would provide pedestrian/bicycle crossing capability between North Carefree and the proposed signalized intersection to the south at S. Carefree Circle
  - A traffic signal would create traffic gaps in north/south traffic, which could be utilized by motorists exiting numerous apartment complexes and other businesses (with unsignalized access points) to the north and south of this intersection.
  - If a Mountain Metro Transit bus pullout were constructed on the north side of this intersection, the traffic signal would be beneficial to the bus in reentering the northbound through lane
- Based on **existing turning movement volumes**, an exclusive southbound right-turn lane is currently warranted at the intersection of South Carefree Circle/Tutt Boulevard based on the *City Traffic Criteria Manual* threshold turning volume. Although this is an existing deficiency and there is not enough ROW to add a southbound right turn lane on the west side of Tutt, there is a relatively large radius on the corner which allows right turning vehicles to turn at a higher speed than if this were a tighter radius. Therefore, the speed differential between through traffic and southbound right turning traffic is lower. Additionally, with planned traffic signal and the relatively high right turn volume, drivers expect right turning movements at this intersection.
- The turning volume threshold for northbound right-turn lanes **would** be met at the intersections of South Carefree Circle/Tutt Boulevard and at the north access across from the north First & Main access drive based on projected background plus site-generated volumes.

Right turn lanes would be beneficial in separating right turning traffic from the through traffic in the single northbound through lane.

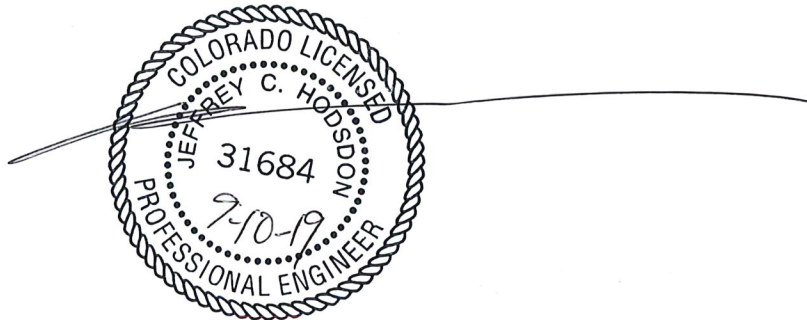
- Auxiliary turn lanes are **not** required at the proposed site access on Pony Tracks Drive or at the intersection of Pony Tracks Drive/Piros Drive based on projected background plus site-generated traffic volumes.
- The turning volume threshold for a westbound right-turn deceleration lane would **not** be met at the proposed site access intersection on North Carefree Circle based on projected total traffic volumes.

\* \* \* \* \*

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.



By: Jeffrey C. Hodsdon, P.E.  
Principal

JCH:JAB

Enclosures: Table 14  
Figure 1 - Figure 9  
Traffic Count Reports  
Synchro LOS Reports

**Table 14: Detailed Trip Generation Estimate**

ITE	Value	Units <sup>1</sup>	Trip Generation Rates <sup>2</sup>				% Internal Capture	Total Trips Generated				% Primary	% Non-Primary	Total Non-Pass-by Trips Generated								
			Average Weekday	A.M. In	P.M. Out	A.M. In		P.M. Out	Average Weekday	A.M. In	P.M. Out			A.M. In	P.M. Out	Average Weekday	A.M. In	P.M. Out	A.M. In	P.M. Out		
Code	Description																					
<b>Residential</b>																						
210	Single-Family Detached Housing	445	DU	9.23	0.18	0.54	0.60	0.35	0%	4106	80	241	268	158	100%	0%	4106	80	241	268	158	
220	Multi-Family Housing (Low-Rise)	140	DU	7.27	0.11	0.36	0.36	0.21	0%	1018	15	51	50	29	100%	0%	1018	15	51	50	29	
220	Multi-Family Housing (Low-Rise)	330	DU	7.44	0.10	0.35	0.33	0.19	0%	2454	34	114	108	63	100%	0%	2454	34	114	108	63	
	<b>Total</b>	<b>585</b>	<b>DU</b>							<b>Total</b>	<b>7578</b>	<b>129</b>	<b>405</b>	<b>426</b>	<b>250</b>		<b>Total</b>	<b>7578</b>	<b>129</b>	<b>405</b>	<b>426</b>	<b>250</b>
<b>Non-Residential</b>																						
820	Shopping Center	10.000	KSF	125.61	9.72	5.96	4.75	5.14	2%	1231	95	58	47	50	50%	50%	615	48	29	23	25	
<b>Total</b>										<b>Total</b>	<b>8809</b>	<b>225</b>	<b>464</b>	<b>473</b>	<b>301</b>		<b>Total</b>	<b>8193</b>	<b>177</b>	<b>434</b>	<b>449</b>	<b>275</b>

<sup>1</sup> DU = dwelling units  
<sup>2</sup> Source: Trip Generation, 10th Edition, 2017, by the Institute of Transportation Engineers (ITE)  
 Note: 5% extra residential units were added to the totals provided by the applicant as a contingency in case the site plan changes



Not to Scale

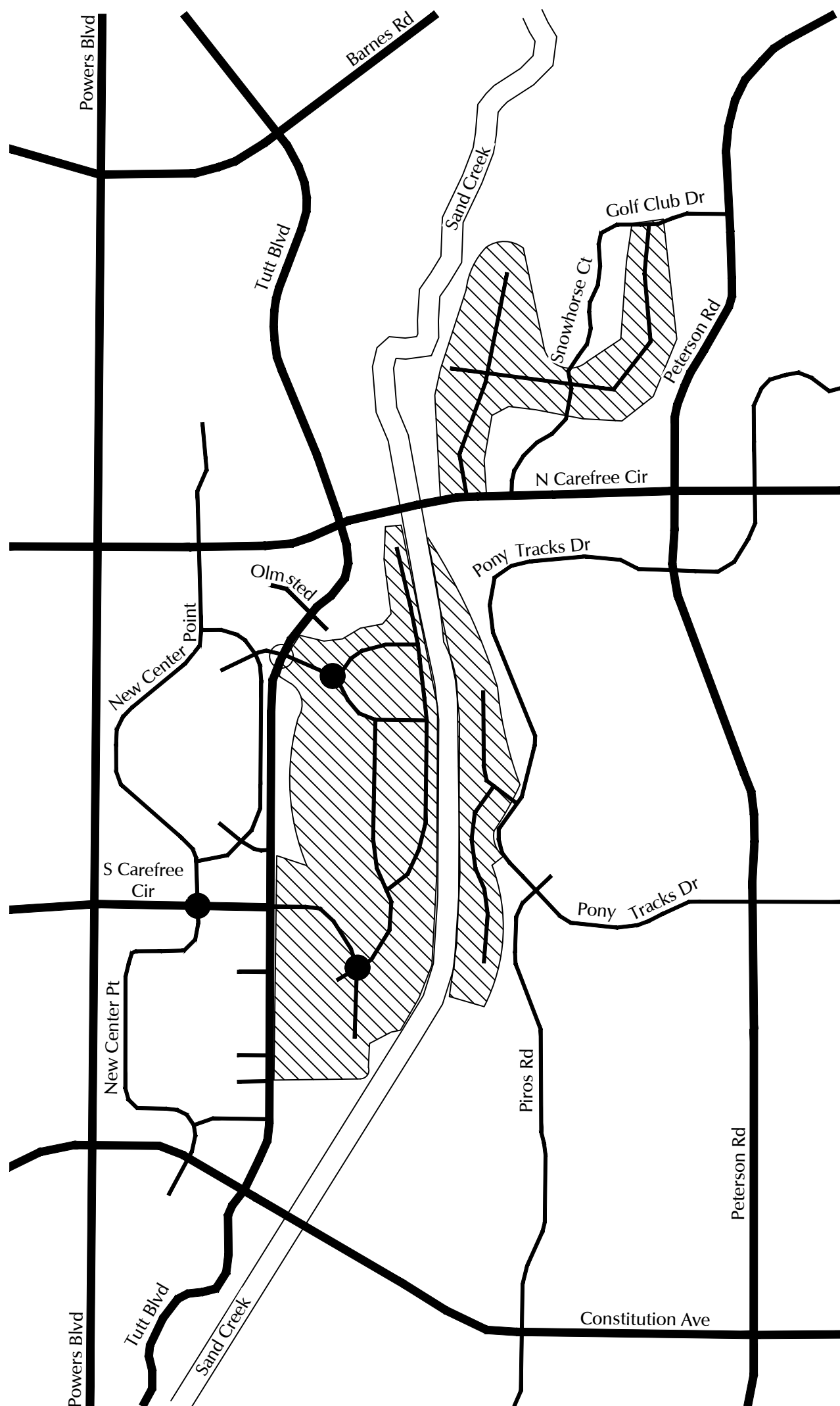


Figure 1  
**Vicinity Map**  
Greenways at Spring Creek (LSC #194500)

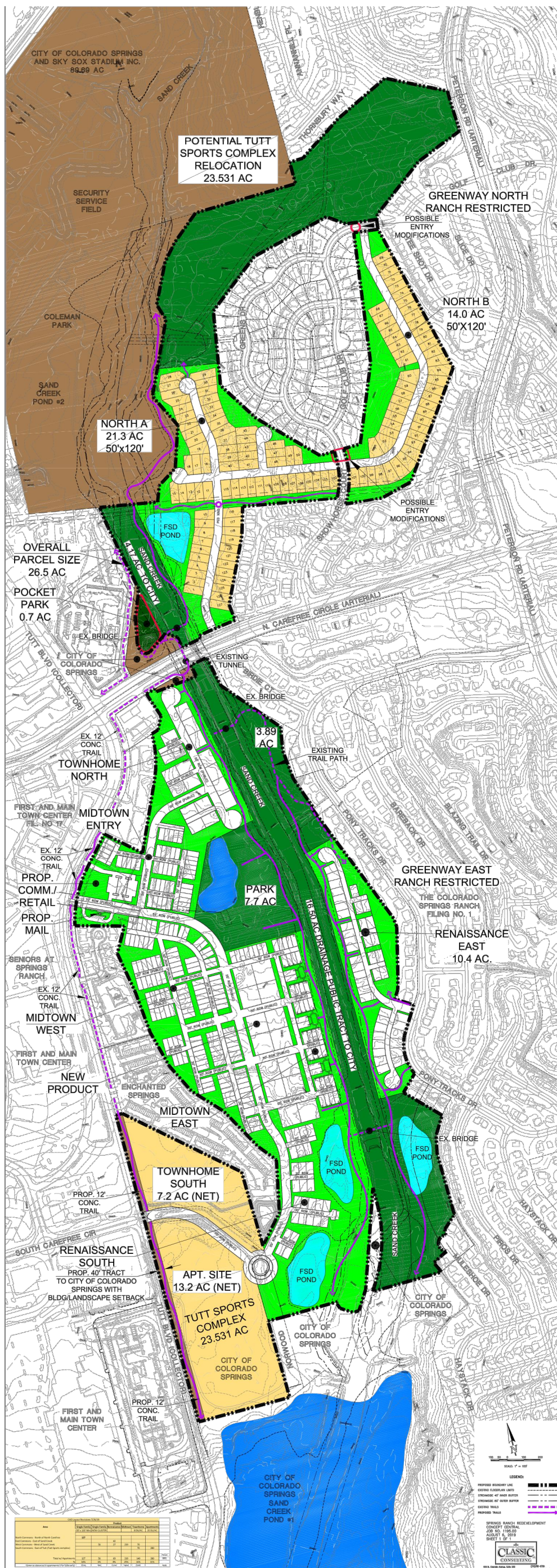


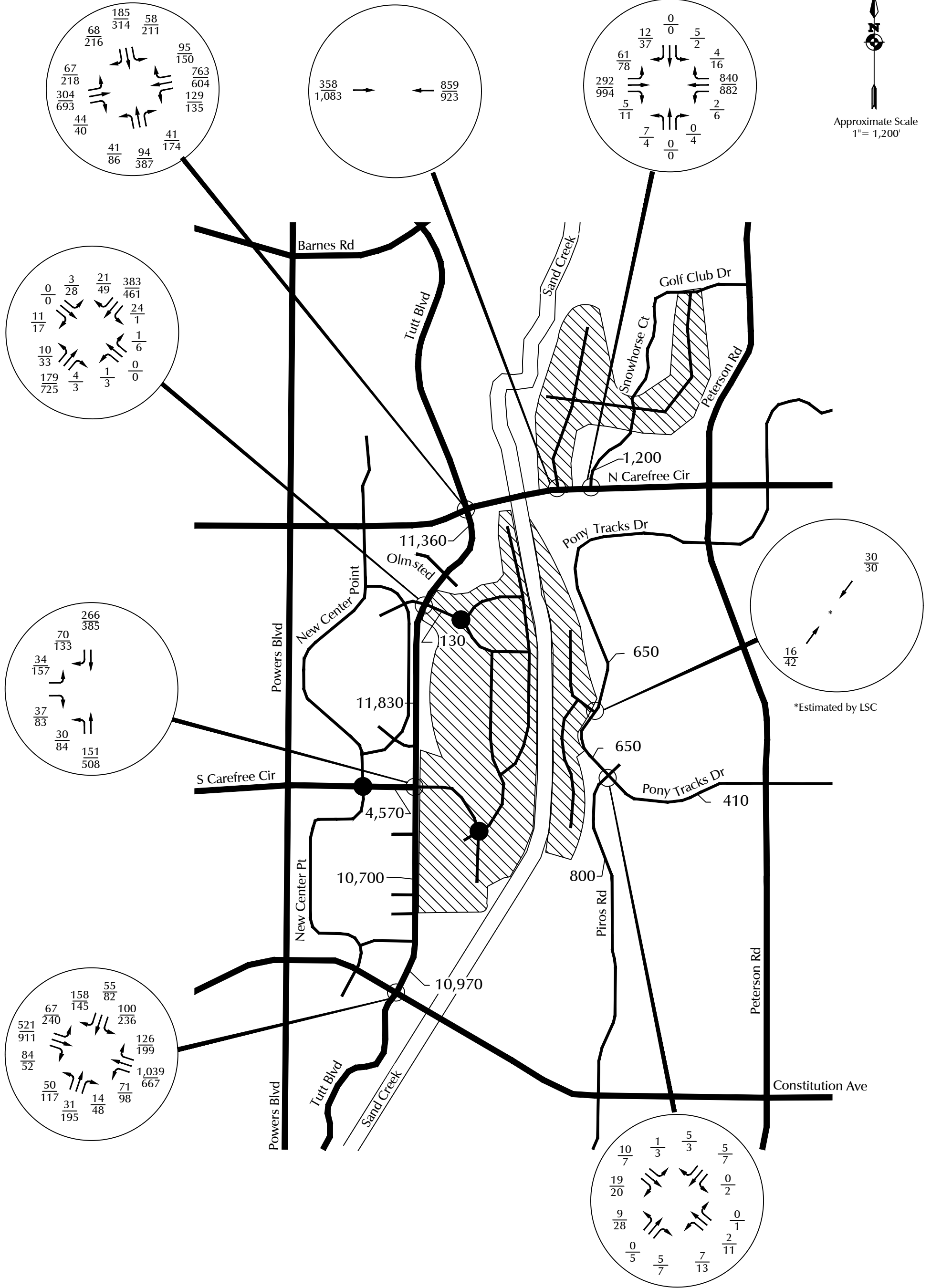
Figure 2  
Site Plan

Greenways at Spring Creek (LSC #194500)





Approximate Scale  
1" = 1,200'



LEGEND:

- $\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)
- $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)
- X,XXX= Average Daily Traffic (vehicles per day)

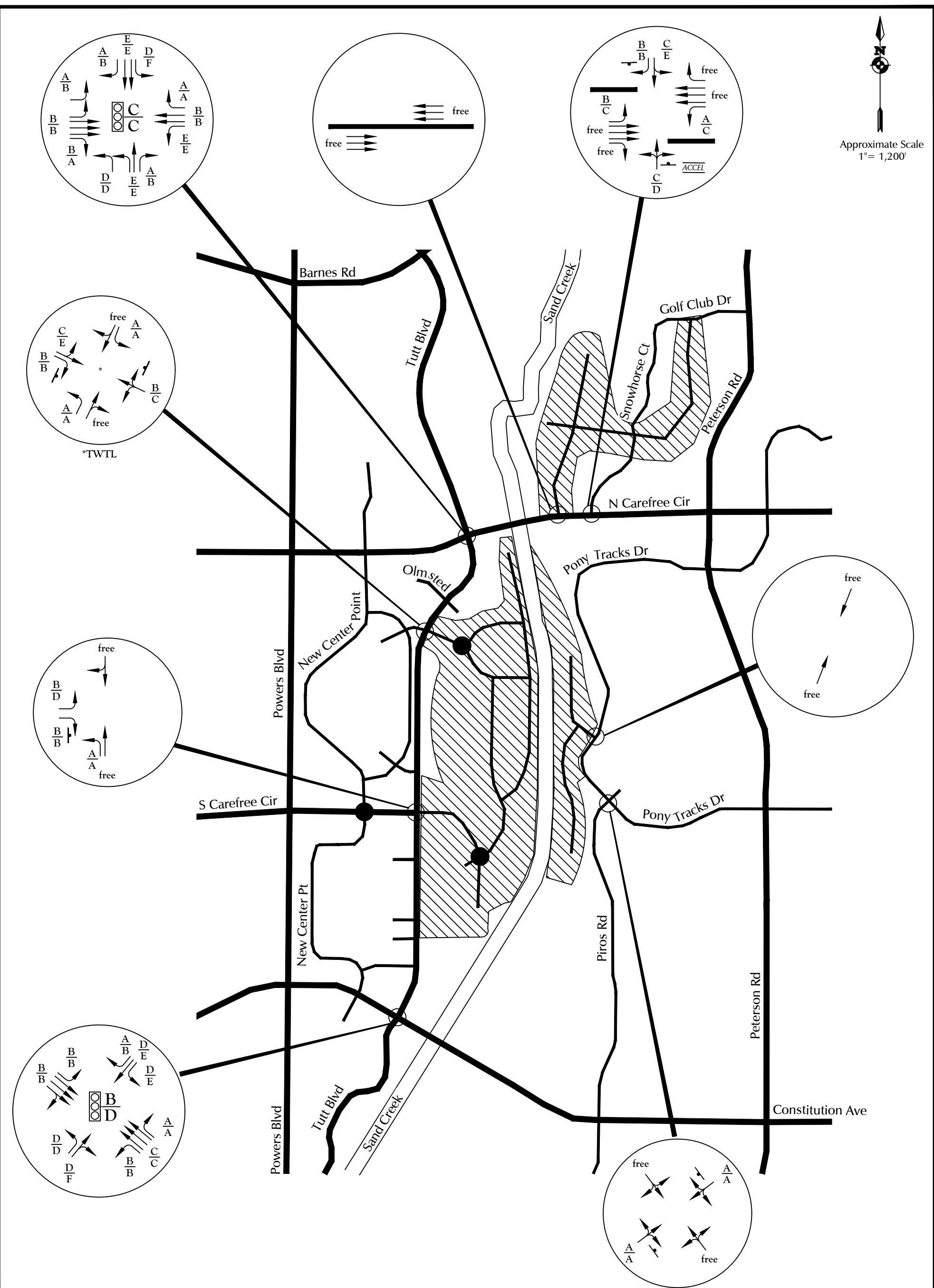


Figure 3a  
**Existing Traffic**  
Greenways at Spring Creek (LSC #194500)





Approximate Scale  
1" = 1,200'



LEGEND:

- $\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service
- $\frac{B}{B}$  = PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{C}$  = AM Entire Intersection Peak-Hour Level of Service
- $\frac{C}{C}$  = PM Entire Intersection Peak-Hour Level of Service

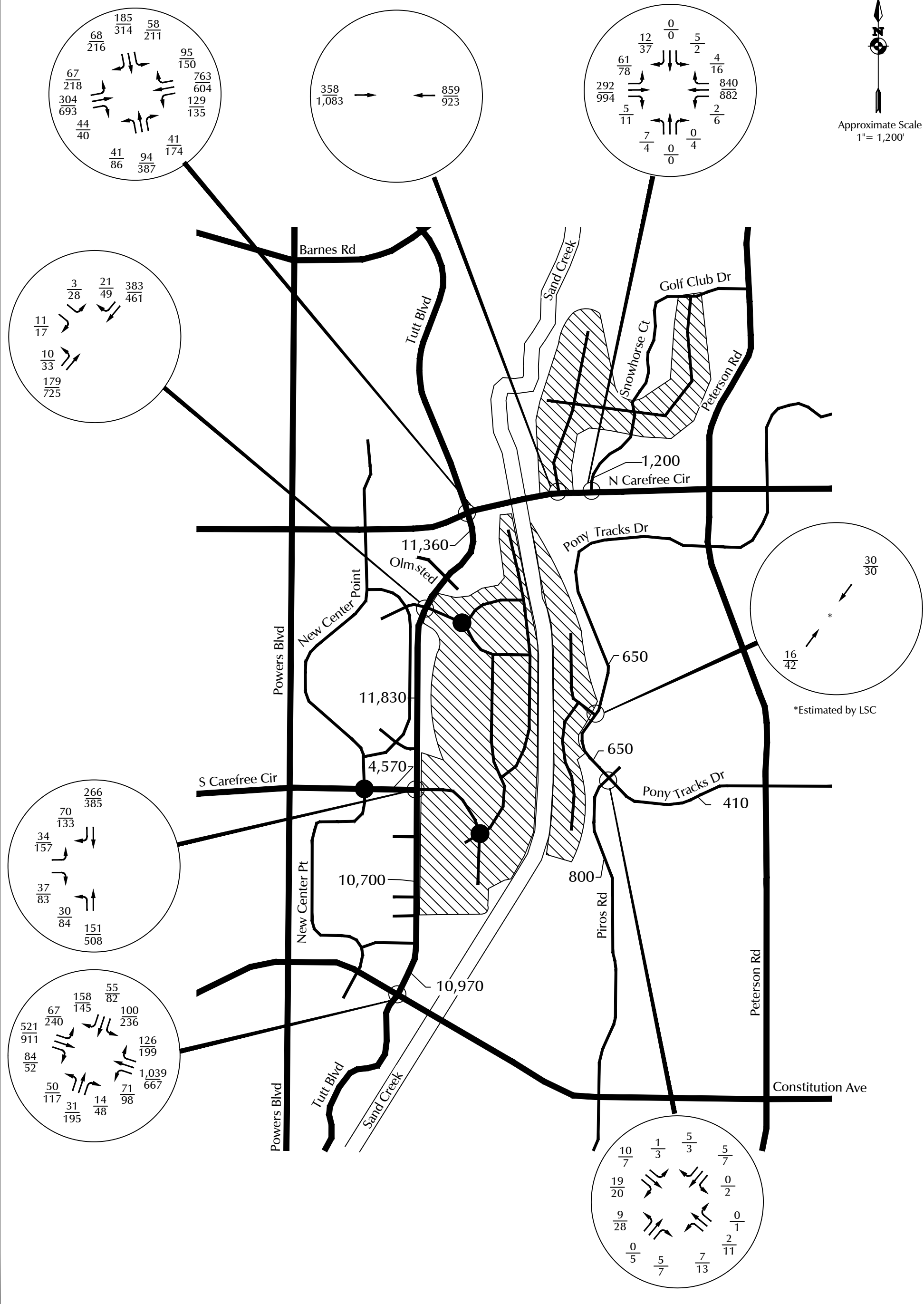
- = Traffic Signal
- = Stop Sign



Figure 3b  
**2019 Existing Lane Geometry,  
 Traffic Control and Level of Service**  
 Greenways at Spring Creek (LSC #194500)



Approximate Scale  
1" = 1,200'



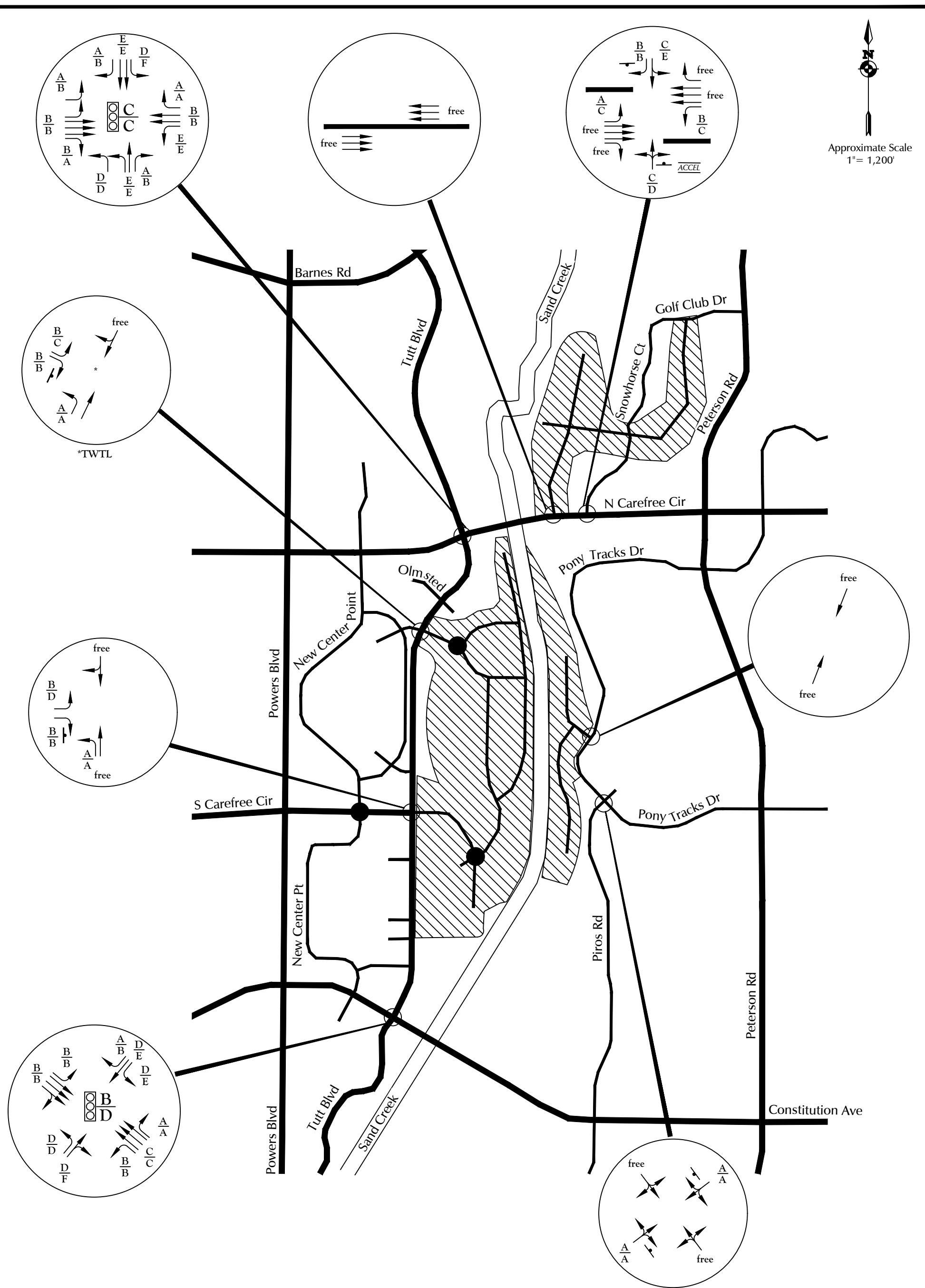
LEGEND:  
 XX = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 XX = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 X,XXX = Average Daily Traffic (vehicles per day)

Figure 4a  
**Short-Term Baseline Traffic**  
 Greenways at Spring Creek (LSC #194500)





Approximate Scale  
1" = 1,200'



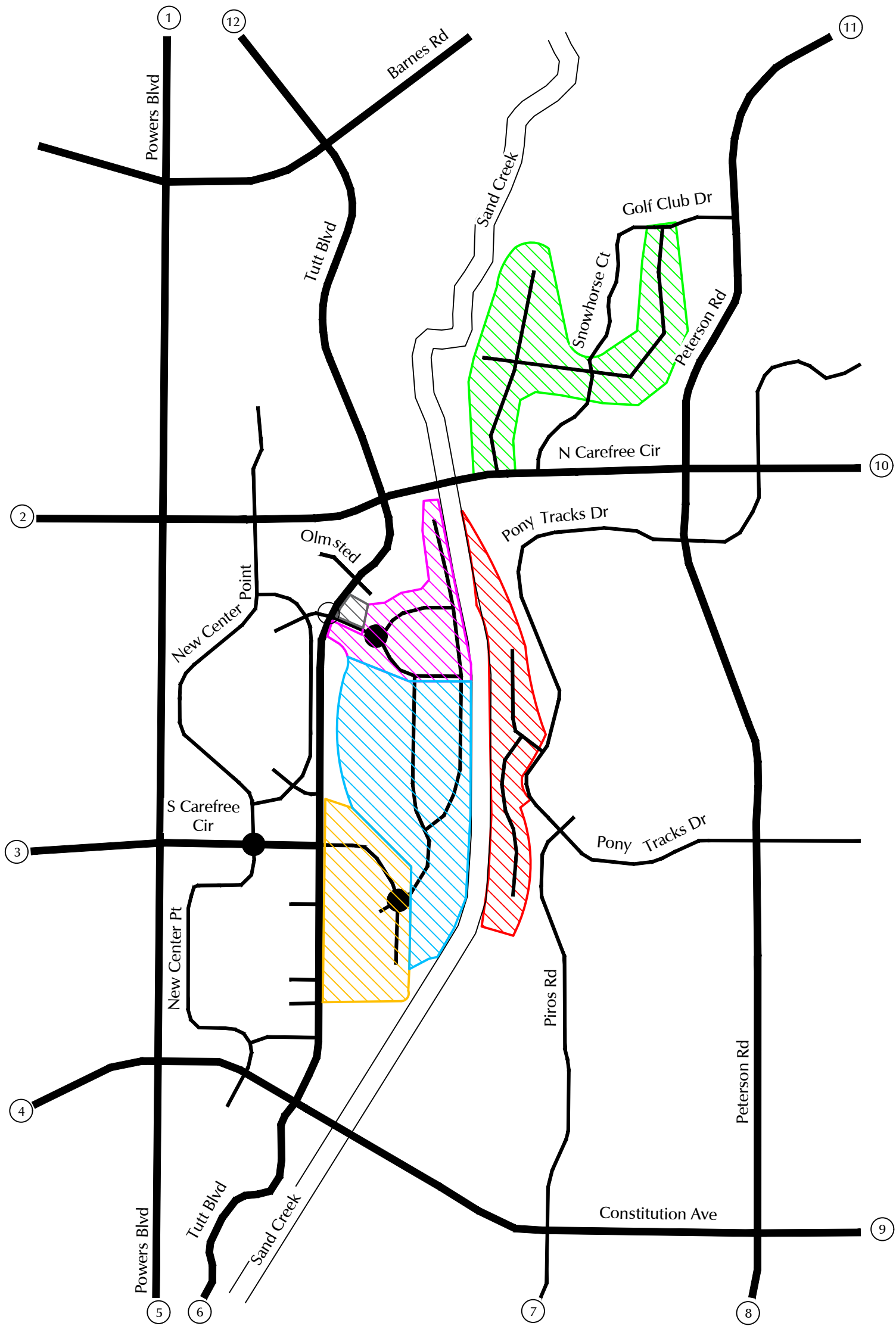
LEGEND:

- $\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service
- $\frac{B}{B}$  = PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{C}$  = AM Entire Intersection Peak-Hour Level of Service
- $\frac{C}{C}$  = PM Entire Intersection Peak-Hour Level of Service

- = Traffic Signal
- = Stop Sign



Figure 4b  
Short-Term Baseline Lane Geometry,  
Traffic Control and Level of Service  
Greenways at Spring Creek (LSC #194500)



% Trip Distribution by Gate and TAZ

TAZ	1	2	3	4	5	6	
Trip Type	All	All	All	All	All	Primary	Non-Primary
1	0%	0%	0%	0%	0%	0%	0%
2	42%	42%	40%	36%	25%	10%	10%
3	0%	0%	2%	4%	14%	5%	5%
4	28%	28%	32%	34%	35%	10%	10%
5	0%	0%	0%	0%	0%	0%	0%
6	1%	1%	2%	3%	3%	5%	5%
7	0%	0%	0%	0%	0%	0%	0%
8	0%	0%	0%	0%	0%	0%	0%
9	0%	0%	10%	12%	12%	10%	15%
10	18%	18%	10%	8%	8%	15%	23%
11	8%	8%	0%	0%	0%	15%	15%
12	3%	3%	4%	3%	3%	15%	15%
13	0%	0%	0%	0%	0%	15%	2%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

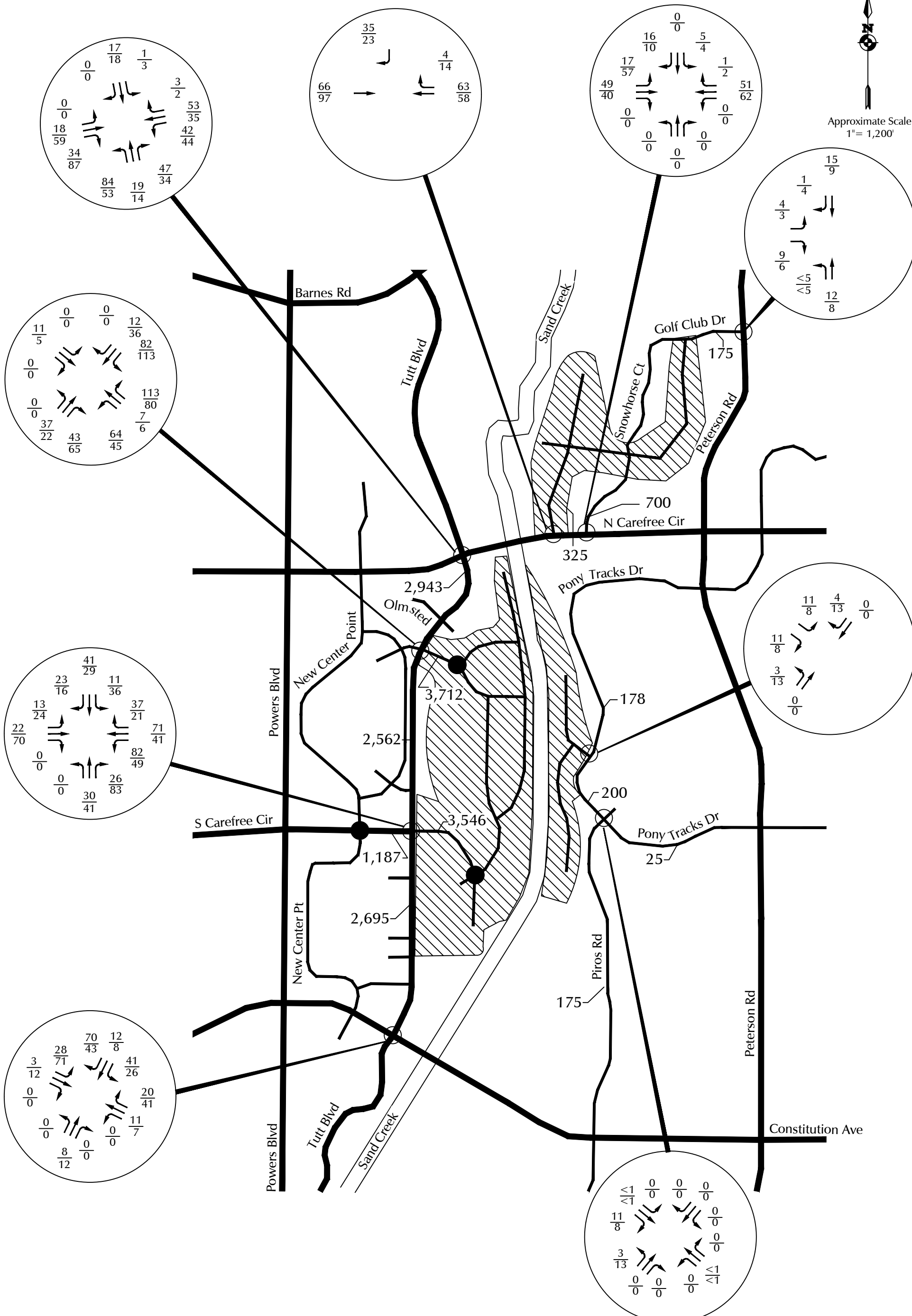
TAZ Traffic analysis zone  
 (x) Origin/destination gate



Figure 5  
**Directional Distribution**  
 Greenways at Spring Creek (LSC #194500)



Approximate Scale  
1" = 1,200'



LEGEND:

XX = AM Weekday Peak-Hour Traffic (vehicles per hour)

XX = PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX= Average Daily Traffic (vehicles per day)



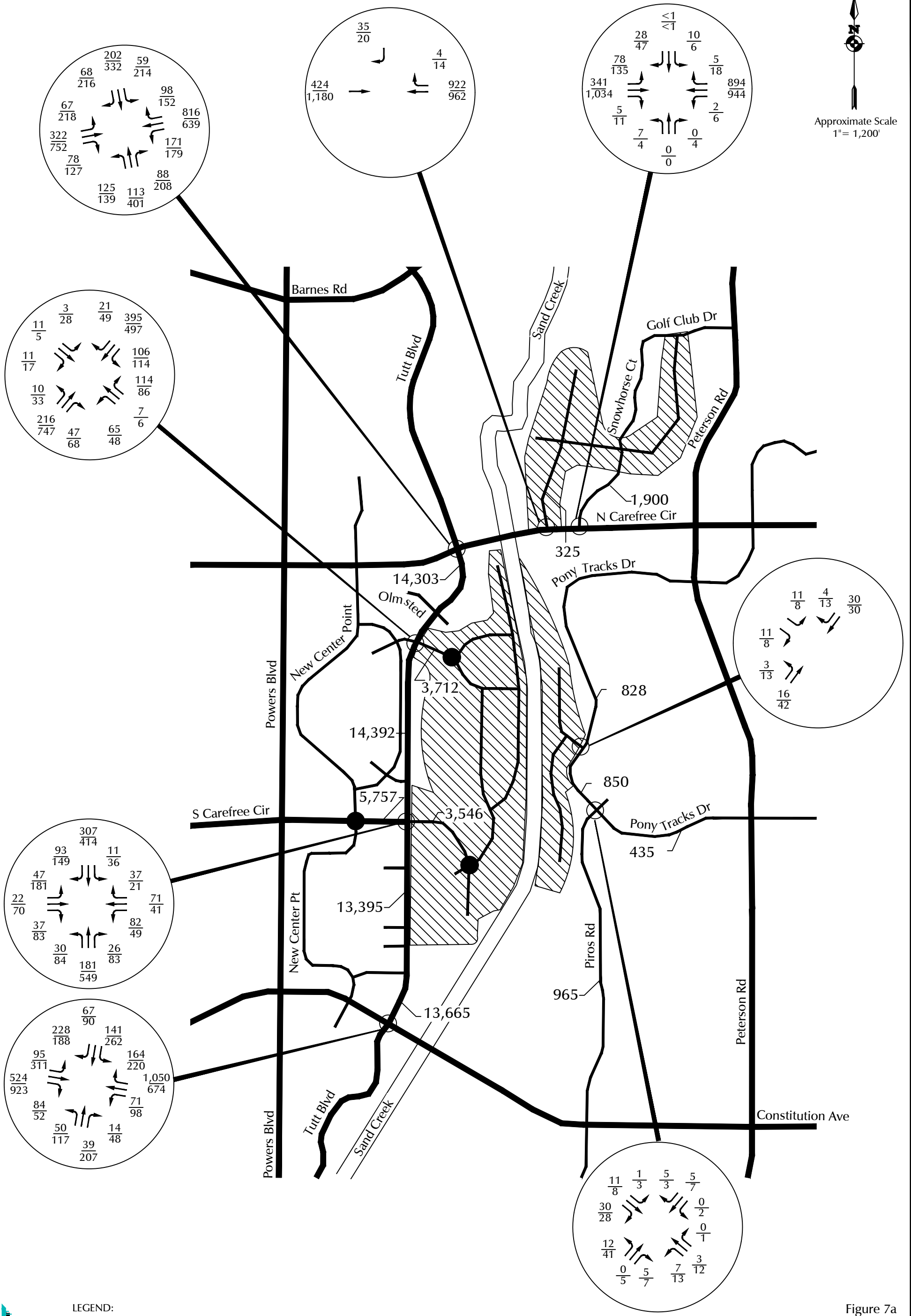
Figure 6

# Site-Generated Traffic

Greenways at Spring Creek (LSC #194500)



Approximate Scale  
1" = 1,200'



LEGEND:

- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- X,XXX = Average Daily Traffic (vehicles per day)

# Short-Term Baseline + Site-Generated Traffic

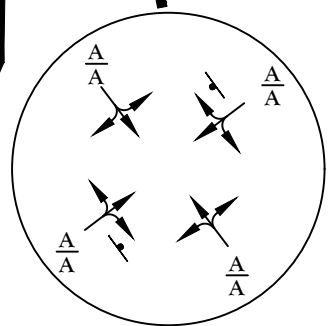
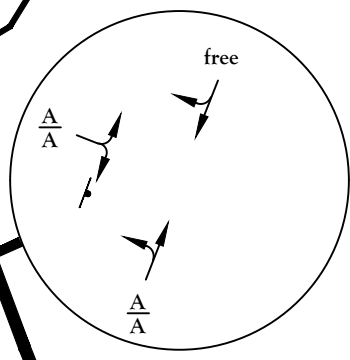
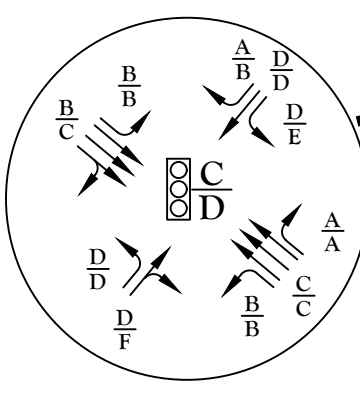
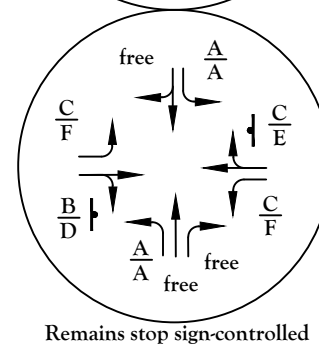
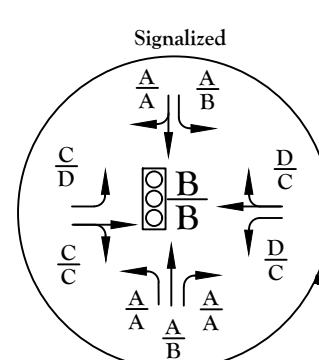
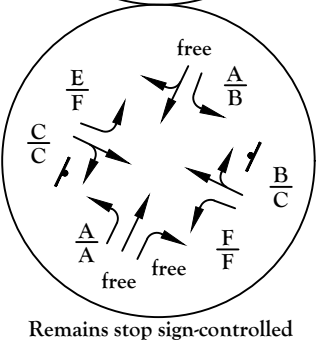
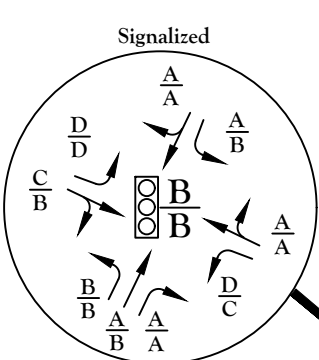
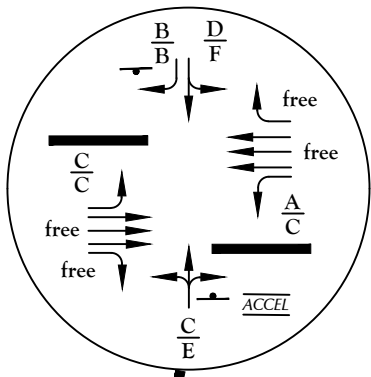
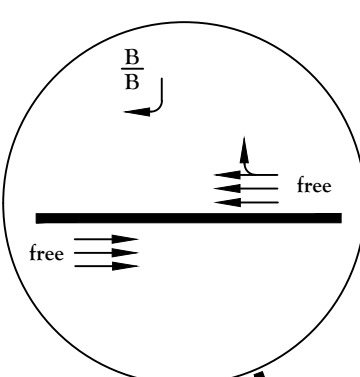
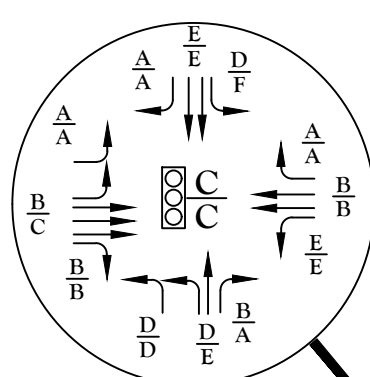
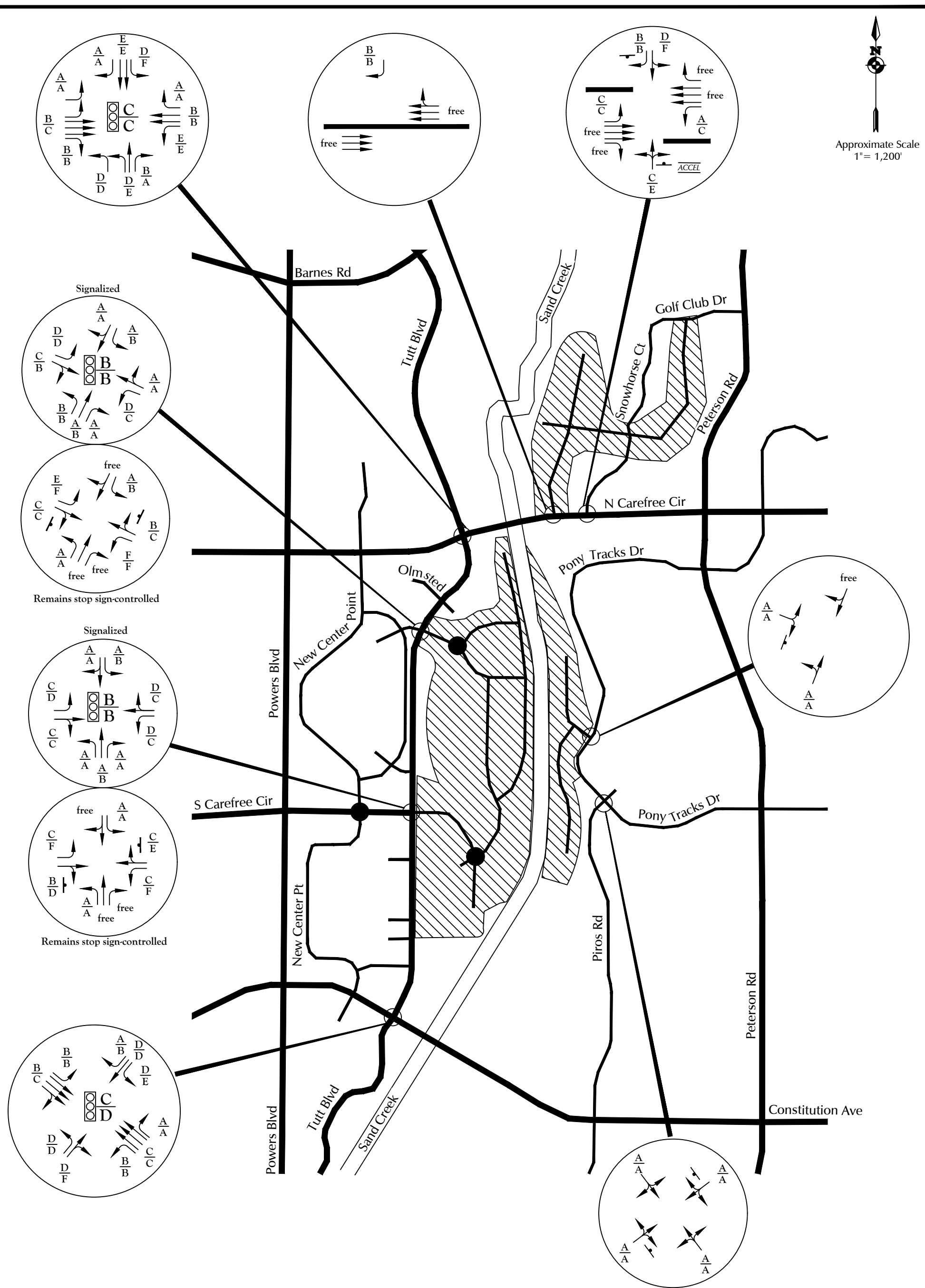
Figure 7a

Greenways at Spring Creek (LSC #194500)





Approximate Scale  
1" = 1,200'



LEGEND:  
 A/A = AM Individual Movement Peak-Hour Level of Service  
 B/B = PM Individual Movement Peak-Hour Level of Service  
 C/C = AM Entire Intersection Peak-Hour Level of Service  
 C/C = PM Entire Intersection Peak-Hour Level of Service  
 = Traffic Signal    = Stop Sign



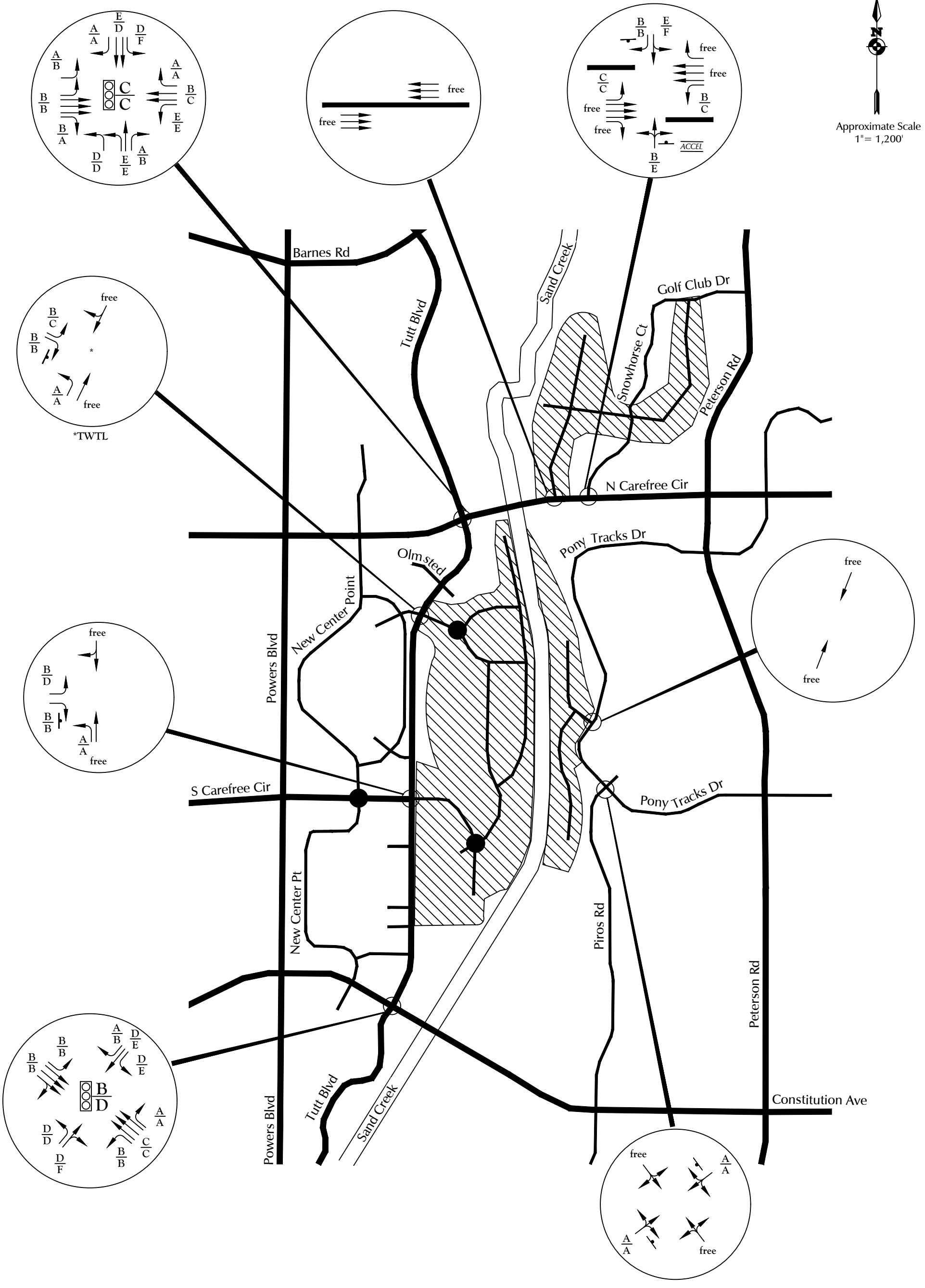
Figure 7b  
 Short-Term Baseline + Site Lane Geometry,  
 Traffic Control and Level of Service  
 Greenways at Spring Creek (LSC #194500)







Approximate Scale  
1" = 1,200'



LEGEND:

- $\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service
- $\frac{B}{B}$  = PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{C}$  = AM Entire Intersection Peak-Hour Level of Service
- $\frac{C}{C}$  = PM Entire Intersection Peak-Hour Level of Service

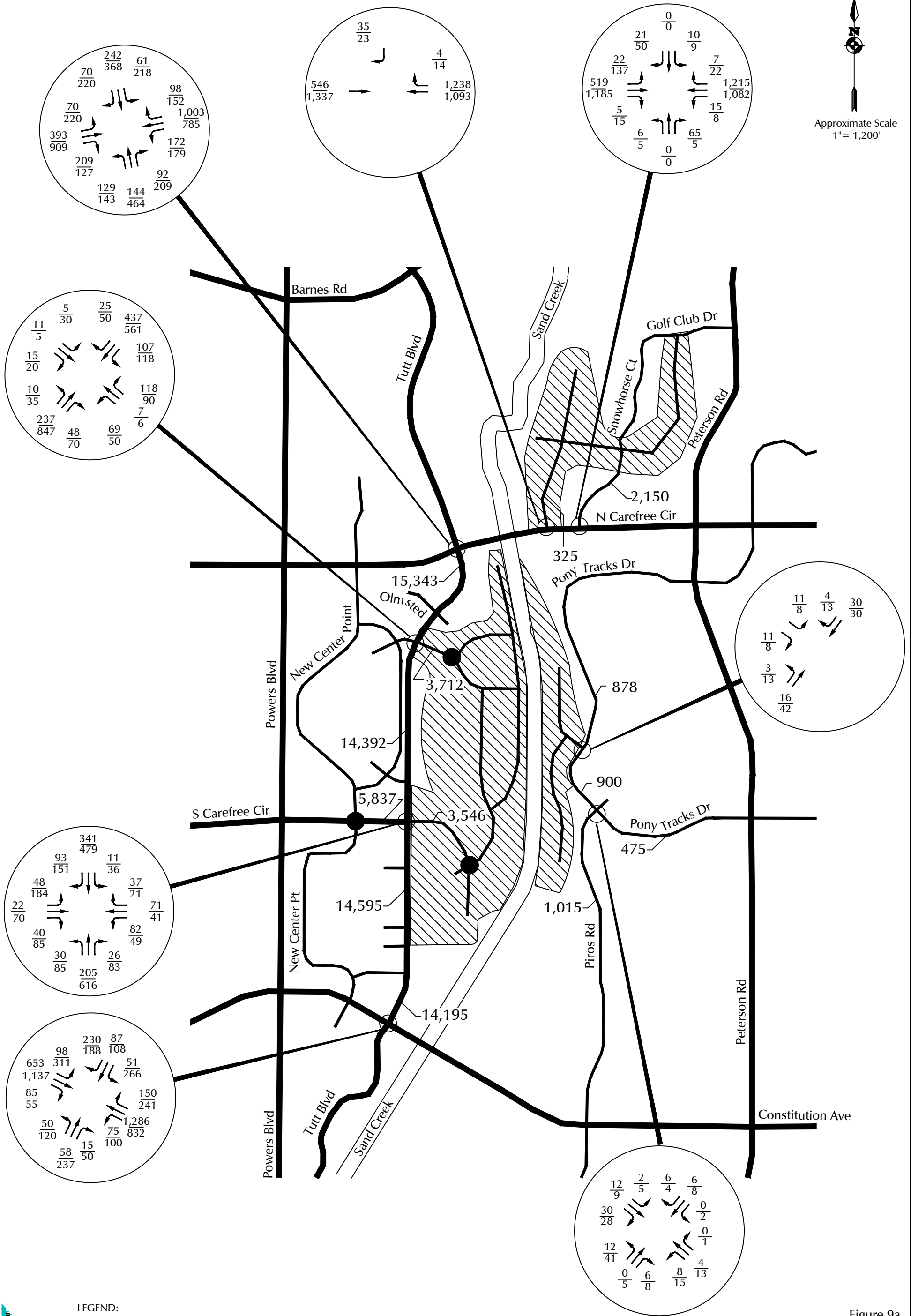
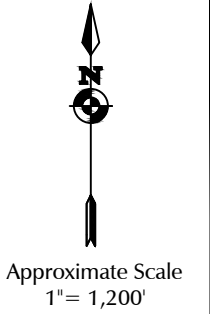
- = Traffic Signal
- = Stop Sign



# 2040 Background Lane Geometry, Traffic Control and Level of Service

Greenways at Spring Creek (LSC #194500)

Figure 8b



LEGEND:

- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- X,XXX = Average Daily Traffic (vehicles per day)

## 2040 Background + Site-Generated Traffic

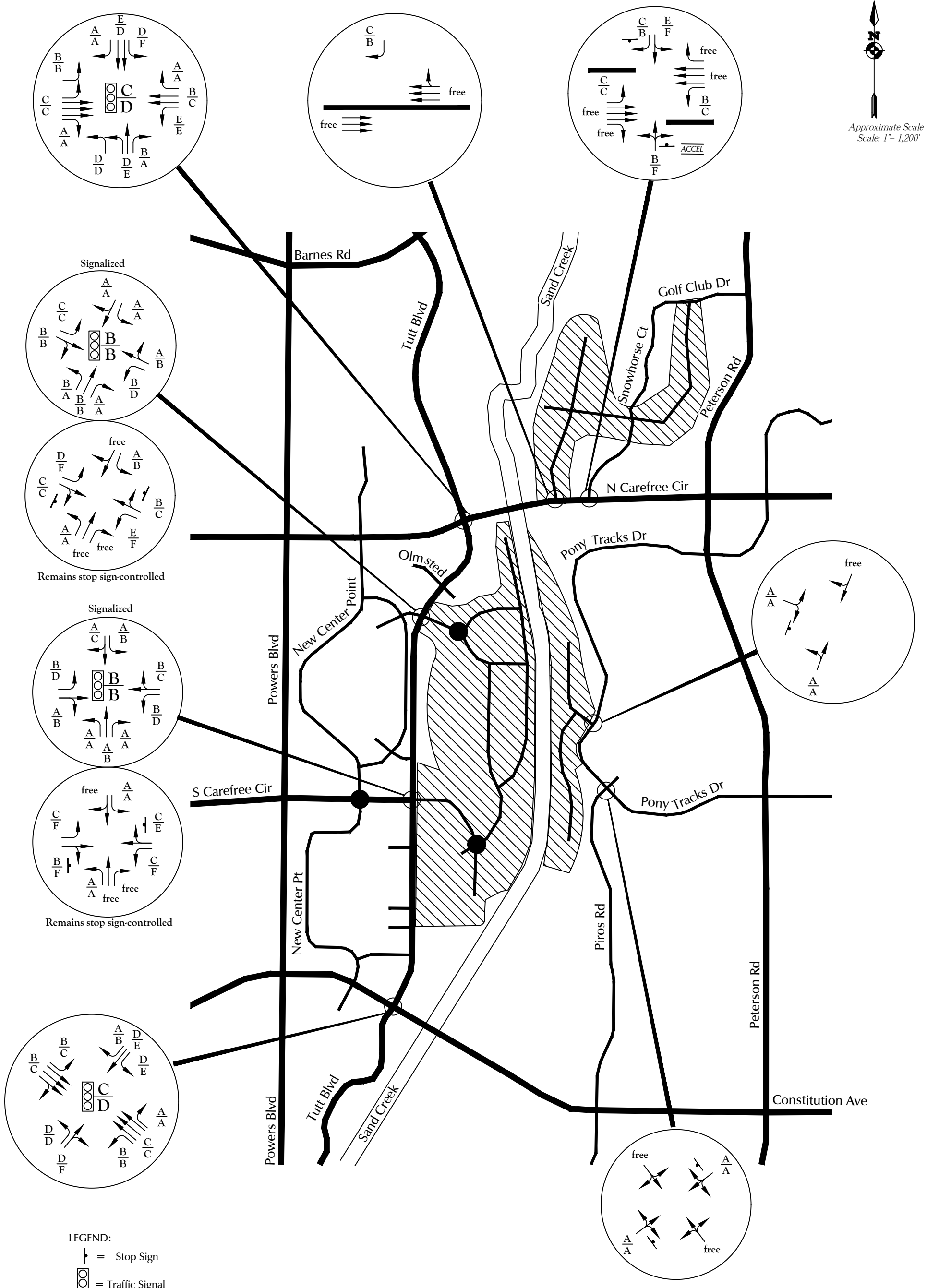
Greenways at Spring Creek (LSC #194500)

Figure 9a





Approximate Scale  
Scale: 1" = 1,200'



LEGEND:

- = Stop Sign
- = Traffic Signal

- $\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service  
PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{C}$  = AM Entire Intersection Peak-Hour Level of Service  
PM Entire Intersection Peak-Hour Level of Service

# 2040 Background + Site Lane Geometry, Traffic Control and Level of Service

Figure 9b

Greenways at Spring Creek (LSC #194500)





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - N Carefree Cir AM

Site Code : 00194500

Start Date : 5/29/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					N Carefree Cir Westbound					Tutt Blvd Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	12	15	9	0	36	22	98	16	0	136	9	13	6	0	28	9	44	6	1	60	260
06:45 AM	8	31	9	0	48	25	143	16	0	184	8	14	8	0	30	12	52	6	1	71	333
Total	20	46	18	0	84	47	241	32	0	320	17	27	14	0	58	21	96	12	2	131	593
07:00 AM	18	11	20	0	49	17	185	21	0	223	10	15	9	0	34	16	69	6	0	91	397
07:15 AM	19	41	12	0	72	23	195	25	0	243	10	26	7	0	43	15	70	7	0	92	450
07:30 AM	11	51	17	0	79	35	198	21	0	254	13	24	19	0	56	16	76	10	2	104	493
07:45 AM	17	51	20	0	88	40	194	25	0	259	12	27	6	0	45	21	93	14	2	130	522
Total	65	154	69	0	288	115	772	92	0	979	45	92	41	0	178	68	308	37	4	417	1862
08:00 AM	11	42	19	0	72	31	176	24	0	231	6	17	9	0	32	15	65	13	0	93	428
08:15 AM	16	31	18	0	65	24	129	26	0	179	13	17	8	0	38	14	60	10	0	84	366
Grand Total	112	273	124	0	509	217	1318	174	0	1709	81	153	72	0	306	118	529	72	6	725	3249
Apprch %	22	53.6	24.4	0		12.7	77.1	10.2	0		26.5	50	23.5	0		16.3	73	9.9	0.8		
Total %	3.4	8.4	3.8	0	15.7	6.7	40.6	5.4	0	52.6	2.5	4.7	2.2	0	9.4	3.6	16.3	2.2	0.2	22.3	

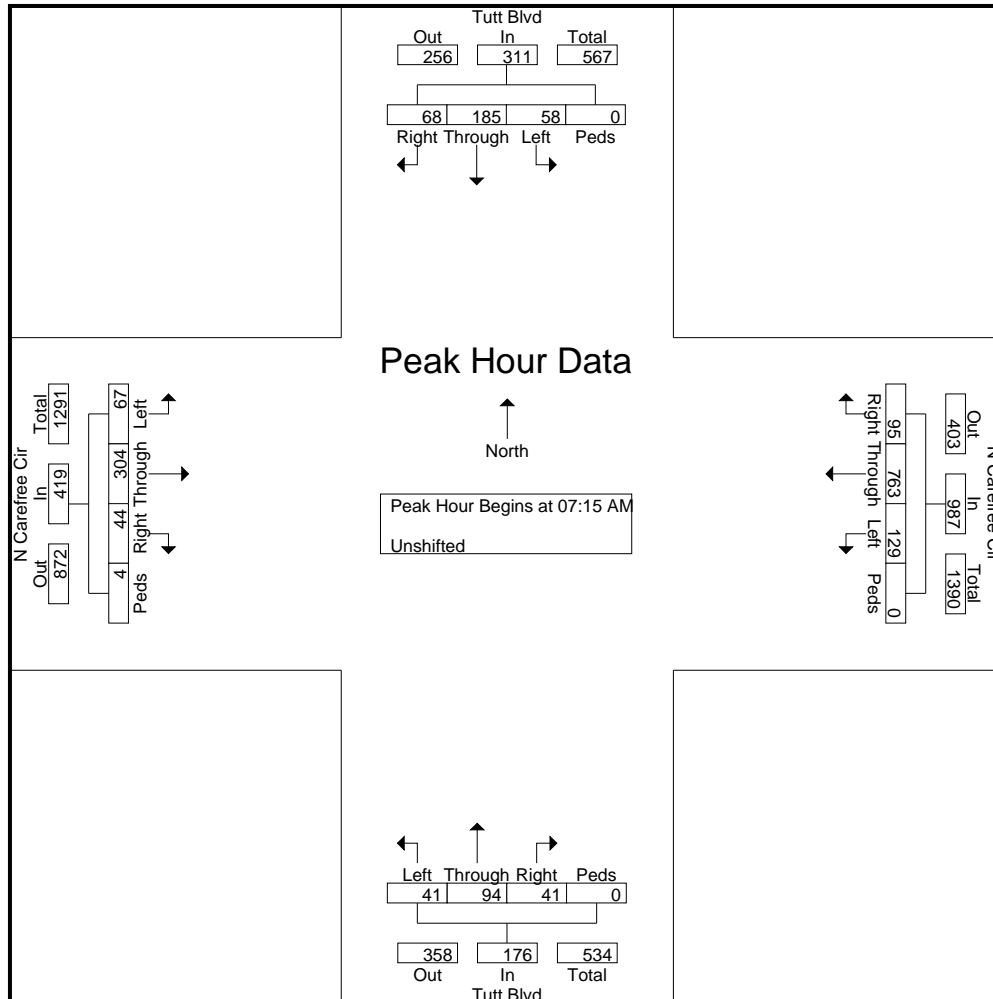


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - N Carefree Cir AM  
 Site Code : 00194500  
 Start Date : 5/29/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					N Carefree Cir Westbound					Tutt Blvd Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	19	41	12	0	72	23	195	25	0	243	10	26	7	0	43	15	70	7	0	92	450
07:30 AM	11	51	17	0	79	35	198	21	0	254	13	24	19	0	56	16	76	10	2	104	493
07:45 AM	17	51	20	0	88	40	194	25	0	259	12	27	6	0	45	21	93	14	2	130	522
08:00 AM	11	42	19	0	72	31	176	24	0	231	6	17	9	0	32	15	65	13	0	93	428
Total Volume	58	185	68	0	311	129	763	95	0	987	41	94	41	0	176	67	304	44	4	419	1893
% App. Total	18.6	59.5	21.9	0		13.1	77.3	9.6	0		23.3	53.4	23.3	0		16	72.6	10.5	1		
PHF	.763	.907	.850	.000	.884	.806	.963	.950	.000	.953	.788	.870	.539	.000	.786	.798	.817	.786	.500	.806	.907



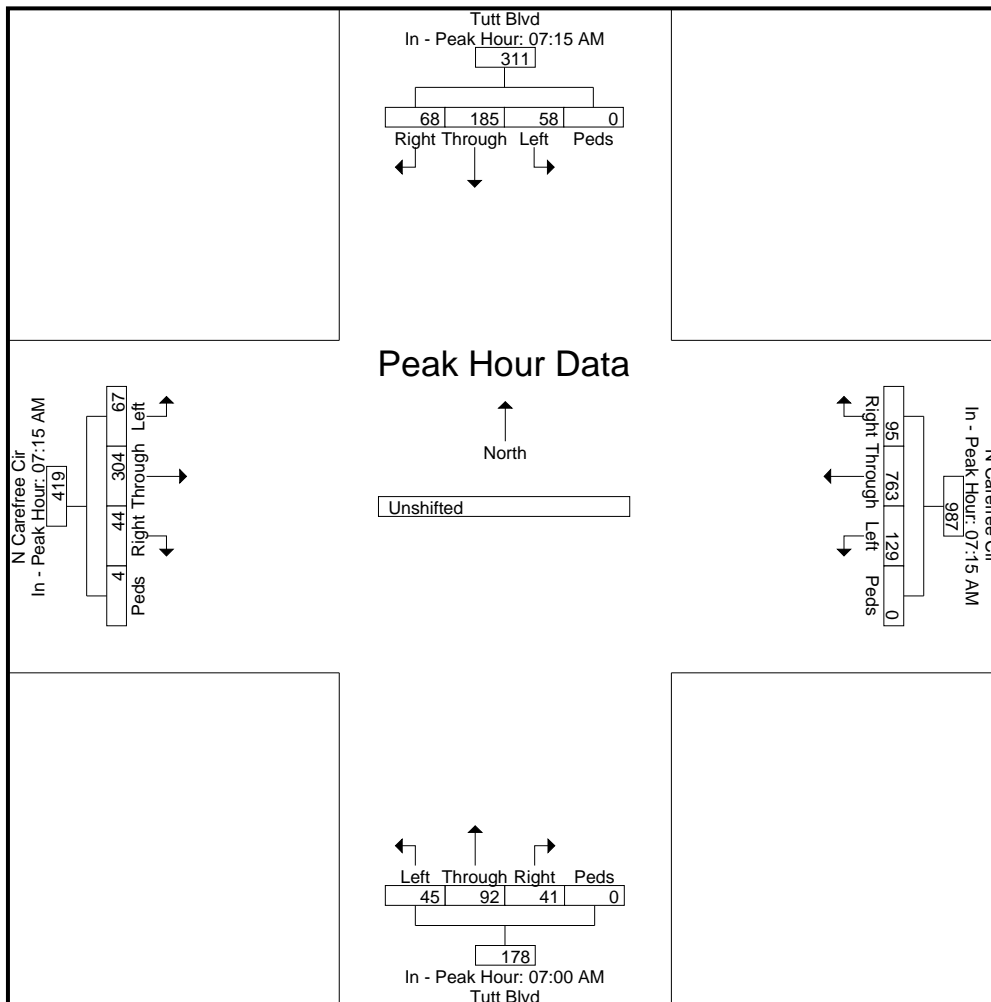


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - N Carefree Cir AM  
 Site Code : 00194500  
 Start Date : 5/29/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					N Carefree Cir Westbound					Tutt Blvd Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:15 AM					07:00 AM					07:15 AM					
+0 mins.	19	41	12	0	72	23	195	25	0	243	10	15	9	0	34	15	70	7	0	92	
+15 mins.	11	51	17	0	79	35	198	21	0	254	10	26	7	0	43	16	76	10	2	104	
+30 mins.	17	51	20	0	88	40	194	25	0	259	13	24	19	0	56	21	93	14	2	130	
+45 mins.	11	42	19	0	72	31	176	24	0	231	12	27	6	0	45	15	65	13	0	93	
Total Volume	58	185	68	0	311	129	763	95	0	987	45	92	41	0	178	67	304	44	4	419	
% App. Total	18.6	59.5	21.9	0		13.1	77.3	9.6	0		25.3	51.7	23	0		16	72.6	10.5	1		
PHF	.763	.907	.850	.000	.884	.806	.963	.950	.000	.953	.865	.852	.539	.000	.795	.798	.817	.786	.500	.806	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - N Carefree Cir PM

Site Code : 00194500

Start Date : 6/11/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					N Carefree Cir Westbound					Tutt Blvd Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	39	68	31	0	138	24	126	31	0	181	24	76	36	0	136	39	140	17	1	197	652
04:15 PM	49	78	43	0	170	23	115	39	1	178	22	84	41	0	147	51	144	16	1	212	707
04:30 PM	51	84	59	0	194	23	130	37	1	191	24	98	38	0	160	37	148	12	1	198	743
04:45 PM	51	88	52	1	192	35	126	46	0	207	22	97	49	0	168	55	158	9	1	223	790
Total	190	318	185	1	694	105	497	153	2	757	92	355	164	0	611	182	590	54	4	830	2892
05:00 PM	45	77	59	0	181	33	169	33	1	236	23	102	28	0	153	59	157	10	1	227	797
05:15 PM	64	64	53	0	181	31	155	44	0	230	14	101	47	0	162	58	202	6	2	268	841
05:30 PM	51	85	52	1	189	36	154	27	0	217	27	87	50	0	164	46	176	15	3	240	810
05:45 PM	51	74	37	0	162	26	127	32	0	185	17	85	37	0	139	51	176	9	1	237	723
Total	211	300	201	1	713	126	605	136	1	868	81	375	162	0	618	214	711	40	7	972	3171
Grand Total	401	618	386	2	1407	231	1102	289	3	1625	173	730	326	0	1229	396	1301	94	11	1802	6063
Apprch %	28.5	43.9	27.4	0.1		14.2	67.8	17.8	0.2		14.1	59.4	26.5	0		22	72.2	5.2	0.6		
Total %	6.6	10.2	6.4	0	23.2	3.8	18.2	4.8	0	26.8	2.9	12	5.4	0	20.3	6.5	21.5	1.6	0.2	29.7	

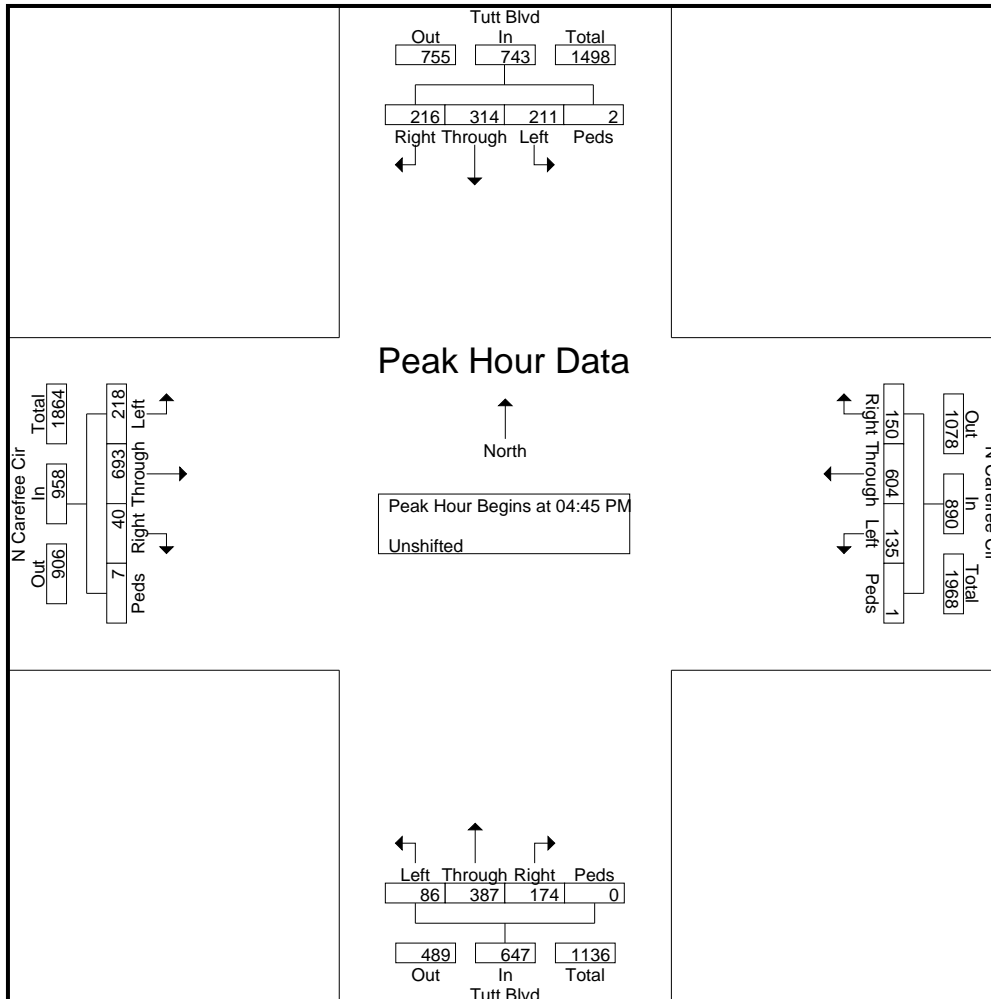


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - N Carefree Cir PM  
 Site Code : 00194500  
 Start Date : 6/11/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					N Carefree Cir Westbound					Tutt Blvd Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	51	88	52	1	192	35	126	46	0	207	22	97	49	0	168	55	158	9	1	223	790
05:00 PM	45	77	59	0	181	33	169	33	1	236	23	102	28	0	153	59	157	10	1	227	797
05:15 PM	64	64	53	0	181	31	155	44	0	230	14	101	47	0	162	58	202	6	2	268	841
05:30 PM	51	85	52	1	189	36	154	27	0	217	27	87	50	0	164	46	176	15	3	240	810
Total Volume	211	314	216	2	743	135	604	150	1	890	86	387	174	0	647	218	693	40	7	958	3238
% App. Total	28.4	42.3	29.1	0.3		15.2	67.9	16.9	0.1		13.3	59.8	26.9	0		22.8	72.3	4.2	0.7		
PHF	.824	.892	.915	.500	.967	.938	.893	.815	.250	.943	.796	.949	.870	.000	.963	.924	.858	.667	.583	.894	.963





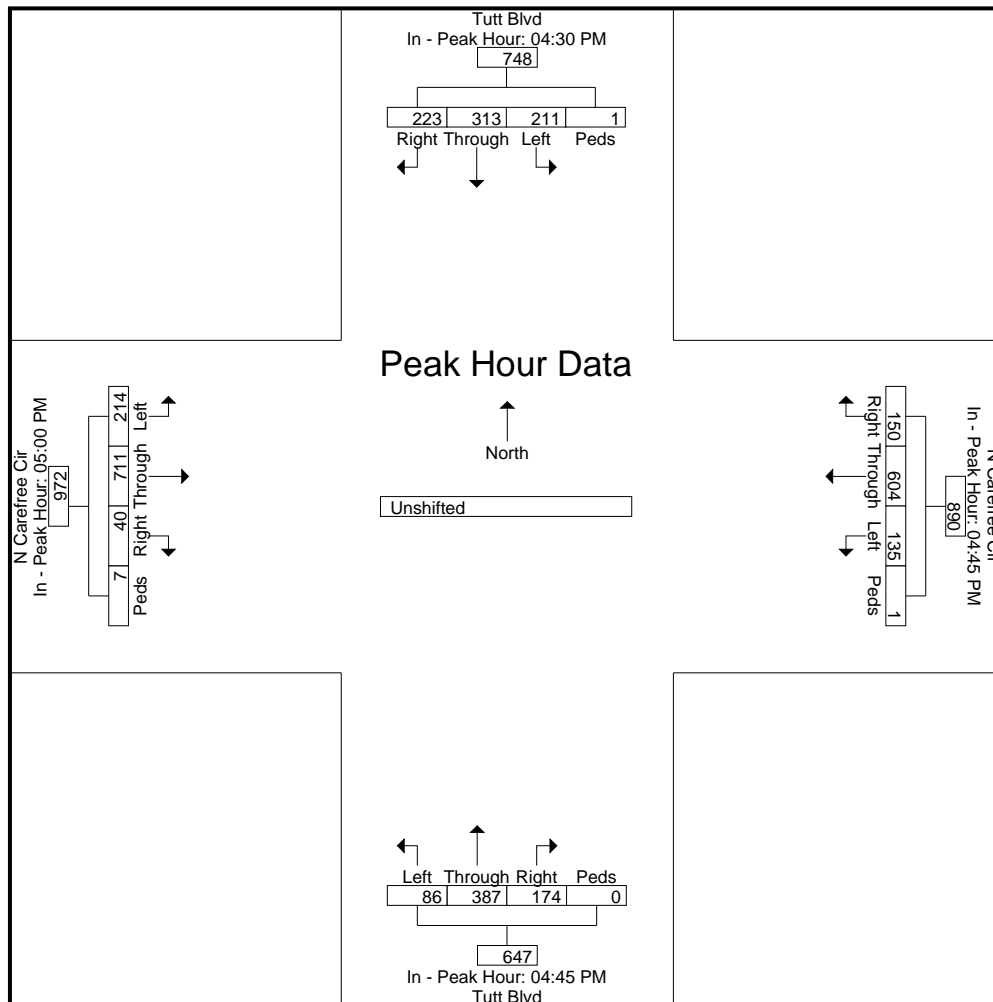


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - N Carefree Cir PM  
 Site Code : 00194500  
 Start Date : 6/11/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					N Carefree Cir Westbound					Tutt Blvd Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					04:45 PM					04:45 PM					05:00 PM					
+0 mins.	51	84	59	0	194	35	126	46	0	207	22	97	49	0	168	59	157	10	1	227	
+15 mins.	51	88	52	1	192	33	169	33	1	236	23	102	28	0	153	58	202	6	2	268	
+30 mins.	45	77	59	0	181	31	155	44	0	230	14	101	47	0	162	46	176	15	3	240	
+45 mins.	64	64	53	0	181	36	154	27	0	217	27	87	50	0	164	51	176	9	1	237	
Total Volume	211	313	223	1	748	135	604	150	1	890	86	387	174	0	647	214	711	40	7	972	
% App. Total	28.2	41.8	29.8	0.1		15.2	67.9	16.9	0.1		13.3	59.8	26.9	0		22	73.1	4.1	0.7		
PHF	.824	.889	.945	.250	.964	.938	.893	.815	.250	.943	.796	.949	.870	.000	.963	.907	.880	.667	.583	.907	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : tutt blvd - s carefree cir am  
 Site Code : 00194500  
 Start Date : 5/28/2019  
 Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	0	47	5	0	52	0	0	0	0	0	3	12	0	0	15	3	0	8	0	11	78
06:45 AM	0	57	6	0	63	0	0	0	0	0	2	19	0	0	21	7	0	1	0	8	92
Total	0	104	11	0	115	0	0	0	0	0	5	31	0	0	36	10	0	9	0	19	170
07:00 AM	0	44	5	0	49	0	0	0	0	0	5	41	0	0	46	6	0	5	1	12	107
07:15 AM	0	67	17	0	84	0	0	0	0	0	8	36	0	0	44	5	0	13	0	18	146
07:30 AM	0	63	23	0	86	0	0	0	0	0	7	37	0	0	44	6	0	1	0	7	137
07:45 AM	0	79	18	0	97	0	0	0	0	0	8	43	0	0	51	11	0	19	0	30	178
Total	0	253	63	0	316	0	0	0	0	0	28	157	0	0	185	28	0	38	1	67	568
08:00 AM	0	57	12	0	69	0	0	0	0	0	7	35	0	0	42	12	0	4	0	16	127
08:15 AM	0	54	13	0	67	0	0	0	0	0	3	31	0	0	34	14	0	6	1	21	122
Grand Total	0	468	99	0	567	0	0	0	0	0	43	254	0	0	297	64	0	57	2	123	987
Apprch %	0	82.5	17.5	0		0	0	0	0		14.5	85.5	0	0		52	0	46.3	1.6		
Total %	0	47.4	10	0	57.4	0	0	0	0	0	4.4	25.7	0	0	30.1	6.5	0	5.8	0.2	12.5	

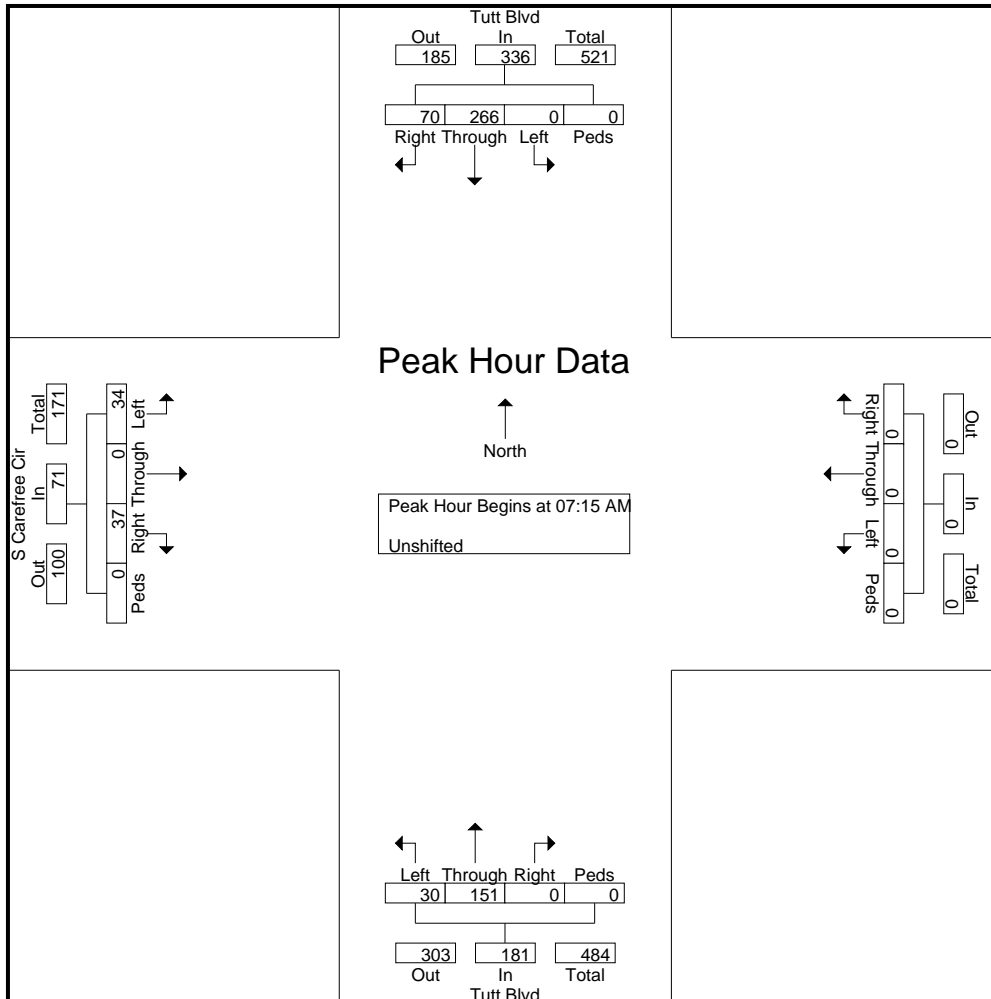


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : tutt blvd - s carefree cir am  
 Site Code : 00194500  
 Start Date : 5/28/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	67	17	0	84	0	0	0	0	0	8	36	0	0	44	5	0	13	0	18	146
07:30 AM	0	63	23	0	86	0	0	0	0	0	7	37	0	0	44	6	0	1	0	7	137
07:45 AM	0	79	18	0	97	0	0	0	0	0	8	43	0	0	51	11	0	19	0	30	178
08:00 AM	0	57	12	0	69	0	0	0	0	0	7	35	0	0	42	12	0	4	0	16	127
Total Volume	0	266	70	0	336	0	0	0	0	0	30	151	0	0	181	34	0	37	0	71	588
% App. Total	0	79.2	20.8	0		0	0	0	0		16.6	83.4	0	0		47.9	0	52.1	0		
PHF	.000	.842	.761	.000	.866	.000	.000	.000	.000	.000	.938	.878	.000	.000	.887	.708	.000	.487	.000	.592	.826



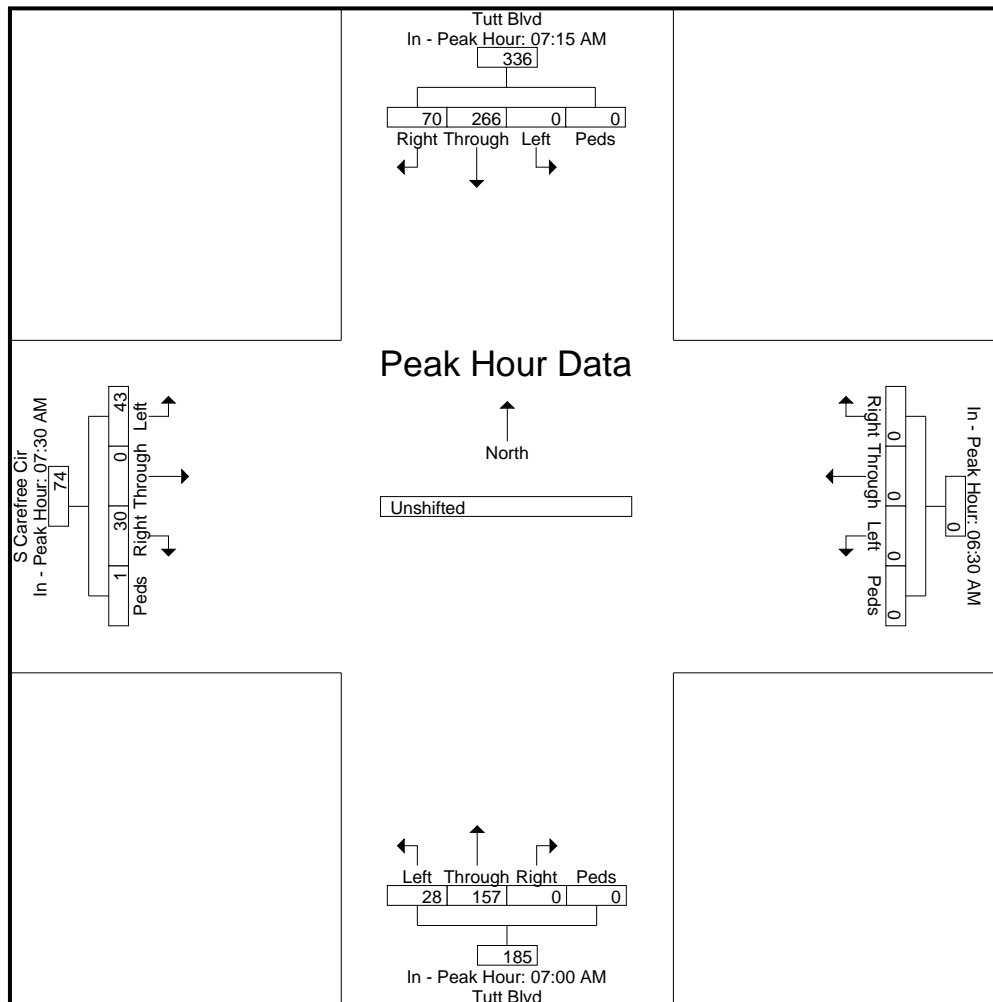


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : tutt blvd - s carefree cir am  
 Site Code : 00194500  
 Start Date : 5/28/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					06:30 AM					07:00 AM					07:30 AM					
+0 mins.	0	67	17	0	84	0	0	0	0	0	5	41	0	0	46	6	0	1	0	7	
+15 mins.	0	63	23	0	86	0	0	0	0	0	8	36	0	0	44	11	0	19	0	30	
+30 mins.	0	79	18	0	97	0	0	0	0	0	7	37	0	0	44	12	0	4	0	16	
+45 mins.	0	57	12	0	69	0	0	0	0	0	8	43	0	0	51	14	0	6	1	21	
Total Volume	0	266	70	0	336	0	0	0	0	0	28	157	0	0	185	43	0	30	1	74	
% App. Total	0	79.2	20.8	0		0	0	0	0		15.1	84.9	0	0		58.1	0	40.5	1.4		
PHF	.000	.842	.761	.000	.866	.000	.000	.000	.000	.000	.875	.913	.000	.000	.907	.768	.000	.395	.250	.617	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir Mid  
 Site Code : 00194500  
 Start Date : 7/9/2019  
 Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
01:30 PM	0	98	24	0	122	0	0	0	0	0	11	83	0	0	94	38	0	26	0	64	280
01:45 PM	0	83	14	0	97	0	0	0	0	0	10	68	0	0	78	35	0	26	0	61	236
Total	0	181	38	0	219	0	0	0	0	0	21	151	0	0	172	73	0	52	0	125	516
02:00 PM	0	87	26	0	113	0	0	0	0	0	11	66	0	0	77	31	0	20	1	52	242
02:15 PM	0	80	18	0	98	0	0	0	0	0	13	72	0	0	85	43	0	21	1	65	248
02:30 PM	0	95	14	0	109	0	0	0	0	0	7	70	0	0	77	38	0	15	2	55	241
02:45 PM	0	63	21	0	84	0	0	0	0	0	16	66	0	0	82	36	0	21	0	57	223
Total	0	325	79	0	404	0	0	0	0	0	47	274	0	0	321	148	0	77	4	229	954
03:00 PM	0	96	16	0	112	0	0	0	0	0	10	68	0	0	78	31	0	24	2	57	247
03:15 PM	0	91	17	0	108	0	0	0	0	0	8	65	0	0	73	30	0	23	0	53	234
Grand Total	0	693	150	0	843	0	0	0	0	0	86	558	0	0	644	282	0	176	6	464	1951
Apprch %	0	82.2	17.8	0		0	0	0	0	0	13.4	86.6	0	0		60.8	0	37.9	1.3		
Total %	0	35.5	7.7	0	43.2	0	0	0	0	0	4.4	28.6	0	0	33	14.5	0	9	0.3	23.8	

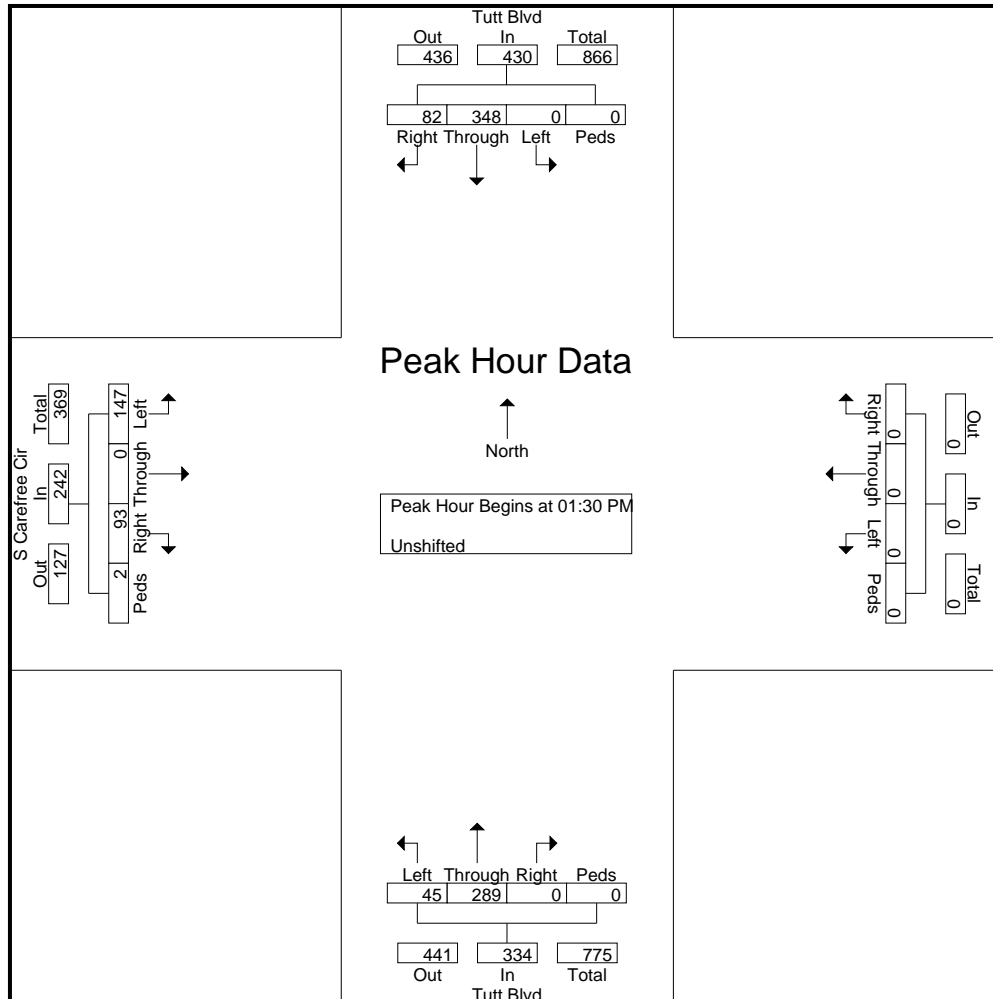


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir Mid  
 Site Code : 00194500  
 Start Date : 7/9/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 01:30 PM																					
01:30 PM	0	98	24	0	122	0	0	0	0	0	11	83	0	0	94	38	0	26	0	64	280
01:45 PM	0	83	14	0	97	0	0	0	0	0	10	68	0	0	78	35	0	26	0	61	236
02:00 PM	0	87	26	0	113	0	0	0	0	0	11	66	0	0	77	31	0	20	1	52	242
02:15 PM	0	80	18	0	98	0	0	0	0	0	13	72	0	0	85	43	0	21	1	65	248
Total Volume	0	348	82	0	430	0	0	0	0	0	45	289	0	0	334	147	0	93	2	242	1006
% App. Total	0	80.9	19.1	0		0	0	0	0		13.5	86.5	0	0		60.7	0	38.4	0.8		
PHF	.000	.888	.788	.000	.881	.000	.000	.000	.000	.000	.865	.870	.000	.000	.888	.855	.000	.894	.500	.931	.898



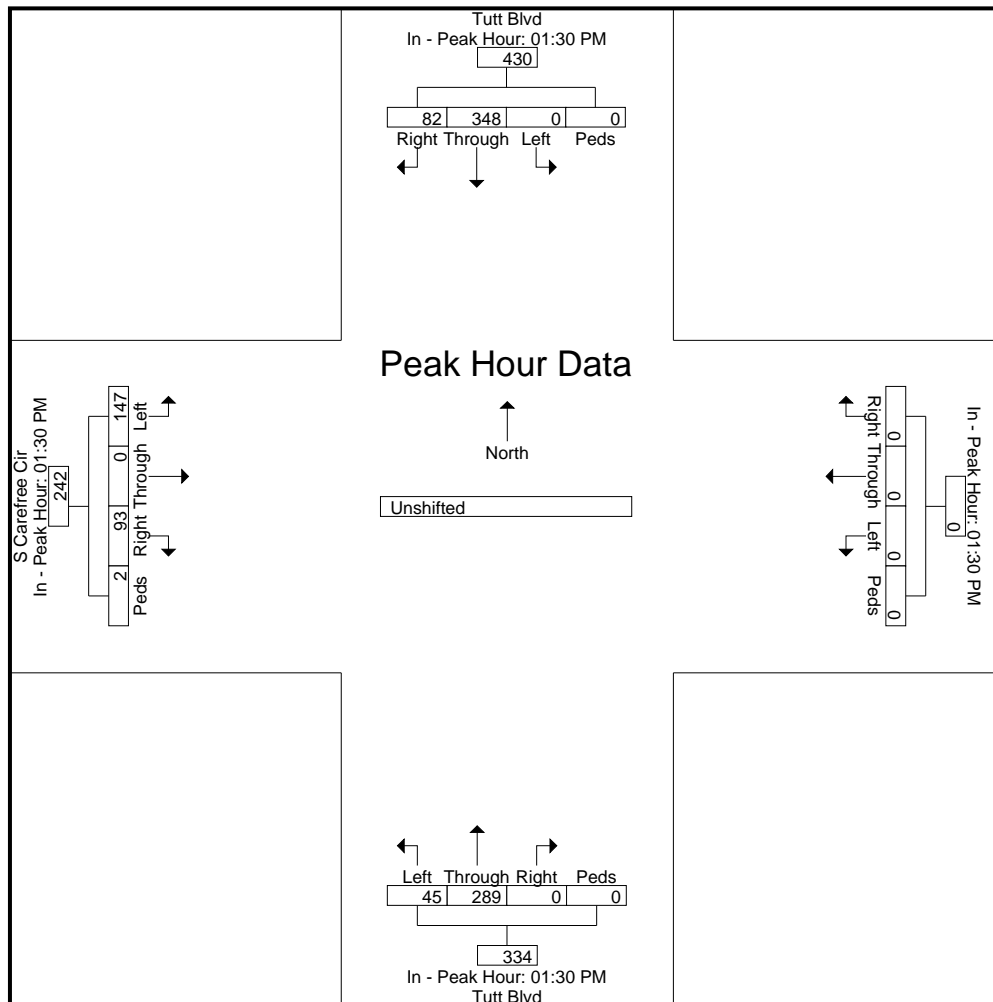


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir Mid  
 Site Code : 00194500  
 Start Date : 7/9/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	01:30 PM					01:30 PM					01:30 PM					01:30 PM					
+0 mins.	0	<b>98</b>	24	0	<b>122</b>	0	0	0	0	0	11	<b>83</b>	0	0	<b>94</b>	38	0	<b>26</b>	0	64	
+15 mins.	0	83	14	0	97	0	0	0	0	0	10	68	0	0	78	35	0	26	0	61	
+30 mins.	0	87	<b>26</b>	0	113	0	0	0	0	0	11	66	0	0	77	31	0	20	<b>1</b>	52	
+45 mins.	0	80	18	0	98	0	0	0	0	0	<b>13</b>	72	0	0	85	<b>43</b>	0	21	<b>1</b>	<b>65</b>	
Total Volume	0	348	82	0	430	0	0	0	0	0	45	289	0	0	334	147	0	93	2	242	
% App. Total	0	80.9	19.1	0		0	0	0	0		13.5	86.5	0	0		60.7	0	38.4	0.8		
PHF	.000	.888	.788	.000	.881	.000	.000	.000	.000	.000	.865	.870	.000	.000	.888	.855	.000	.894	.500	.931	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - S Carefree Cir Noon

Site Code : 00194500

Start Date : 7/9/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
11:00 AM	0	71	19	0	90	0	0	0	0	0	7	58	0	0	65	30	0	14	2	46	201
11:15 AM	0	57	14	0	71	0	0	0	0	0	7	57	0	0	64	40	0	12	0	52	187
11:30 AM	0	72	20	0	92	0	0	0	0	0	10	58	0	0	68	31	0	13	5	49	209
11:45 AM	0	92	23	0	115	0	0	0	0	0	15	77	0	0	92	31	0	19	0	50	257
Total	0	292	76	0	368	0	0	0	0	0	39	250	0	0	289	132	0	58	7	197	854
12:00 PM	0	86	29	0	115	0	0	0	0	0	8	69	0	0	77	36	0	22	1	59	251
12:15 PM	0	91	17	0	108	0	0	0	0	0	11	81	0	0	92	32	0	20	1	53	253
12:30 PM	0	92	18	0	110	0	0	0	0	0	16	70	0	0	86	41	0	21	1	63	259
12:45 PM	4	93	21	0	118	0	0	0	0	0	12	63	0	0	75	48	0	28	0	76	269
Total	4	362	85	0	451	0	0	0	0	0	47	283	0	0	330	157	0	91	3	251	1032
Grand Total	4	654	161	0	819	0	0	0	0	0	86	533	0	0	619	289	0	149	10	448	1886
Apprch %	0.5	79.9	19.7	0		0	0	0	0		13.9	86.1	0	0		64.5	0	33.3	2.2		
Total %	0.2	34.7	8.5	0	43.4	0	0	0	0	0	4.6	28.3	0	0	32.8	15.3	0	7.9	0.5	23.8	



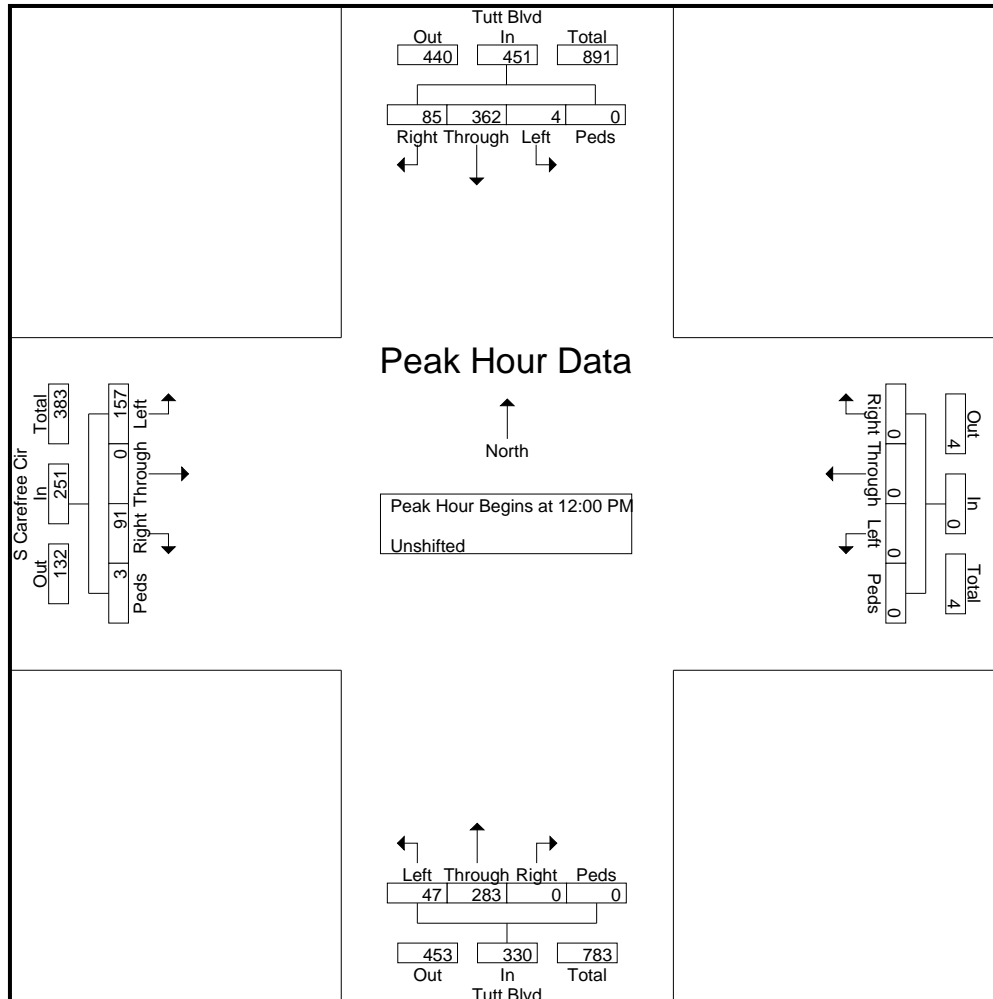


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir Noon  
 Site Code : 00194500  
 Start Date : 7/9/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	86	29	0	115	0	0	0	0	0	8	69	0	0	77	36	0	22	1	59	251
12:15 PM	0	91	17	0	108	0	0	0	0	0	11	81	0	0	92	32	0	20	1	53	253
12:30 PM	0	92	18	0	110	0	0	0	0	0	16	70	0	0	86	41	0	21	1	63	259
12:45 PM	4	93	21	0	118	0	0	0	0	0	12	63	0	0	75	48	0	28	0	76	269
Total Volume	4	362	85	0	451	0	0	0	0	0	47	283	0	0	330	157	0	91	3	251	1032
% App. Total	0.9	80.3	18.8	0		0	0	0	0		14.2	85.8	0	0		62.5	0	36.3	1.2		
PHF	.250	.973	.733	.000	.956	.000	.000	.000	.000	.000	.734	.873	.000	.000	.897	.818	.000	.813	.750	.826	.959



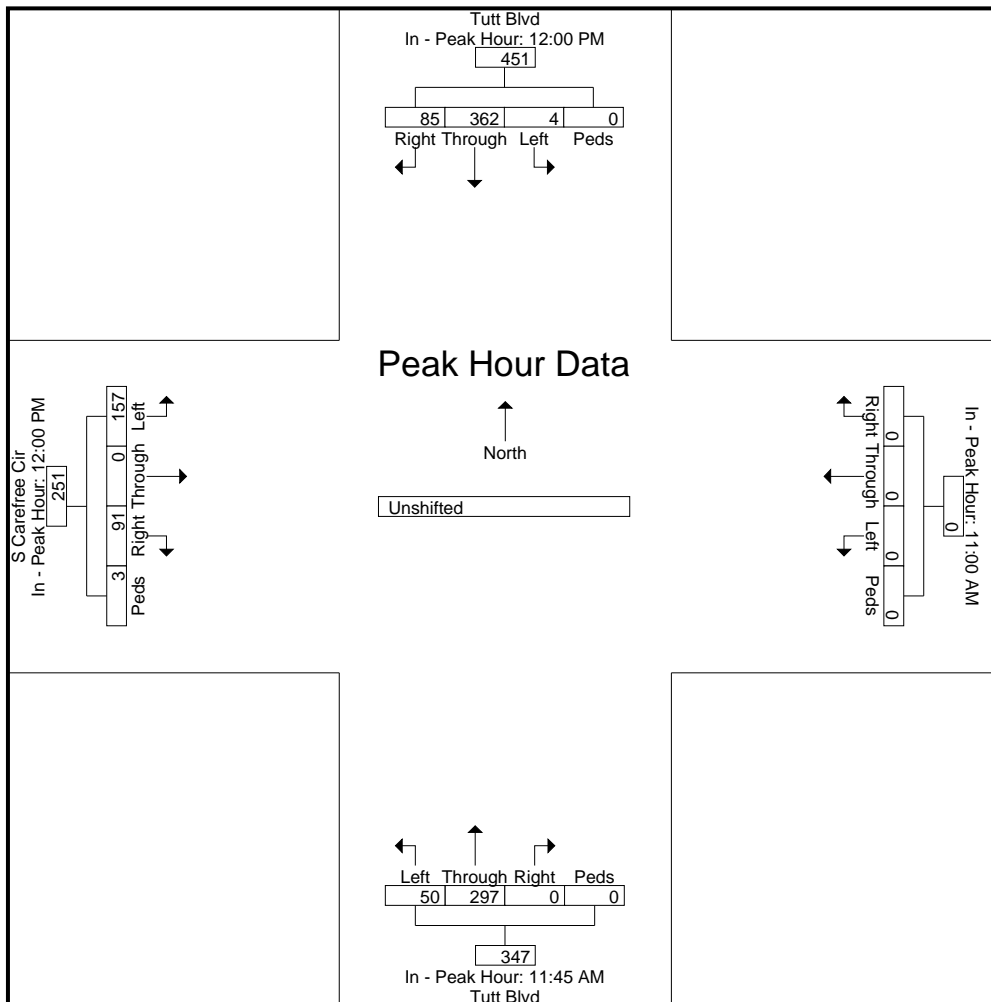


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir Noon  
 Site Code : 00194500  
 Start Date : 7/9/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	12:00 PM					11:00 AM					11:45 AM					12:00 PM					
+0 mins.	0	86	29	0	115	0	0	0	0	0	15	77	0	0	92	36	0	22	1	59	
+15 mins.	0	91	17	0	108	0	0	0	0	0	8	69	0	0	77	32	0	20	1	53	
+30 mins.	0	92	18	0	110	0	0	0	0	0	11	81	0	0	92	41	0	21	1	63	
+45 mins.	4	93	21	0	118	0	0	0	0	0	16	70	0	0	86	48	0	28	0	76	
Total Volume	4	362	85	0	451	0	0	0	0	0	50	297	0	0	347	157	0	91	3	251	
% App. Total	0.9	80.3	18.8	0		0	0	0	0		14.4	85.6	0	0		62.5	0	36.3	1.2		
PHF	.250	.973	.733	.000	.956	.000	.000	.000	.000	.000	.781	.917	.000	.000	.943	.818	.000	.813	.750	.826	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - S Carefree Cir PM

Site Code : 00194500

Start Date : 5/28/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	0	82	28	0	110	0	0	0	0	0	12	106	0	0	118	32	0	21	0	53	281
04:15 PM	0	86	25	0	111	0	0	0	0	0	20	92	0	0	112	27	0	13	0	40	263
04:30 PM	0	102	34	0	136	0	0	0	0	0	22	122	0	0	144	41	0	18	0	59	339
04:45 PM	0	98	36	0	134	0	0	0	0	0	23	123	0	0	146	37	0	14	0	51	331
Total	0	368	123	0	491	0	0	0	0	0	77	443	0	0	520	137	0	66	0	203	1214
05:00 PM	0	97	26	0	123	0	0	0	0	0	20	118	0	0	138	30	0	24	0	54	315
05:15 PM	0	88	37	0	125	0	0	0	0	0	19	145	0	0	164	49	0	27	1	77	366
05:30 PM	0	104	30	0	134	0	0	0	0	0	10	133	0	0	143	41	0	16	1	58	335
05:45 PM	0	99	23	0	122	0	0	0	0	0	19	113	0	0	132	45	0	22	1	68	322
Total	0	388	116	0	504	0	0	0	0	0	68	509	0	0	577	165	0	89	3	257	1338
Grand Total	0	756	239	0	995	0	0	0	0	0	145	952	0	0	1097	302	0	155	3	460	2552
Apprch %	0	76	24	0		0	0	0	0		13.2	86.8	0	0		65.7	0	33.7	0.7		
Total %	0	29.6	9.4	0	39	0	0	0	0	0	5.7	37.3	0	0	43	11.8	0	6.1	0.1	18	

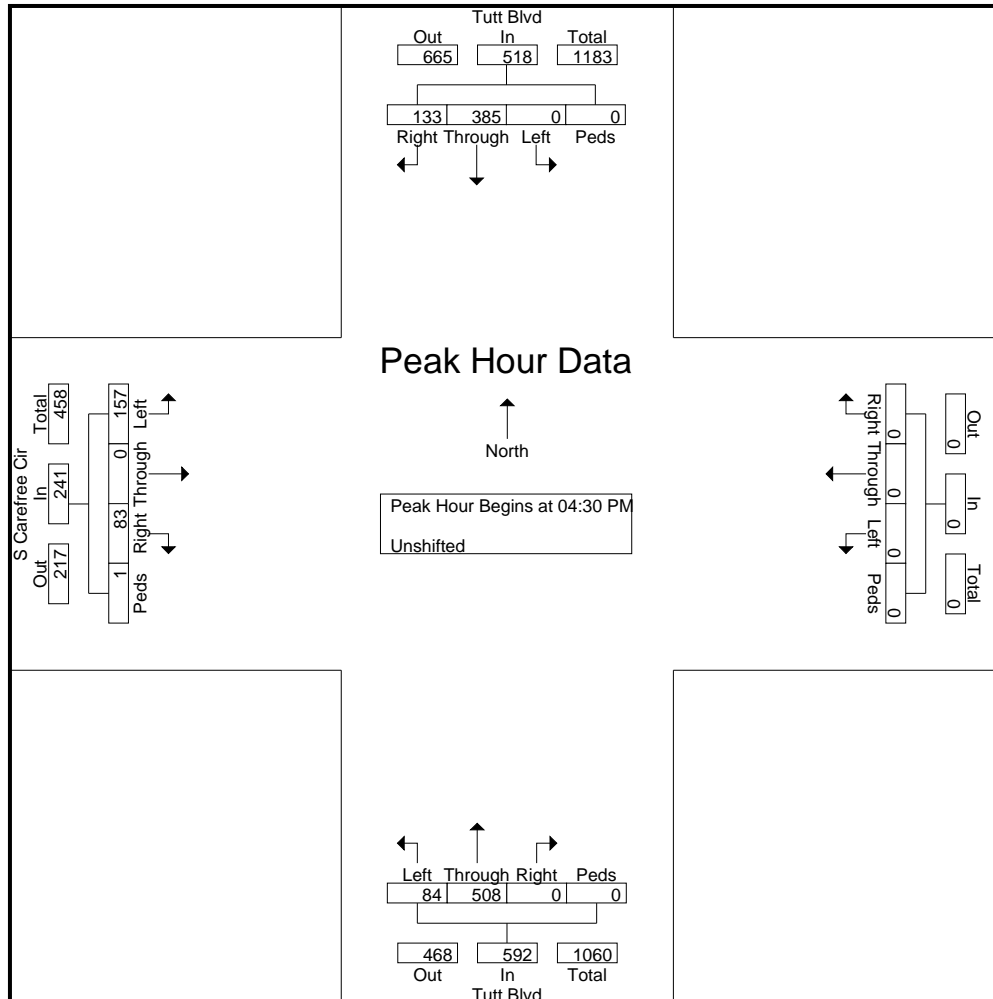


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir PM  
 Site Code : 00194500  
 Start Date : 5/28/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	102	34	0	136	0	0	0	0	0	22	122	0	0	144	41	0	18	0	59	339
04:45 PM	0	98	36	0	134	0	0	0	0	0	23	123	0	0	146	37	0	14	0	51	331
05:00 PM	0	97	26	0	123	0	0	0	0	0	20	118	0	0	138	30	0	24	0	54	315
05:15 PM	0	88	37	0	125	0	0	0	0	0	19	145	0	0	164	49	0	27	1	77	366
Total Volume	0	385	133	0	518	0	0	0	0	0	84	508	0	0	592	157	0	83	1	241	1351
% App. Total	0	74.3	25.7	0		0	0	0	0	0	14.2	85.8	0	0		65.1	0	34.4	0.4		
PHF	.000	.944	.899	.000	.952	.000	.000	.000	.000	.000	.913	.876	.000	.000	.902	.801	.000	.769	.250	.782	.923



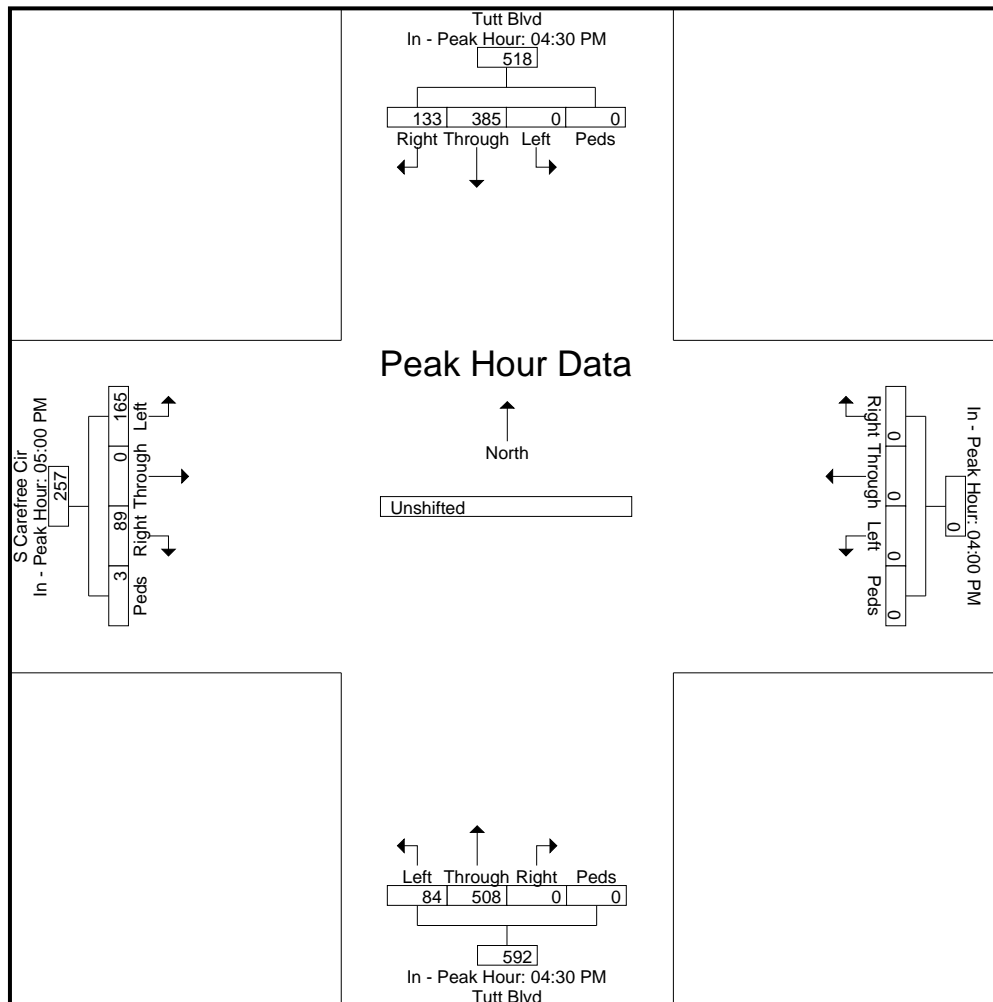


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - S Carefree Cir PM  
 Site Code : 00194500  
 Start Date : 5/28/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Westbound					Tutt Blvd Northbound					S Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					04:00 PM					04:30 PM					05:00 PM					
+0 mins.	0	102	34	0	136	0	0	0	0	0	22	122	0	0	144	30	0	24	0	54	
+15 mins.	0	98	36	0	134	0	0	0	0	0	23	123	0	0	146	49	0	27	1	77	
+30 mins.	0	97	26	0	123	0	0	0	0	0	20	118	0	0	138	41	0	16	1	58	
+45 mins.	0	88	37	0	125	0	0	0	0	0	19	145	0	0	164	45	0	22	1	68	
Total Volume	0	385	133	0	518	0	0	0	0	0	84	508	0	0	592	165	0	89	3	257	
% App. Total	0	74.3	25.7	0		0	0	0	0		14.2	85.8	0	0		64.2	0	34.6	1.2		
PHF	.000	.944	.899	.000	.952	.000	.000	.000	.000	.000	.913	.876	.000	.000	.902	.842	.000	.824	.750	.834	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - Constitution Ave AM

Site Code : 194500

Start Date : 5/23/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Constitution Ave Westbound					Tutt Blvd Northbound					Constitution Ave Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	15	7	26	0	48	14	175	11	0	200	8	2	3	0	13	7	84	19	0	110	371
06:45 AM	16	13	24	0	53	24	165	14	0	203	11	4	3	0	18	16	95	24	0	135	409
Total	31	20	50	0	101	38	340	25	0	403	19	6	6	0	31	23	179	43	0	245	780
07:00 AM	24	7	29	0	60	14	219	24	0	257	15	4	4	0	23	13	123	22	0	158	498
07:15 AM	20	20	34	0	74	14	278	37	0	329	14	13	5	0	32	13	142	18	0	173	608
07:30 AM	25	12	43	0	80	16	299	37	2	354	10	11	2	0	23	16	107	21	0	144	601
07:45 AM	31	16	52	0	99	27	243	28	1	299	11	3	3	0	17	25	149	23	0	197	612
Total	100	55	158	0	313	71	1039	126	3	1239	50	31	14	0	95	67	521	84	0	672	2319
08:00 AM	15	8	36	0	59	17	215	19	2	253	13	8	6	0	27	13	113	24	0	150	489
08:15 AM	12	11	24	1	48	23	190	15	0	228	18	4	4	0	26	10	100	23	0	133	435
Grand Total	158	94	268	1	521	149	1784	185	5	2123	100	49	30	0	179	113	913	174	0	1200	4023
Apprch %	30.3	18	51.4	0.2		7	84	8.7	0.2		55.9	27.4	16.8	0		9.4	76.1	14.5	0		
Total %	3.9	2.3	6.7	0	13	3.7	44.3	4.6	0.1	52.8	2.5	1.2	0.7	0	4.4	2.8	22.7	4.3	0	29.8	

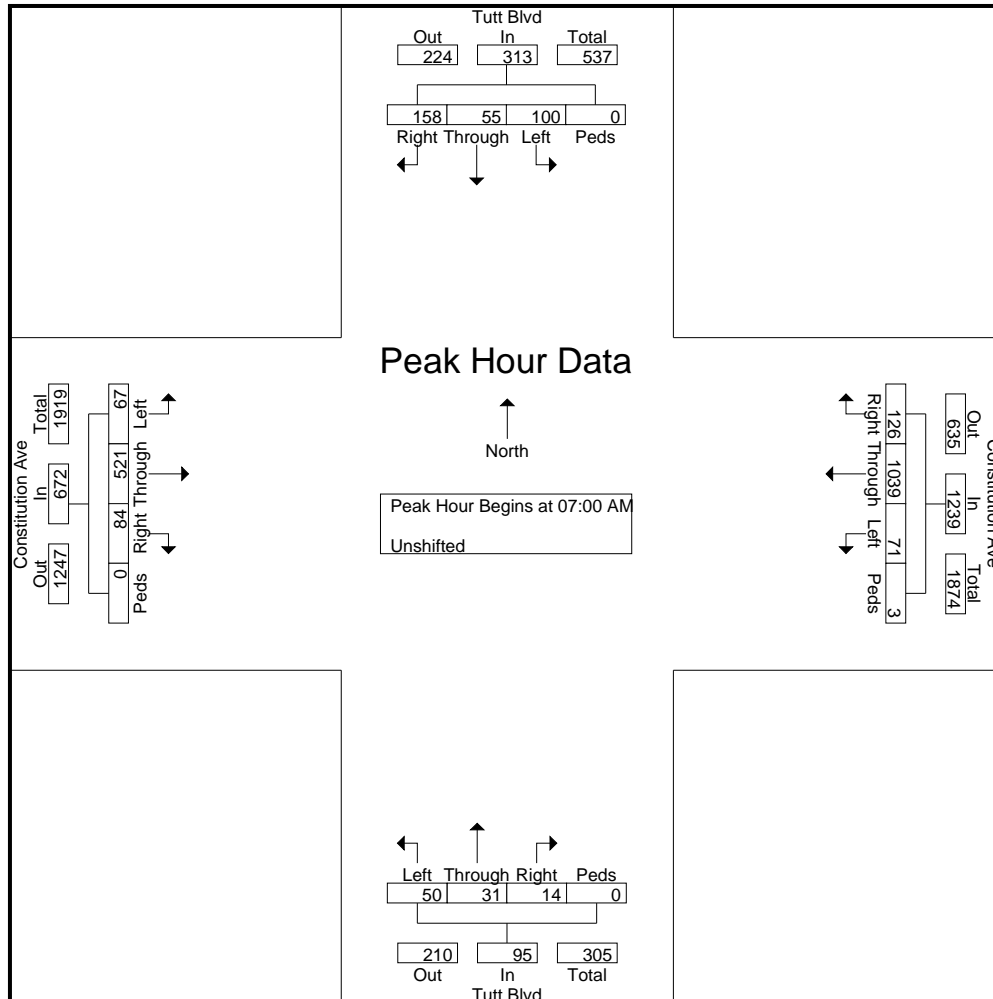


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Constitution Ave AM  
 Site Code : 194500  
 Start Date : 5/23/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Constitution Ave Westbound					Tutt Blvd Northbound					Constitution Ave Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	24	7	29	0	60	14	219	24	0	257	15	4	4	0	23	13	123	22	0	158	498
07:15 AM	20	20	34	0	74	14	278	37	0	329	14	13	5	0	32	13	142	18	0	173	608
07:30 AM	25	12	43	0	80	16	299	37	2	354	10	11	2	0	23	16	107	21	0	144	601
07:45 AM	31	16	52	0	99	27	243	28	1	299	11	3	3	0	17	25	149	23	0	197	612
Total Volume	100	55	158	0	313	71	1039	126	3	1239	50	31	14	0	95	67	521	84	0	672	2319
% App. Total	31.9	17.6	50.5	0		5.7	83.9	10.2	0.2		52.6	32.6	14.7	0		10	77.5	12.5	0		
PHF	.806	.688	.760	.000	.790	.657	.869	.851	.375	.875	.833	.596	.700	.000	.742	.670	.874	.913	.000	.853	.947



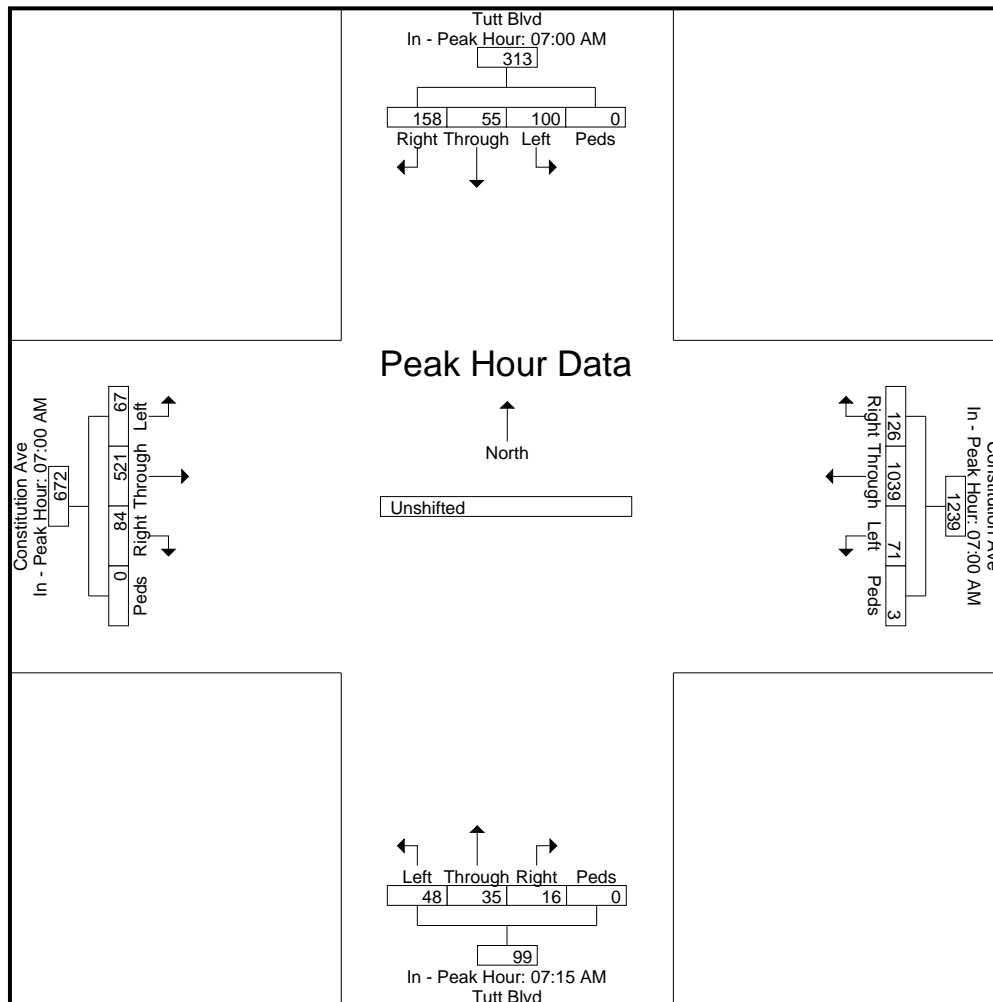


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Constitution Ave AM  
 Site Code : 194500  
 Start Date : 5/23/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Constitution Ave Westbound					Tutt Blvd Northbound					Constitution Ave Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	07:00 AM					07:00 AM					07:15 AM					07:00 AM					
+0 mins.	24	7	29	0	60	14	219	24	0	257	<b>14</b>	<b>13</b>	5	0	<b>32</b>	13	123	22	0	158	
+15 mins.	20	<b>20</b>	34	0	74	14	278	<b>37</b>	0	329	10	11	2	0	23	13	142	18	0	173	
+30 mins.	25	12	43	0	80	16	<b>299</b>	37	<b>2</b>	<b>354</b>	11	3	3	0	17	16	107	21	0	144	
+45 mins.	<b>31</b>	16	<b>52</b>	0	<b>99</b>	<b>27</b>	243	28	1	299	13	8	<b>6</b>	0	27	<b>25</b>	<b>149</b>	<b>23</b>	0	<b>197</b>	
Total Volume	100	55	158	0	313	71	1039	126	3	1239	48	35	16	0	99	67	521	84	0	672	
% App. Total	31.9	17.6	50.5	0		5.7	83.9	10.2	0.2		48.5	35.4	16.2	0		10	77.5	12.5	0		
PHF	.806	.688	.760	.000	.790	.657	.869	.851	.375	.875	.857	.673	.667	.000	.773	.670	.874	.913	.000	.853	







# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Constitution Ave PM  
 Site Code : 194500  
 Start Date : 5/23/2019  
 Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Constitution Ave Westbound					Tutt Blvd Northbound					Constitution Ave Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	39	20	36	0	95	23	157	48	0	228	30	41	12	0	83	51	212	27	0	290	696
04:15 PM	59	25	32	0	116	34	155	57	0	246	22	36	14	0	72	75	197	23	0	295	729
04:30 PM	51	30	31	0	112	20	205	42	0	267	44	33	13	0	90	51	223	24	0	298	767
04:45 PM	46	28	33	1	108	33	168	48	0	249	24	55	8	0	87	56	209	17	0	282	726
Total	195	103	132	1	431	110	685	195	0	990	120	165	47	0	332	233	841	91	0	1165	2918
05:00 PM	51	9	34	0	94	28	181	48	2	259	42	45	14	0	101	55	212	12	0	279	733
05:15 PM	64	24	33	0	121	17	153	43	0	213	23	47	8	0	78	74	248	8	1	331	743
05:30 PM	75	21	45	0	141	20	165	60	0	245	28	48	18	0	94	55	242	15	0	312	792
05:45 PM	47	18	31	0	96	21	148	64	3	236	19	40	14	0	73	49	205	14	0	268	673
Total	237	72	143	0	452	86	647	215	5	953	112	180	54	0	346	233	907	49	1	1190	2941
Grand Total	432	175	275	1	883	196	1332	410	5	1943	232	345	101	0	678	466	1748	140	1	2355	5859
Apprch %	48.9	19.8	31.1	0.1		10.1	68.6	21.1	0.3		34.2	50.9	14.9	0		19.8	74.2	5.9	0		
Total %	7.4	3	4.7	0	15.1	3.3	22.7	7	0.1	33.2	4	5.9	1.7	0	11.6	8	29.8	2.4	0	40.2	

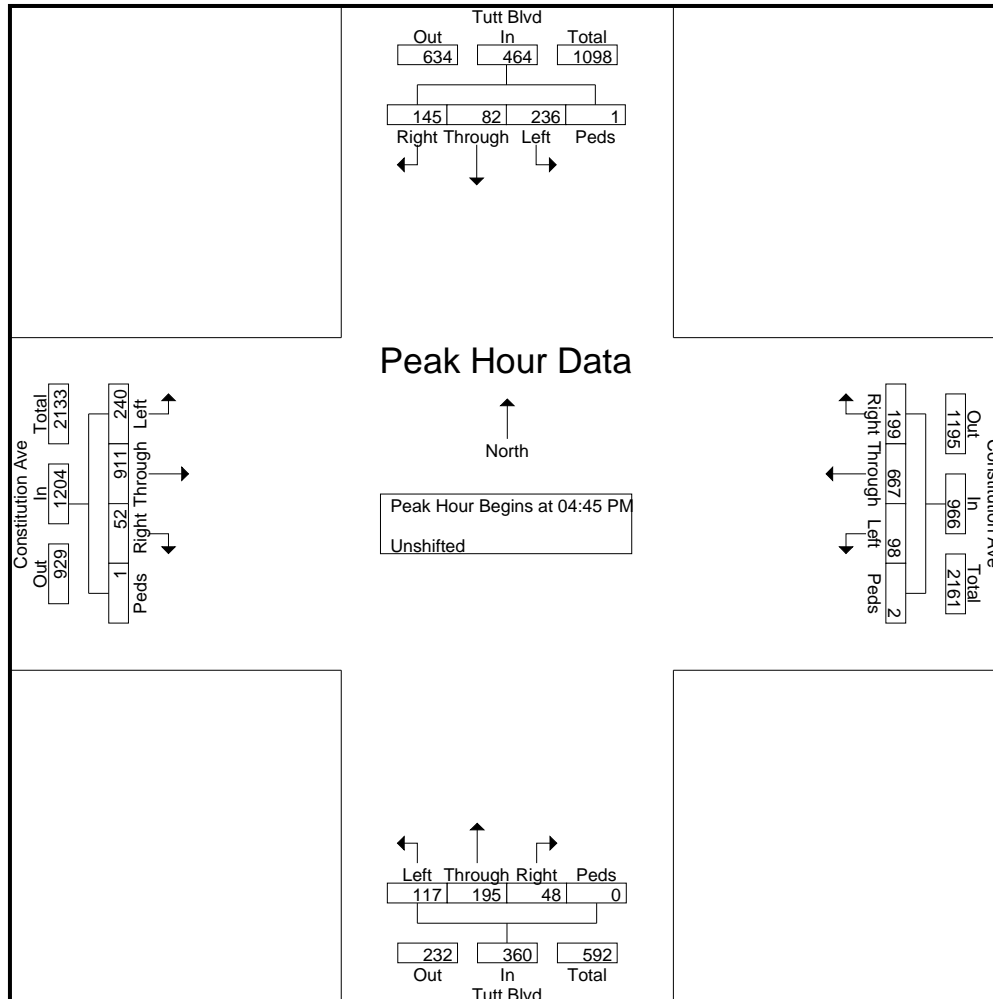


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Constitution Ave PM  
 Site Code : 194500  
 Start Date : 5/23/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Constitution Ave Westbound					Tutt Blvd Northbound					Constitution Ave Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	46	28	33	1	108	33	168	48	0	249	24	55	8	0	87	56	209	17	0	282	726
05:00 PM	51	9	34	0	94	28	181	48	2	259	42	45	14	0	101	55	212	12	0	279	733
05:15 PM	64	24	33	0	121	17	153	43	0	213	23	47	8	0	78	74	248	8	1	331	743
05:30 PM	75	21	45	0	141	20	165	60	0	245	28	48	18	0	94	55	242	15	0	312	792
Total Volume	236	82	145	1	464	98	667	199	2	966	117	195	48	0	360	240	911	52	1	1204	2994
% App. Total	50.9	17.7	31.2	0.2		10.1	69	20.6	0.2		32.5	54.2	13.3	0		19.9	75.7	4.3	0.1		
PHF	.787	.732	.806	.250	.823	.742	.921	.829	.250	.932	.696	.886	.667	.000	.891	.811	.918	.765	.250	.909	.945



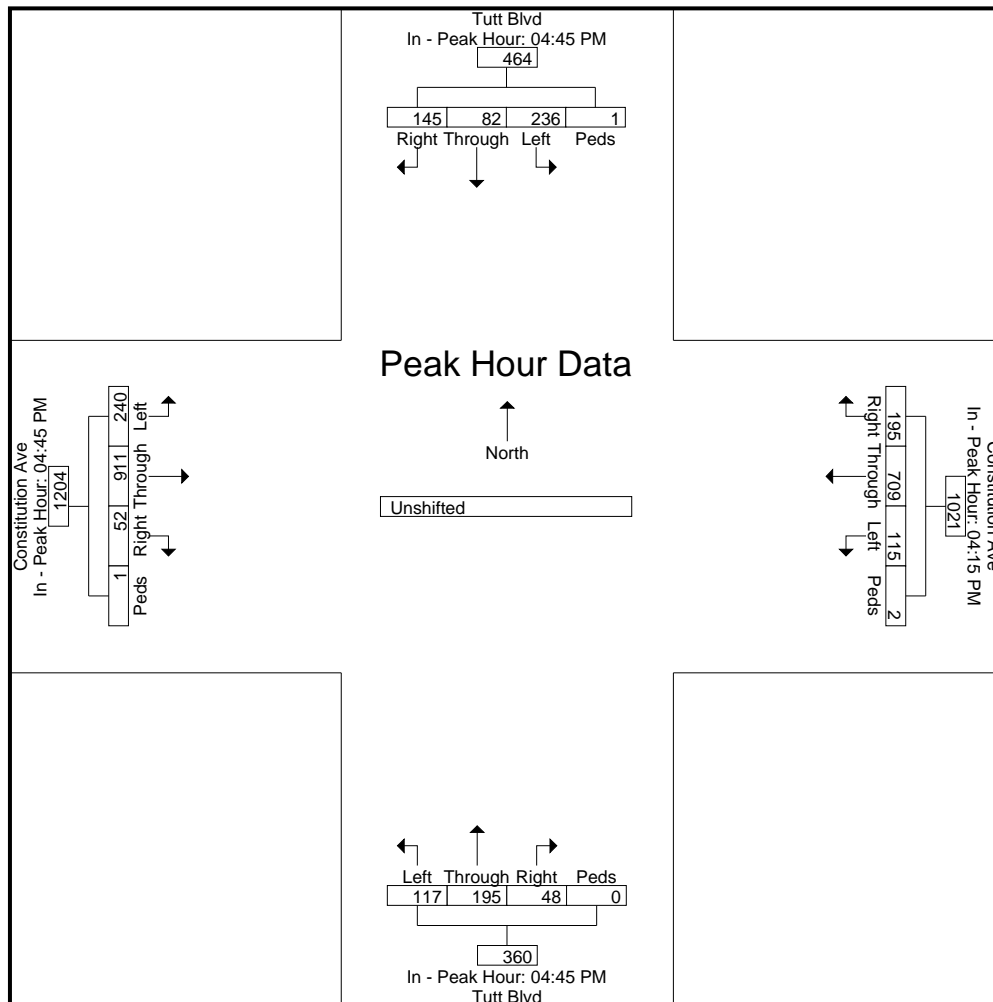


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Constitution Ave PM  
 Site Code : 194500  
 Start Date : 5/23/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Constitution Ave Westbound					Tutt Blvd Northbound					Constitution Ave Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:15 PM					04:45 PM					04:45 PM					
+0 mins.	46	28	33	1	108	34	155	57	0	246	24	55	8	0	87	56	209	17	0	282	
+15 mins.	51	9	34	0	94	20	205	42	0	267	42	45	14	0	101	55	212	12	0	279	
+30 mins.	64	24	33	0	121	33	168	48	0	249	23	47	8	0	78	74	248	8	1	331	
+45 mins.	75	21	45	0	141	28	181	48	2	259	28	48	18	0	94	55	242	15	0	312	
Total Volume	236	82	145	1	464	115	709	195	2	1021	117	195	48	0	360	240	911	52	1	1204	
% App. Total	50.9	17.7	31.2	0.2		11.3	69.4	19.1	0.2		32.5	54.2	13.3	0		19.9	75.7	4.3	0.1		
PHF	.787	.732	.806	.250	.823	.846	.865	.855	.250	.956	.696	.886	.667	.000	.891	.811	.918	.765	.250	.909	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - Golf Course View AM

Site Code : 194500

Start Date : 5/22/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Springs Golf Course Access Westbound					Tutt Blvd Northbound					Holiday Inn Access Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	0	42	2	0	44	0	0	0	0	0	0	19	0	0	19	1	0	0	0	1	64
06:45 AM	0	61	6	0	67	0	0	0	0	0	1	27	1	0	29	2	0	2	0	4	100
Total	0	103	8	0	111	0	0	0	0	0	1	46	1	0	48	3	0	2	0	5	164
07:00 AM	0	71	3	0	74	0	0	0	0	0	1	28	0	0	29	0	0	1	0	1	104
07:15 AM	0	85	5	0	90	0	0	0	0	0	1	38	1	0	40	0	0	5	0	5	135
07:30 AM	0	123	5	0	128	1	0	0	0	1	3	35	0	0	38	2	0	1	0	3	170
07:45 AM	10	104	5	0	119	0	0	1	0	1	3	51	2	0	56	0	0	2	0	2	178
Total	10	383	18	0	411	1	0	1	0	2	8	152	3	0	163	2	0	9	0	11	587
08:00 AM	14	71	6	0	91	0	0	0	0	0	3	55	1	0	59	1	0	3	0	4	154
08:15 AM	3	74	2	0	79	0	0	1	0	1	4	41	1	0	46	0	0	5	0	5	131
Grand Total	27	631	34	0	692	1	0	2	0	3	16	294	6	0	316	6	0	19	0	25	1036
Apprch %	3.9	91.2	4.9	0		33.3	0	66.7	0		5.1	93	1.9	0		24	0	76	0		
Total %	2.6	60.9	3.3	0	66.8	0.1	0	0.2	0	0.3	1.5	28.4	0.6	0	30.5	0.6	0	1.8	0	2.4	

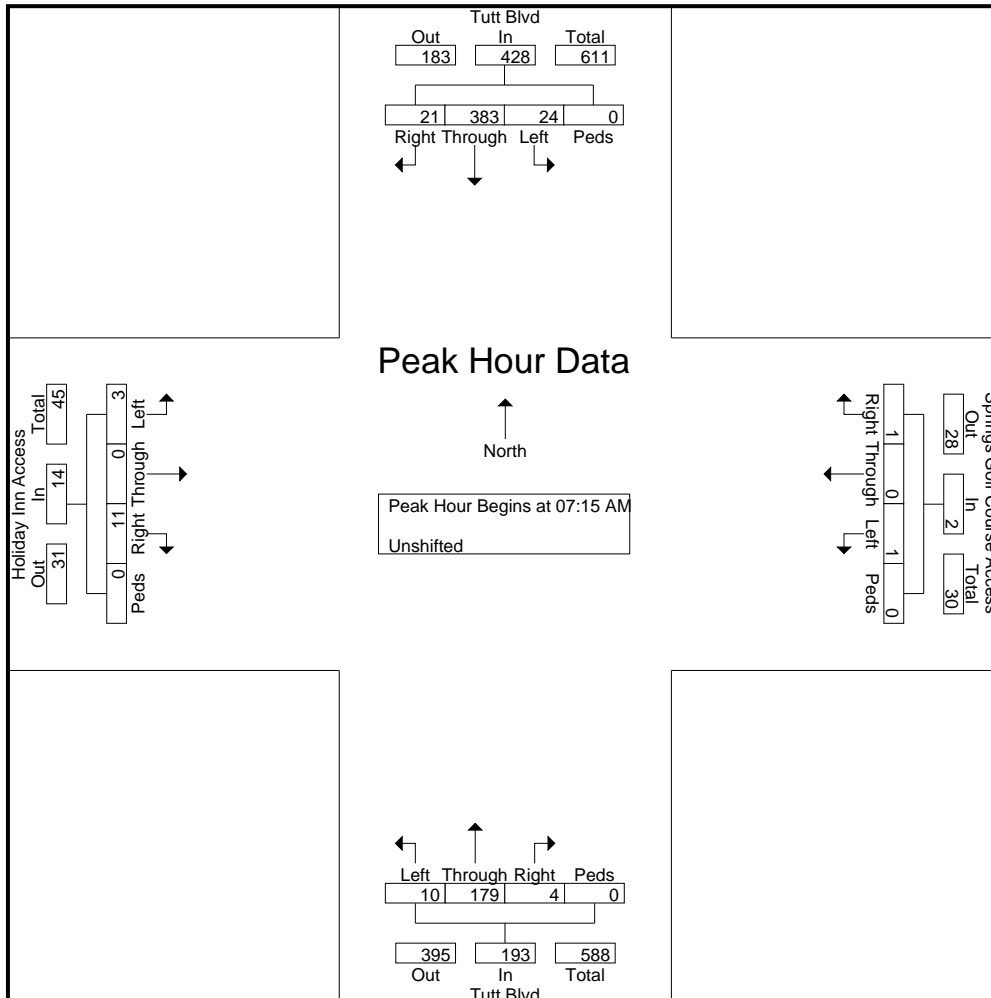


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Golf Course View AM  
 Site Code : 194500  
 Start Date : 5/22/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Springs Golf Course Access Westbound					Tutt Blvd Northbound					Holiday Inn Access Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	85	5	0	90	0	0	0	0	0	1	38	1	0	40	0	0	5	0	5	135
07:30 AM	0	123	5	0	128	1	0	0	0	1	3	35	0	0	38	2	0	1	0	3	170
07:45 AM	10	104	5	0	119	0	0	1	0	1	3	51	2	0	56	0	0	2	0	2	178
08:00 AM	14	71	6	0	91	0	0	0	0	0	3	55	1	0	59	1	0	3	0	4	154
Total Volume	24	383	21	0	428	1	0	1	0	2	10	179	4	0	193	3	0	11	0	14	637
% App. Total	5.6	89.5	4.9	0		50	0	50	0		5.2	92.7	2.1	0		21.4	0	78.6	0		
PHF	.429	.778	.875	.000	.836	.250	.000	.250	.000	.500	.833	.814	.500	.000	.818	.375	.000	.550	.000	.700	.895



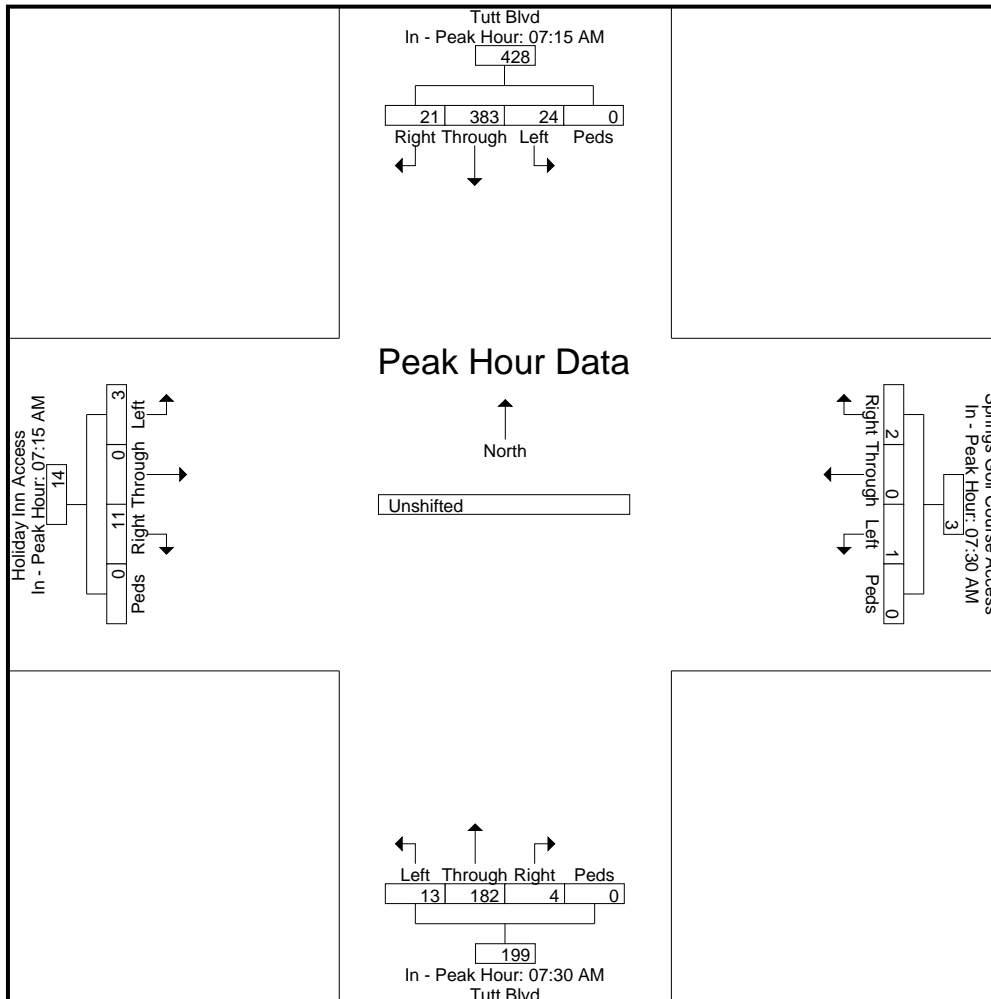


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Golf Course View AM  
 Site Code : 194500  
 Start Date : 5/22/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Springs Golf Course Access Westbound					Tutt Blvd Northbound					Holiday Inn Access Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:30 AM					07:30 AM					07:15 AM					
+0 mins.	0	85	5	0	90	1	0	0	0	1	3	35	0	0	38	0	0	5	0	5	
+15 mins.	0	123	5	0	128	0	0	1	0	1	3	51	2	0	56	2	0	1	0	3	
+30 mins.	10	104	5	0	119	0	0	0	0	0	3	55	1	0	59	0	0	2	0	2	
+45 mins.	14	71	6	0	91	0	0	1	0	1	4	41	1	0	46	1	0	3	0	4	
Total Volume	24	383	21	0	428	1	0	2	0	3	13	182	4	0	199	3	0	11	0	14	
% App. Total	5.6	89.5	4.9	0		33.3	0	66.7	0		6.5	91.5	2	0		21.4	0	78.6	0		
PHF	.429	.778	.875	.000	.836	.250	.000	.500	.000	.750	.813	.827	.500	.000	.843	.375	.000	.550	.000	.700	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Tutt Blvd - Golf Course View PM

Site Code : 194500

Start Date : 5/22/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Tutt Blvd Southbound					Springs Golf Course Access Westbound					Tutt Blvd Northbound					Holiday Inn Access Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	0	111	15	0	126	1	0	0	0	1	2	140	1	0	143	10	0	10	0	20	290
04:15 PM	0	122	14	0	136	0	0	1	0	1	10	160	0	0	170	6	0	7	0	13	320
04:30 PM	2	104	14	0	120	0	0	0	0	0	10	145	0	1	156	6	0	3	0	9	285
04:45 PM	0	117	19	0	136	0	0	0	0	0	11	156	1	0	168	10	0	6	0	16	320
Total	2	454	62	0	518	1	0	1	0	2	33	601	2	1	637	32	0	26	0	58	1215
05:00 PM	1	106	8	0	115	0	0	1	0	1	12	204	0	0	216	6	0	3	0	9	341
05:15 PM	0	122	14	0	136	1	0	2	0	3	4	181	1	1	187	8	0	3	0	11	337
05:30 PM	0	111	14	0	125	2	0	1	0	3	7	177	2	0	186	9	0	4	0	13	327
05:45 PM	0	122	13	0	135	0	0	2	0	2	10	163	0	0	173	5	0	7	0	12	322
Total	1	461	49	0	511	3	0	6	0	9	33	725	3	1	762	28	0	17	0	45	1327
Grand Total	3	915	111	0	1029	4	0	7	0	11	66	1326	5	2	1399	60	0	43	0	103	2542
Apprch %	0.3	88.9	10.8	0		36.4	0	63.6	0		4.7	94.8	0.4	0.1		58.3	0	41.7	0		
Total %	0.1	36	4.4	0	40.5	0.2	0	0.3	0	0.4	2.6	52.2	0.2	0.1	55	2.4	0	1.7	0	4.1	

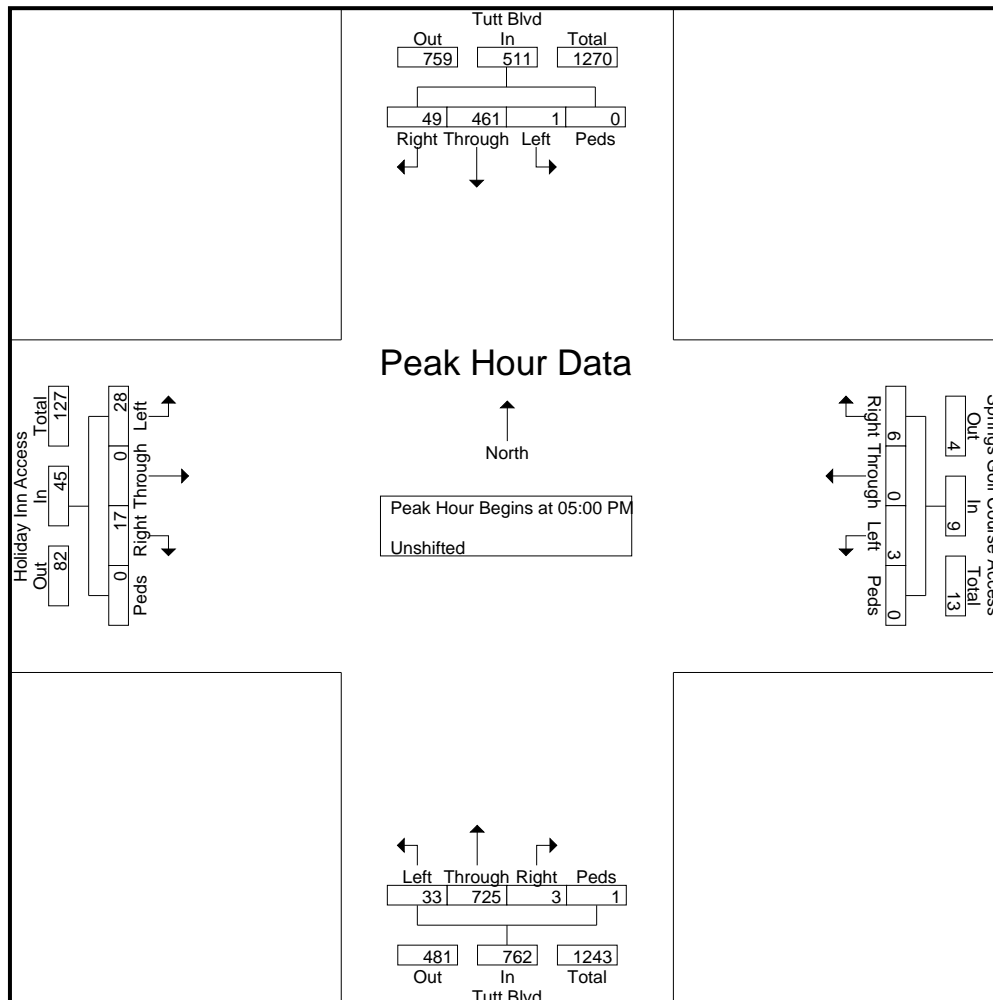


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Golf Course View PM  
 Site Code : 194500  
 Start Date : 5/22/2019  
 Page No : 2

Start Time	Tutt Blvd Southbound					Springs Golf Course Access Westbound					Tutt Blvd Northbound					Holiday Inn Access Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	106	8	0	115	0	0	1	0	1	12	204	0	0	216	6	0	3	0	9	341
05:15 PM	0	122	14	0	136	1	0	2	0	3	4	181	1	1	187	8	0	3	0	11	337
05:30 PM	0	111	14	0	125	2	0	1	0	3	7	177	2	0	186	9	0	4	0	13	327
05:45 PM	0	122	13	0	135	0	0	2	0	2	10	163	0	0	173	5	0	7	0	12	322
Total Volume	1	461	49	0	511	3	0	6	0	9	33	725	3	1	762	28	0	17	0	45	1327
% App. Total	0.2	90.2	9.6	0		33.3	0	66.7	0		4.3	95.1	0.4	0.1		62.2	0	37.8	0		
PHF	.250	.945	.875	.000	.939	.375	.000	.750	.000	.750	.688	.888	.375	.250	.882	.778	.000	.607	.000	.865	.973





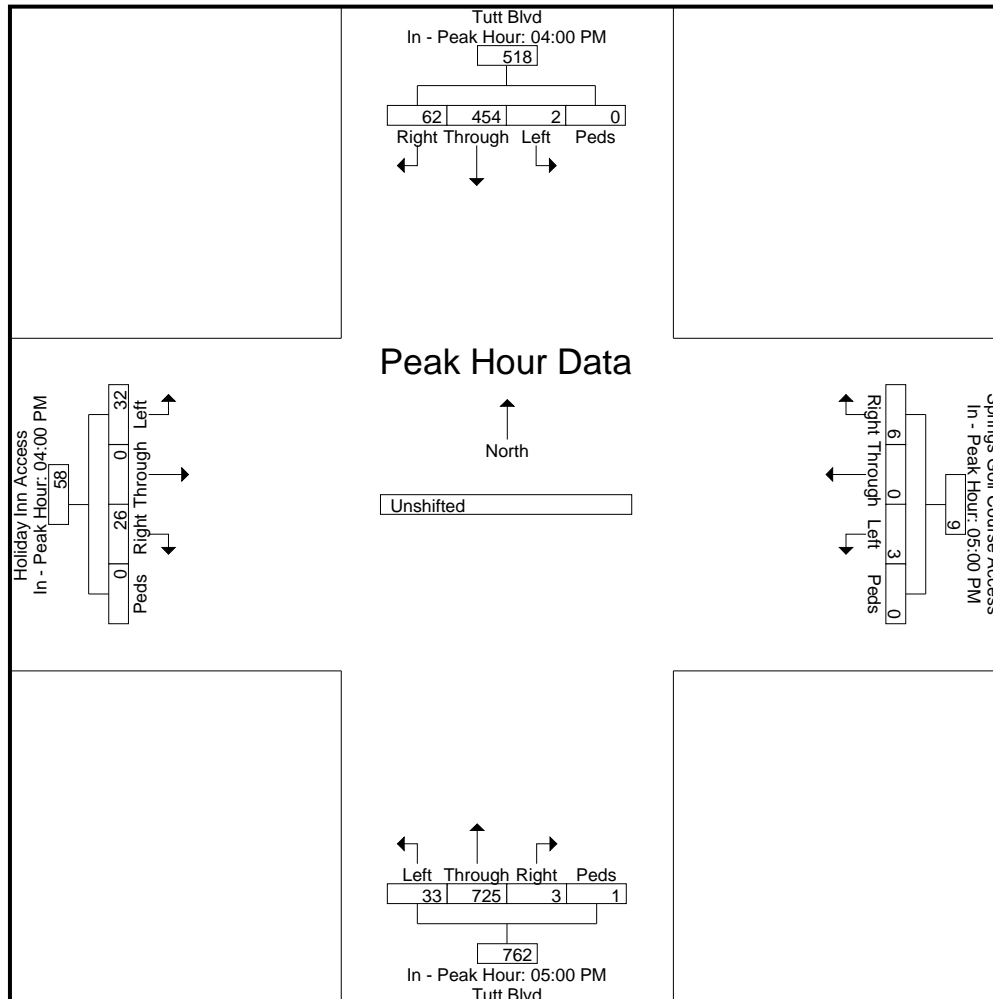


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Tutt Blvd - Golf Course View PM  
 Site Code : 194500  
 Start Date : 5/22/2019  
 Page No : 3

Start Time	Tutt Blvd Southbound					Springs Golf Course Access Westbound					Tutt Blvd Northbound					Holiday Inn Access Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					05:00 PM					05:00 PM					04:00 PM					
+0 mins.	0	111	15	0	126	0	0	1	0	1	12	204	0	0	216	10	0	10	0	20	
+15 mins.	0	122	14	0	136	1	0	2	0	3	4	181	1	1	187	6	0	7	0	13	
+30 mins.	2	104	14	0	120	2	0	1	0	3	7	177	2	0	186	6	0	3	0	9	
+45 mins.	0	117	19	0	136	0	0	2	0	2	10	163	0	0	173	10	0	6	0	16	
Total Volume	2	454	62	0	518	3	0	6	0	9	33	725	3	1	762	32	0	26	0	58	
% App. Total	0.4	87.6	12	0		33.3	0	66.7	0		4.3	95.1	0.4	0.1		55.2	0	44.8	0		
PHF	.250	.930	.816	.000	.952	.375	.000	.750	.000	.750	.688	.888	.375	.250	.882	.800	.000	.650	.000	.725	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Showhorse Ct - N Carefree Cir AM  
 Site Code : 00194500  
 Start Date : 6/27/2019  
 Page No : 1

## Groups Printed- Unshifted

Start Time	Showhorse Ct Southbound					N Carefree Cir Westbound					Showhorse Ct Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	4	0	0	0	4	5	51	0	0	56	1	0	17	0	18	0	146	0	0	146	224
06:45 AM	2	0	1	0	3	1	63	0	0	64	2	0	12	0	14	0	147	0	0	147	228
Total	6	0	1	0	7	6	114	0	0	120	3	0	29	0	32	0	293	0	0	293	452
07:00 AM	1	0	0	0	1	1	71	1	0	73	1	0	13	0	14	0	171	1	0	172	260
07:15 AM	0	0	1	0	1	3	72	1	0	76	1	0	15	0	16	0	207	0	1	208	301
07:30 AM	2	0	0	0	2	3	67	3	0	73	2	0	22	0	24	0	245	1	0	246	345
07:45 AM	3	0	1	0	4	5	86	1	0	92	1	0	13	0	14	0	205	0	0	205	315
Total	6	0	2	0	8	12	296	6	0	314	5	0	63	0	68	0	828	2	1	831	1221
08:00 AM	2	0	0	0	2	1	67	0	0	68	1	0	11	0	12	0	183	3	1	187	269
08:15 AM	2	0	1	0	3	4	73	0	0	77	2	0	8	0	10	0	173	0	0	173	263
Grand Total	16	0	4	0	20	23	550	6	0	579	11	0	111	0	122	0	1477	5	2	1484	2205
Apprch %	80	0	20	0		4	95	1	0		9	0	91	0		0	99.5	0.3	0.1		
Total %	0.7	0	0.2	0	0.9	1	24.9	0.3	0	26.3	0.5	0	5	0	5.5	0	67	0.2	0.1	67.3	

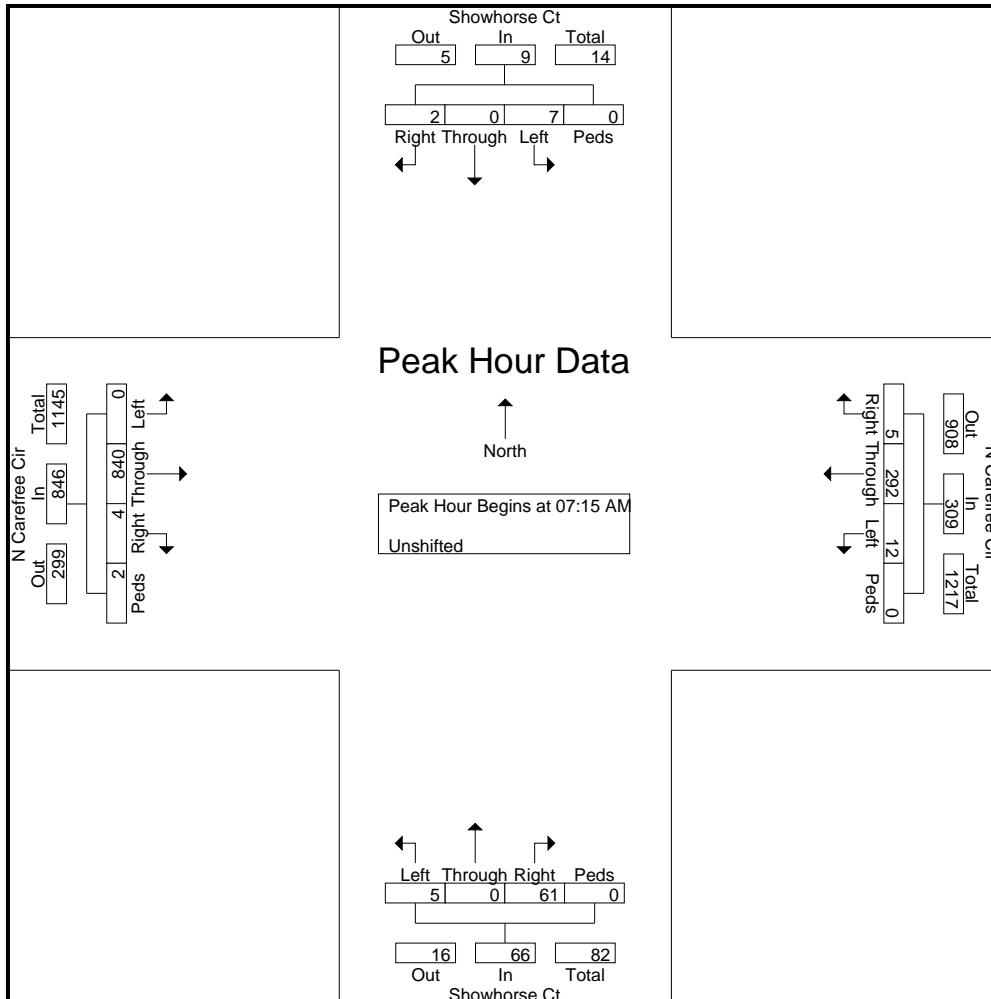


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Showhorse Ct - N Carefree Cir AM  
 Site Code : 00194500  
 Start Date : 6/27/2019  
 Page No : 2

Start Time	Showhorse Ct Southbound					N Carefree Cir Westbound					Showhorse Ct Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	1	0	1	3	72	1	0	76	1	0	15	0	16	0	207	0	1	208	301
07:30 AM	2	0	0	0	2	3	67	3	0	73	2	0	22	0	24	0	245	1	0	246	345
07:45 AM	3	0	1	0	4	5	86	1	0	92	1	0	13	0	14	0	205	0	0	205	315
08:00 AM	2	0	0	0	2	1	67	0	0	68	1	0	11	0	12	0	183	3	1	187	269
Total Volume	7	0	2	0	9	12	292	5	0	309	5	0	61	0	66	0	840	4	2	846	1230
% App. Total	77.8	0	22.2	0		3.9	94.5	1.6	0		7.6	0	92.4	0		0	99.3	0.5	0.2		
PHF	.583	.000	.500	.000	.563	.600	.849	.417	.000	.840	.625	.000	.693	.000	.688	.000	.857	.333	.500	.860	.891



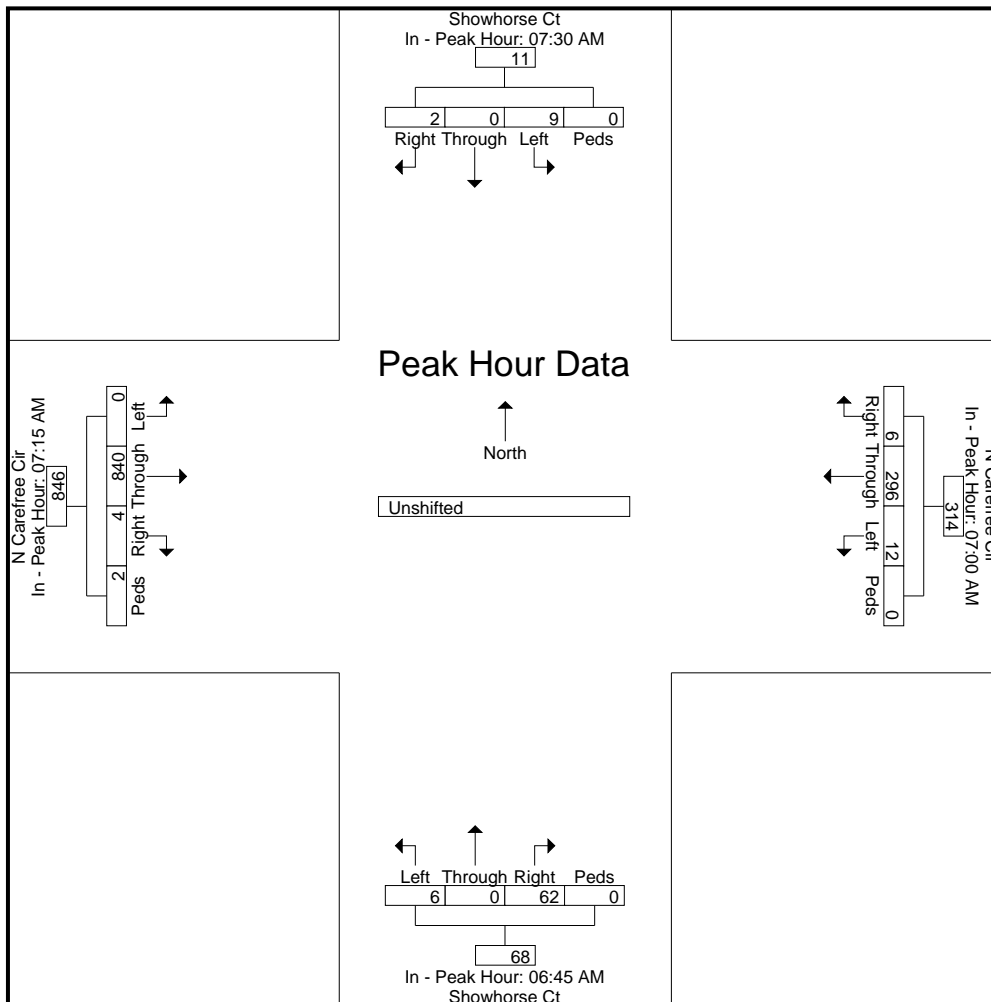


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Showhorse Ct - N Carefree Cir AM  
 Site Code : 00194500  
 Start Date : 6/27/2019  
 Page No : 3

Start Time	Showhorse Ct Southbound					N Carefree Cir Westbound					Showhorse Ct Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	07:30 AM					07:00 AM					06:45 AM					07:15 AM					
+0 mins.	2	0	0	0	2	1	71	1	0	73	2	0	12	0	14	0	207	0	1	208	
+15 mins.	3	0	1	0	4	3	72	1	0	76	1	0	13	0	14	0	245	1	0	246	
+30 mins.	2	0	0	0	2	3	67	3	0	73	1	0	15	0	16	0	205	0	0	205	
+45 mins.	2	0	1	0	3	5	86	1	0	92	2	0	22	0	24	0	183	3	1	187	
Total Volume	9	0	2	0	11	12	296	6	0	314	6	0	62	0	68	0	840	4	2	846	
% App. Total	81.8	0	18.2	0		3.8	94.3	1.9	0		8.8	0	91.2	0		0	99.3	0.5	0.2		
PHF	.750	.000	.500	.000	.688	.600	.860	.500	.000	.853	.750	.000	.705	.000	.708	.000	.857	.333	.500	.860	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Showhorse Ct - N Carefree Cir PM

Site Code : 00194500

Start Date : 6/26/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Showhorse Ct Southbound					N Carefree Cir Westbound					Showhorse Ct Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	2	0	5	0	7	0	175	5	0	180	0	0	0	0	0	10	198	3	2	213	400
04:15 PM	0	0	7	0	7	0	164	6	0	170	0	0	0	0	0	14	255	3	1	273	450
04:30 PM	1	0	9	0	10	0	218	5	1	224	1	0	2	0	3	18	222	6	2	248	485
04:45 PM	0	0	10	0	10	2	213	2	1	218	3	0	1	0	4	14	238	3	2	257	489
Total	3	0	31	0	34	2	770	18	2	792	4	0	3	0	7	56	913	15	7	991	1824
05:00 PM	1	0	7	0	8	0	235	4	0	239	0	0	1	0	1	16	226	2	1	245	493
05:15 PM	0	0	8	0	8	2	236	3	0	241	1	0	2	0	3	22	242	2	2	268	520
05:30 PM	0	0	11	0	11	3	208	6	0	217	2	0	0	0	2	24	274	2	2	302	532
05:45 PM	1	0	11	0	12	1	203	3	0	207	1	0	1	0	2	16	252	5	0	273	494
Total	2	0	37	0	39	6	882	16	0	904	4	0	4	0	8	78	994	11	5	1088	2039
Grand Total	5	0	68	0	73	8	1652	34	2	1696	8	0	7	0	15	134	1907	26	12	2079	3863
Apprch %	6.8	0	93.2	0		0.5	97.4	2	0.1		53.3	0	46.7	0		6.4	91.7	1.3	0.6		
Total %	0.1	0	1.8	0	1.9	0.2	42.8	0.9	0.1	43.9	0.2	0	0.2	0	0.4	3.5	49.4	0.7	0.3	53.8	

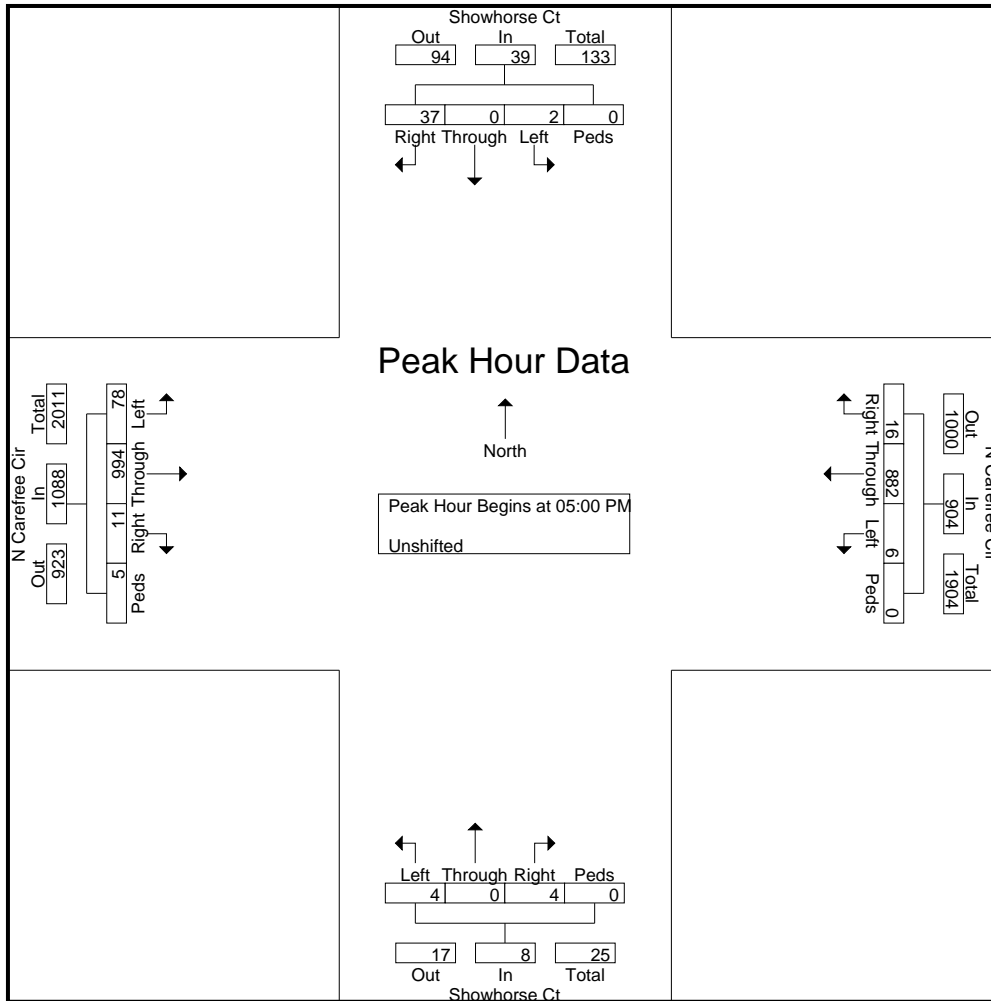


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Showhorse Ct - N Carefree Cir PM  
 Site Code : 00194500  
 Start Date : 6/26/2019  
 Page No : 2

Start Time	Showhorse Ct Southbound					N Carefree Cir Westbound					Showhorse Ct Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	7	0	8	0	235	4	0	239	0	0	1	0	1	16	226	2	1	245	493
05:15 PM	0	0	8	0	8	2	<b>236</b>	3	0	<b>241</b>	1	0	<b>2</b>	0	<b>3</b>	22	242	2	<b>2</b>	268	520
05:30 PM	0	0	<b>11</b>	0	<b>11</b>	<b>3</b>	208	<b>6</b>	0	217	<b>2</b>	0	0	0	<b>2</b>	<b>24</b>	<b>274</b>	<b>2</b>	2	<b>302</b>	<b>532</b>
05:45 PM	1	0	11	0	<b>12</b>	1	203	3	0	207	1	0	1	0	2	16	252	<b>5</b>	0	273	494
Total Volume	2	0	37	0	39	6	882	16	0	904	4	0	4	0	8	78	994	11	5	1088	2039
% App. Total	5.1	0	94.9	0		0.7	97.6	1.8	0		50	0	50	0		7.2	91.4	1	0.5		
PHF	.500	.000	.841	.000	.813	.500	.934	.667	.000	.938	.500	.000	.500	.000	.667	.813	.907	.550	.625	.901	.958



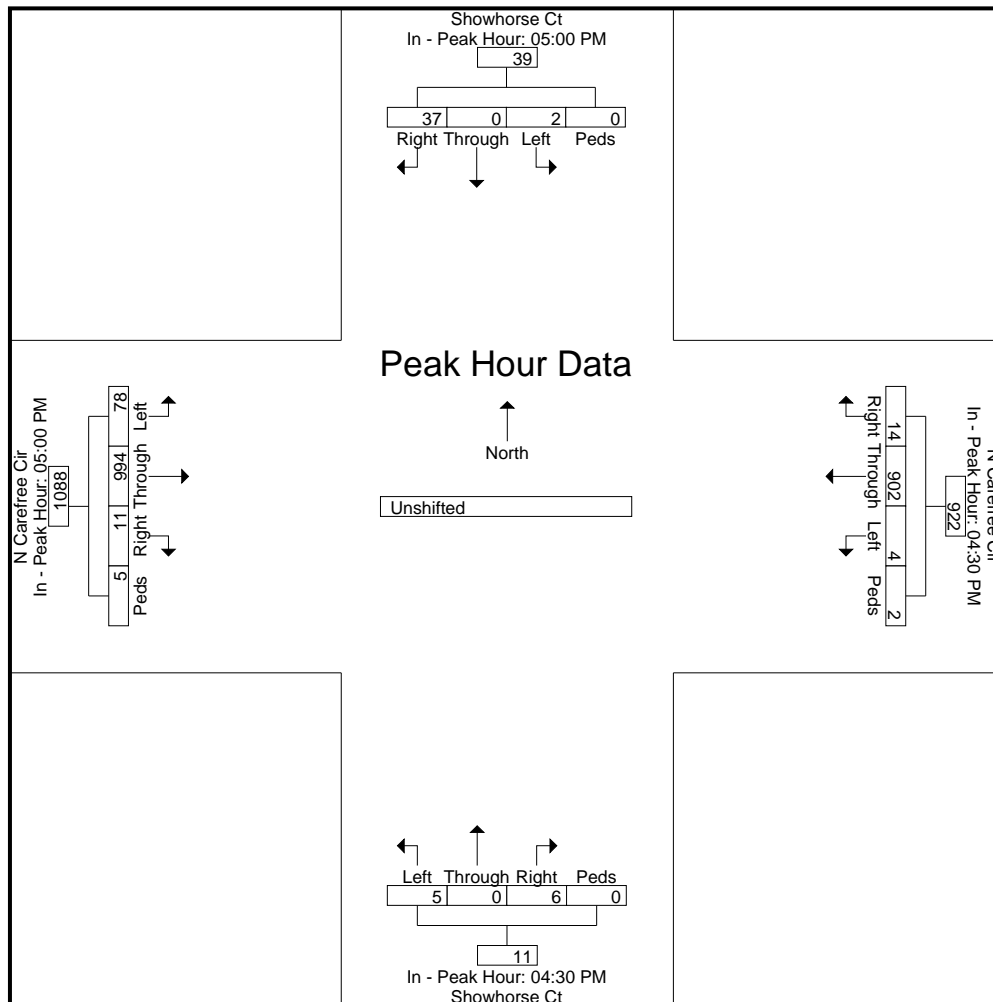


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Showhorse Ct - N Carefree Cir PM  
 Site Code : 00194500  
 Start Date : 6/26/2019  
 Page No : 3

Start Time	Showhorse Ct Southbound					N Carefree Cir Westbound					Showhorse Ct Northbound					N Carefree Cir Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					04:30 PM					04:30 PM					05:00 PM					
+0 mins.	1	0	7	0	8	0	218	5	1	224	1	0	2	0	3	16	226	2	1	245	
+15 mins.	0	0	8	0	8	2	213	2	1	218	3	0	1	0	4	22	242	2	2	268	
+30 mins.	0	0	11	0	11	0	235	4	0	239	0	0	1	0	1	24	274	2	2	302	
+45 mins.	1	0	11	0	12	2	236	3	0	241	1	0	2	0	3	16	252	5	0	273	
Total Volume	2	0	37	0	39	4	902	14	2	922	5	0	6	0	11	78	994	11	5	1088	
% App. Total	5.1	0	94.9	0		0.4	97.8	1.5	0.2		45.5	0	54.5	0		7.2	91.4	1	0.5		
PHF	.500	.000	.841	.000	.813	.500	.956	.700	.500	.956	.417	.000	.750	.000	.688	.813	.907	.550	.625	.901	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Piros Dr - Pony Tracks Dr AM  
 Site Code : 00194500  
 Start Date : 6/25/2019  
 Page No : 1

## Groups Printed- Unshifted

Start Time	Piros Dr Southbound					Pony Tracks Dr Westbound					Piros Dr Northbound					Pony Tracks Dr Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	0	0	1	0	1	2	1	0	0	3	0	0	2	0	2	1	3	3	0	7	13
06:45 AM	0	1	0	0	1	2	1	0	0	3	0	0	3	0	3	0	4	6	0	10	17
Total	0	1	1	0	2	4	2	0	0	6	0	0	5	0	5	1	7	9	0	17	30
07:00 AM	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	0	4	4	0	8	11
07:15 AM	0	1	2	0	3	4	0	0	0	4	3	0	1	0	4	0	1	3	0	4	15
07:30 AM	0	2	1	0	3	1	0	0	0	1	3	0	0	0	3	0	4	4	0	8	15
07:45 AM	0	0	2	0	2	0	0	0	0	0	1	0	3	0	4	1	4	6	0	11	17
Total	1	3	5	0	9	6	0	0	0	6	8	0	4	0	12	1	13	17	0	31	58
08:00 AM	0	2	0	0	2	2	2	0	0	4	2	0	1	0	3	0	1	6	0	7	16
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	1	1	2	0	4	7
Grand Total	1	6	6	0	13	12	4	0	0	16	11	1	11	0	23	3	22	34	0	59	111
Apprch %	7.7	46.2	46.2	0		75	25	0	0		47.8	4.3	47.8	0		5.1	37.3	57.6	0		
Total %	0.9	5.4	5.4	0	11.7	10.8	3.6	0	0	14.4	9.9	0.9	9.9	0	20.7	2.7	19.8	30.6	0	53.2	



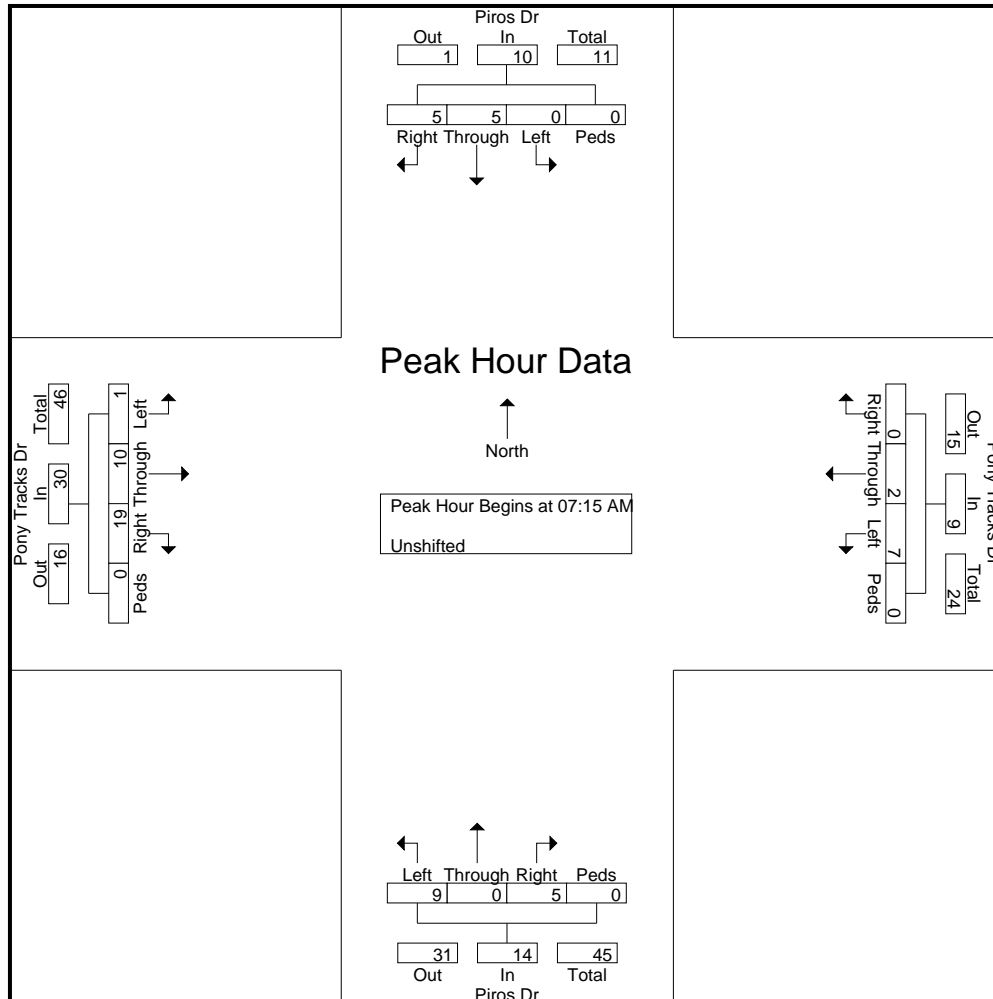


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Piros Dr - Pony Tracks Dr AM  
 Site Code : 00194500  
 Start Date : 6/25/2019  
 Page No : 2

Start Time	Piros Dr Southbound					Pony Tracks Dr Westbound					Piros Dr Northbound					Pony Tracks Dr Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	1	2	0	3	4	0	0	0	4	3	0	1	0	4	0	1	3	0	4	15
07:30 AM	0	2	1	0	3	1	0	0	0	1	3	0	0	0	3	0	4	4	0	8	15
07:45 AM	0	0	2	0	2	0	0	0	0	0	1	0	3	0	4	1	4	6	0	11	17
08:00 AM	0	2	0	0	2	2	2	0	0	4	2	0	1	0	3	0	1	6	0	7	16
Total Volume	0	5	5	0	10	7	2	0	0	9	9	0	5	0	14	1	10	19	0	30	63
% App. Total	0	50	50	0		77.8	22.2	0	0		64.3	0	35.7	0		3.3	33.3	63.3	0		
PHF	.000	.625	.625	.000	.833	.438	.250	.000	.000	.563	.750	.000	.417	.000	.875	.250	.625	.792	.000	.682	.926



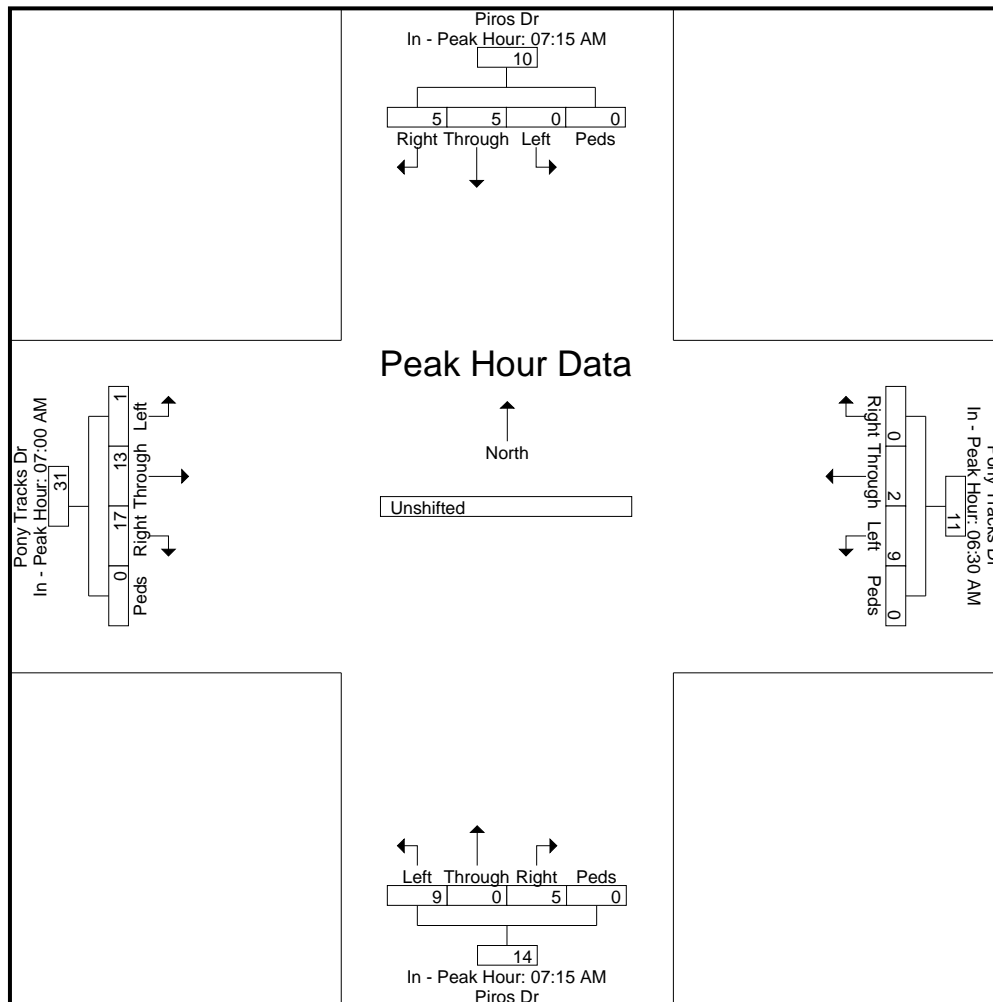


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Piros Dr - Pony Tracks Dr AM  
 Site Code : 00194500  
 Start Date : 6/25/2019  
 Page No : 3

Start Time	Piros Dr Southbound					Pony Tracks Dr Westbound					Piros Dr Northbound					Pony Tracks Dr Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					06:30 AM					07:15 AM					07:00 AM					
+0 mins.	0	1	2	0	3	2	1	0	0	3	3	0	1	0	4	0	4	4	0	8	
+15 mins.	0	2	1	0	3	2	1	0	0	3	3	0	0	0	3	0	1	3	0	4	
+30 mins.	0	0	2	0	2	1	0	0	0	1	1	0	3	0	4	0	4	4	0	8	
+45 mins.	0	2	0	0	2	4	0	0	0	4	2	0	1	0	3	1	4	6	0	11	
Total Volume	0	5	5	0	10	9	2	0	0	11	9	0	5	0	14	1	13	17	0	31	
% App. Total	0	50	50	0		81.8	18.2	0	0		64.3	0	35.7	0		3.2	41.9	54.8	0		
PHF	.000	.625	.625	.000	.833	.563	.500	.000	.000	.688	.750	.000	.417	.000	.875	.250	.813	.708	.000	.705	





# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Piros Dr - Pony Tracks Dr PM  
 Site Code : 00194500  
 Start Date : 6/27/2019  
 Page No : 1

## Groups Printed- Unshifted

Start Time	Piros Dr Southbound					Pony Tracks Dr Westbound					Piros Dr Northbound					Pony Tracks Dr Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	0	0	0	0	0	6	5	1	0	12	6	1	0	0	7	0	1	4	0	5	24
04:15 PM	0	0	0	0	0	3	3	0	0	6	6	1	1	0	8	0	1	5	0	6	20
04:30 PM	0	1	0	0	1	2	1	0	0	3	12	2	1	0	15	0	0	2	0	2	21
04:45 PM	0	0	1	0	1	4	3	0	0	7	5	2	2	0	9	1	1	11	0	13	30
Total	0	1	1	0	2	15	12	1	0	28	29	6	4	0	39	1	3	22	0	26	95
05:00 PM	0	0	0	0	0	2	5	1	0	8	7	1	1	0	9	0	2	2	0	4	21
05:15 PM	2	3	2	0	7	3	0	0	0	3	11	1	3	1	16	1	1	5	0	7	33
05:30 PM	0	4	0	0	4	4	3	0	0	7	5	1	1	0	7	1	3	2	0	6	24
05:45 PM	0	2	1	0	3	3	3	0	0	6	6	1	1	0	8	0	1	1	0	2	19
Total	2	9	3	0	14	12	11	1	0	24	29	4	6	1	40	2	7	10	0	19	97
Grand Total	2	10	4	0	16	27	23	2	0	52	58	10	10	1	79	3	10	32	0	45	192
Apprch %	12.5	62.5	25	0		51.9	44.2	3.8	0		73.4	12.7	12.7	1.3		6.7	22.2	71.1	0		
Total %	1	5.2	2.1	0	8.3	14.1	12	1	0	27.1	30.2	5.2	5.2	0.5	41.1	1.6	5.2	16.7	0	23.4	

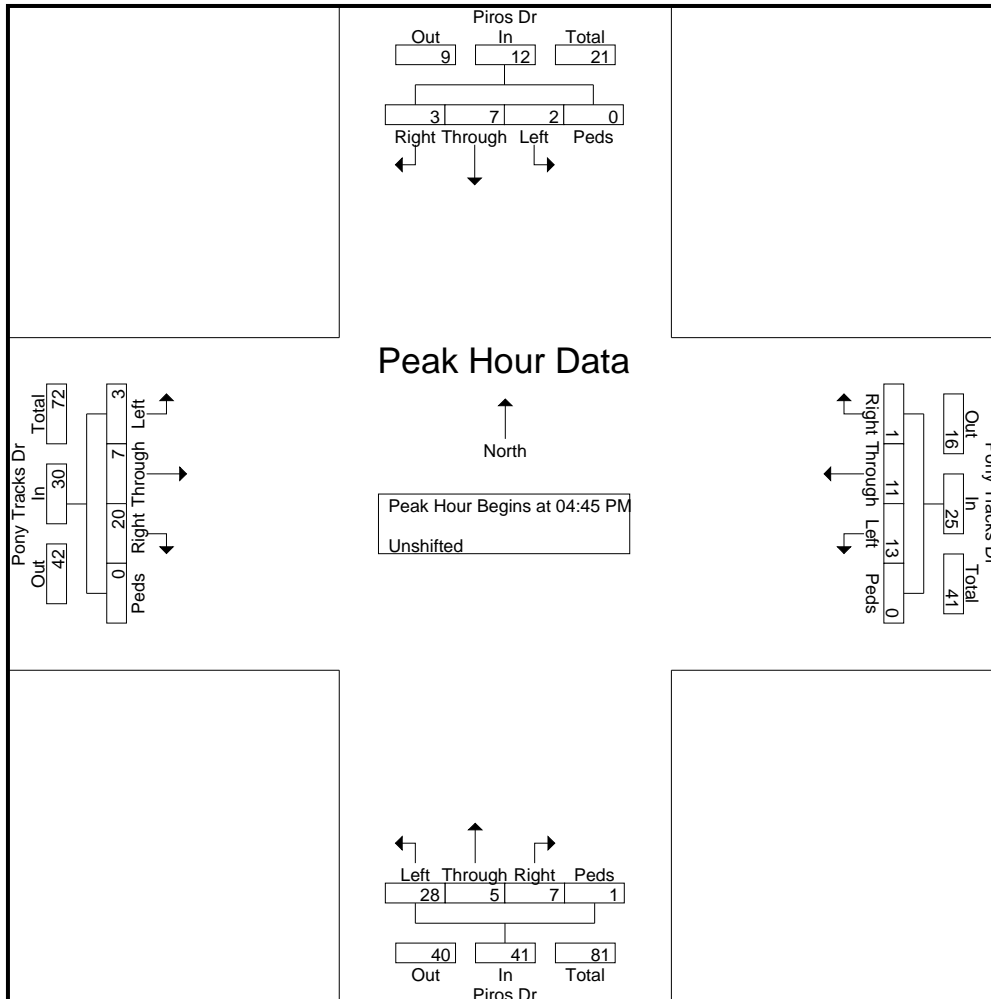


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Piros Dr - Pony Tracks Dr PM  
 Site Code : 00194500  
 Start Date : 6/27/2019  
 Page No : 2

Start Time	Piros Dr Southbound					Pony Tracks Dr Westbound					Piros Dr Northbound					Pony Tracks Dr Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	1	0	1	4	3	0	0	7	5	2	2	0	9	1	1	11	0	13	30
05:00 PM	0	0	0	0	0	2	5	1	0	8	7	1	1	0	9	0	2	2	0	4	21
05:15 PM	2	3	2	0	7	3	0	0	0	3	11	1	3	1	16	1	1	5	0	7	33
05:30 PM	0	4	0	0	4	4	3	0	0	7	5	1	1	0	7	1	3	2	0	6	24
Total Volume	2	7	3	0	12	13	11	1	0	25	28	5	7	1	41	3	7	20	0	30	108
% App. Total	16.7	58.3	25	0		52	44	4	0		68.3	12.2	17.1	2.4		10	23.3	66.7	0		
PHF	.250	.438	.375	.000	.429	.813	.550	.250	.000	.781	.636	.625	.583	.250	.641	.750	.583	.455	.000	.577	.818



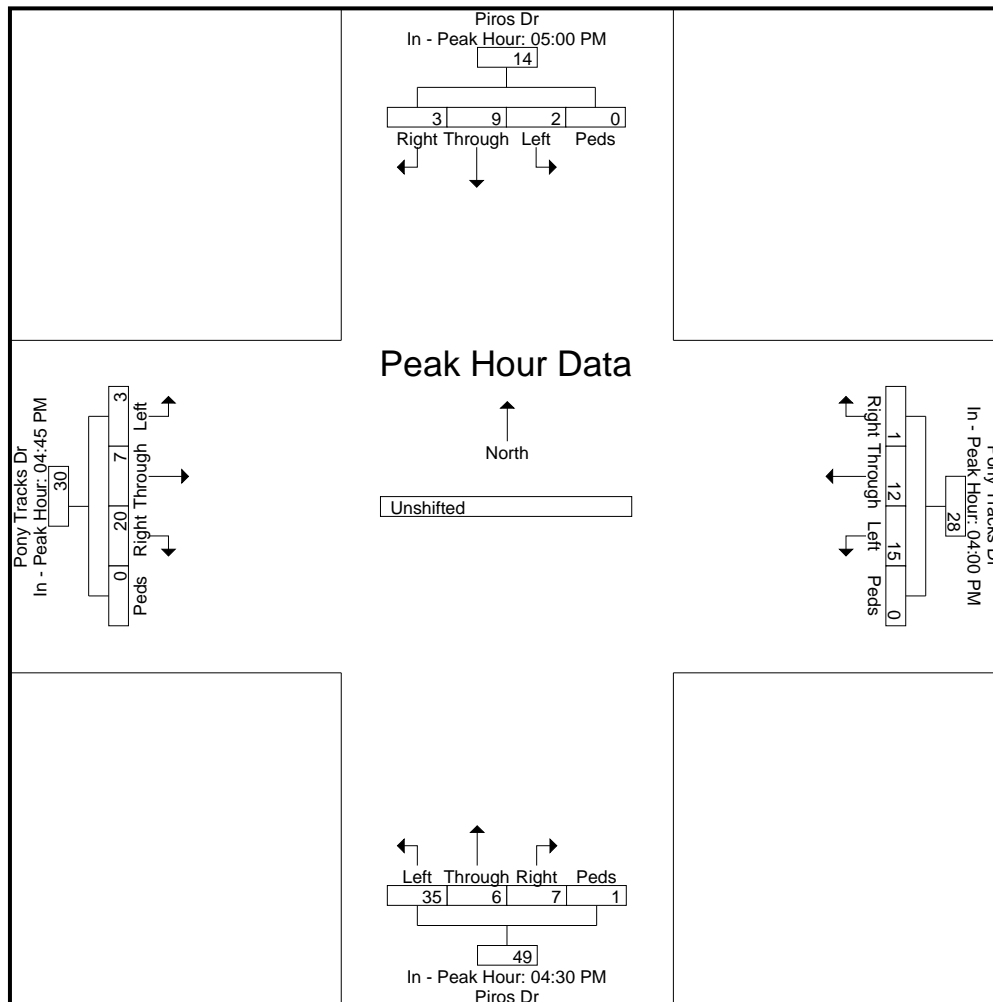


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

























File Name : Piros Dr - Pony Tracks Dr PM  
 Site Code : 00194500  
 Start Date : 6/27/2019  
 Page No : 3

Start Time	Piros Dr Southbound					Pony Tracks Dr Westbound					Piros Dr Northbound					Pony Tracks Dr Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					04:00 PM					04:30 PM					04:45 PM					
+0 mins.	0	0	0	0	0	6	5	1	0	12	12	2	1	0	15	1	1	11	0	13	
+15 mins.	2	3	2	0	7	3	3	0	0	6	5	2	2	0	9	0	2	2	0	4	
+30 mins.	0	4	0	0	4	2	1	0	0	3	7	1	1	0	9	1	1	5	0	7	
+45 mins.	0	2	1	0	3	4	3	0	0	7	11	1	3	1	16	1	3	2	0	6	
Total Volume	2	9	3	0	14	15	12	1	0	28	35	6	7	1	49	3	7	20	0	30	
% App. Total	14.3	64.3	21.4	0		53.6	42.9	3.6	0		71.4	12.2	14.3	2		10	23.3	66.7	0		
PHF	.250	.563	.375	.000	.500	.625	.600	.250	.000	.583	.729	.750	.583	.250	.766	.750	.583	.455	.000	.577	



Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

2019 Existing  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	304	175	129	763	95	41	94	41	58	185	68
Future Volume (vph)	67	304	175	129	763	95	41	94	41	58	185	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.342			0.950			0.564			0.656		
Satd. Flow (perm)	637	5085	1583	1770	5085	1583	1051	3539	1583	1222	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175			98			97			97
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	0.97	0.97	0.97	0.79	0.79	0.79	0.98	0.98	0.98
Adj. Flow (vph)	67	304	175	133	787	98	52	119	52	59	189	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	304	175	133	787	98	52	119	52	59	189	69
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

2019 Existing  
AM

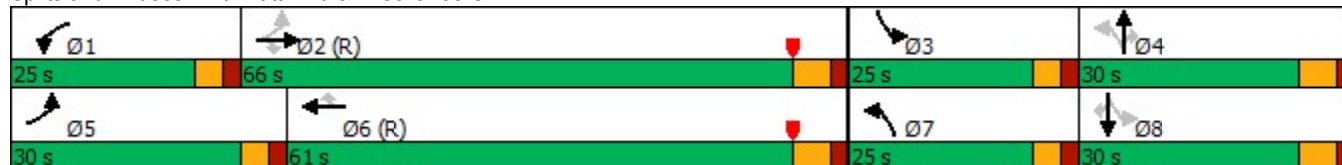


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	30.0	66.0	66.0	25.0	61.0	61.0	25.0	30.0	30.0	25.0	30.0	30.0
Total Split (%)	20.5%	45.2%	45.2%	17.1%	41.8%	41.8%	17.1%	20.5%	20.5%	17.1%	20.5%	20.5%
Maximum Green (s)	25.0	60.0	60.0	20.0	55.0	55.0	20.0	24.0	24.0	20.0	24.0	24.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	95.9	87.8	87.8	16.2	99.1	99.1	21.6	12.7	12.7	22.4	13.1	13.1
Actuated g/C Ratio	0.66	0.60	0.60	0.11	0.68	0.68	0.15	0.09	0.09	0.15	0.09	0.09
v/c Ratio	0.14	0.10	0.17	0.68	0.23	0.09	0.26	0.39	0.23	0.26	0.60	0.30
Control Delay	7.8	12.1	10.5	79.0	10.6	2.3	50.7	66.1	2.6	50.8	71.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	12.1	10.5	79.0	10.6	2.3	50.7	66.1	2.6	50.8	71.5	7.5
LOS	A	B	B	E	B	A	D	E	A	D	E	A
Approach Delay		11.1			18.7			47.7			53.7	
Approach LOS		B			B			D			D	

Intersection Summary

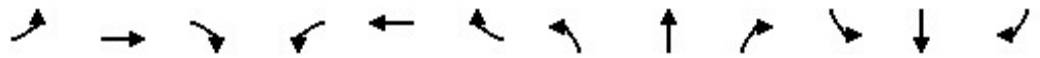
Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 64 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 25.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 45.2%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2019 Existing  
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	521	84	71	1039	126	50	31	14	100	55	158
Future Volume (vph)	67	521	84	71	1039	126	50	31	14	100	55	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979				0.850		0.953				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4979	0	1770	5085	1583	1770	1775	0	1770	1863	1583
Flt Permitted	0.206			0.375			0.721			0.641		
Satd. Flow (perm)	384	4979	0	699	5085	1583	1343	1775	0	1194	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				124		13				158
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.74	0.74	0.74	1.00	1.00	1.00
Adj. Flow (vph)	69	537	87	76	1105	134	68	42	19	100	55	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	624	0	76	1105	134	68	61	0	100	55	158
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2019 Existing  
AM

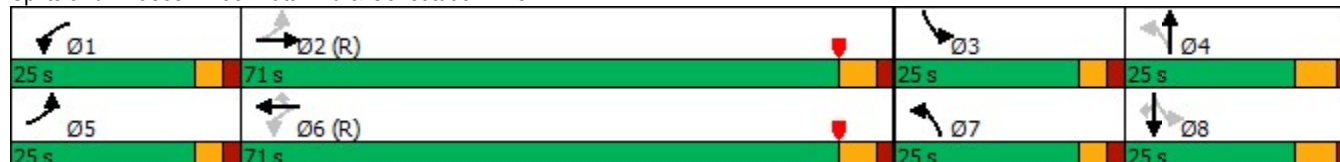


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	71.0		25.0	71.0	71.0	25.0	25.0		25.0	25.0	25.0
Total Split (%)	17.1%	48.6%		17.1%	48.6%	48.6%	17.1%	17.1%		17.1%	17.1%	17.1%
Maximum Green (s)	20.0	65.0		20.0	65.0	65.0	20.0	18.5		20.0	18.5	18.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	85.8	77.1		87.2	79.5	79.5	38.0	26.9		42.8	31.2	31.2
Actuated g/C Ratio	0.59	0.53		0.60	0.54	0.54	0.26	0.18		0.29	0.21	0.21
v/c Ratio	0.23	0.24		0.16	0.40	0.15	0.18	0.18		0.25	0.14	0.34
Control Delay	11.0	13.5		11.7	20.4	3.9	38.0	42.7		39.0	50.4	9.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	11.0	13.5		11.7	20.4	3.9	38.0	42.7		39.0	50.4	9.4
LOS	B	B		B	C	A	D	D		D	D	A
Approach Delay		13.3			18.2			40.2			26.1	
Approach LOS		B			B			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 137 (94%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 19.0  
 Intersection LOS: B  
 Intersection Capacity Utilization 50.6%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	61	292	5	2	840	4	7	0	0	5	0	12
Future Vol, veh/h	61	292	5	2	840	4	7	0	0	5	0	12
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	100	100	100	69	69	69	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	340	6	2	840	4	10	0	0	5	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	844	0	0	346	0	0	822	1330	170	1122	1332	420
Stage 1	-	-	-	-	-	-	482	482	-	844	844	-
Stage 2	-	-	-	-	-	-	340	848	-	278	488	-
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	465	-	-	799	-	-	325	153	718	217	153	497
Stage 1	-	-	-	-	-	-	451	552	-	255	377	-
Stage 2	-	-	-	-	-	-	594	376	-	647	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	465	-	-	799	-	-	280	129	718	191	129	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	129	-	191	129	-
Stage 1	-	-	-	-	-	-	382	468	-	216	376	-
Stage 2	-	-	-	-	-	-	578	375	-	548	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0	18.3	15.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	280	465	-	-	799	-	-	191	497
HCM Lane V/C Ratio	0.036	0.153	-	-	0.003	-	-	0.026	0.024
HCM Control Delay (s)	18.3	14.1	-	-	9.5	-	-	24.4	12.4
HCM Lane LOS	C	B	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	0.1	0.1

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	37	30	151	266	70
Future Vol, veh/h	34	37	30	151	266	70
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	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	37	30	151	271	71

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	518	307	342	0	-	0
Stage 1	307	-	-	-	-	-
Stage 2	211	-	-	-	-	-
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	518	733	1217	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	505	733	1217	-	-	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1217	-	580	733	-	-
HCM Lane V/C Ratio	0.025	-	0.059	0.05	-	-
HCM Control Delay (s)	8	-	11.6	10.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	0.2	-	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↔		↔	↔	
Traffic Vol, veh/h	3	0	11	1	0	1	10	179	4	24	383	21
Future Vol, veh/h	3	0	11	1	0	1	10	179	4	24	383	21
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	-	-	-	25	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	11	2	0	2	10	179	4	29	456	25

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	729	730	469	733	740	181	481	0	0	183	0	0
Stage 1	527	527	-	201	201	-	-	-	-	-	-	-
Stage 2	202	203	-	532	539	-	-	-	-	-	-	-
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	338	349	594	336	345	862	1082	-	-	1392	-	-
Stage 1	535	528	-	801	735	-	-	-	-	-	-	-
Stage 2	800	733	-	531	522	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	330	339	594	322	335	862	1082	-	-	1392	-	-
Mov Cap-2 Maneuver	330	339	-	322	335	-	-	-	-	-	-	-
Stage 1	530	517	-	794	728	-	-	-	-	-	-	-
Stage 2	791	726	-	510	511	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.2		12.7		0.4		0.4	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1082	-	-	330	594	469	1392	-	-
HCM Lane V/C Ratio	0.009	-	-	0.009	0.019	0.009	0.021	-	-
HCM Control Delay (s)	8.4	-	-	16	11.2	12.7	7.6	-	-
HCM Lane LOS	A	-	-	C	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	0.1	-	-

**Intersection**

Int Delay, s/veh 4.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	10	19	7	2	0	9	0	5	0	5	5
Future Vol, veh/h	1	10	19	7	2	0	9	0	5	0	5	5
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	88	88	88	68	68	68	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	10	19	8	2	0	13	0	7	0	6	6

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	2	0	0	29	0	0	46	40	20	43	49	2
Stage 1	-	-	-	-	-	-	22	22	-	18	18	-
Stage 2	-	-	-	-	-	-	24	18	-	25	31	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1620	-	-	1584	-	-	955	852	1058	960	843	1082
Stage 1	-	-	-	-	-	-	996	877	-	1001	880	-
Stage 2	-	-	-	-	-	-	994	880	-	993	869	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1620	-	-	1584	-	-	941	847	1058	949	838	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	941	847	-	949	838	-
Stage 1	-	-	-	-	-	-	995	876	-	1000	876	-
Stage 2	-	-	-	-	-	-	977	876	-	985	868	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	5.7	8.8	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	980	1584	-	-	1620	-	944
HCM Lane V/C Ratio	0.021	0.005	-	-	0.001	-	0.012
HCM Control Delay (s)	8.8	7.3	0	-	7.2	0	8.9
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

2019 Existing  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	693	40	135	604	150	86	387	174	211	314	216
Future Volume (vph)	218	693	40	135	604	150	86	387	174	211	314	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.405			0.950			0.432			0.294		
Satd. Flow (perm)	754	5085	1583	1770	5085	1583	805	3539	1583	548	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			155			174			216
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	0.89	0.89	0.89	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	245	779	45	139	623	155	86	387	174	211	314	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	779	45	139	623	155	86	387	174	211	314	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

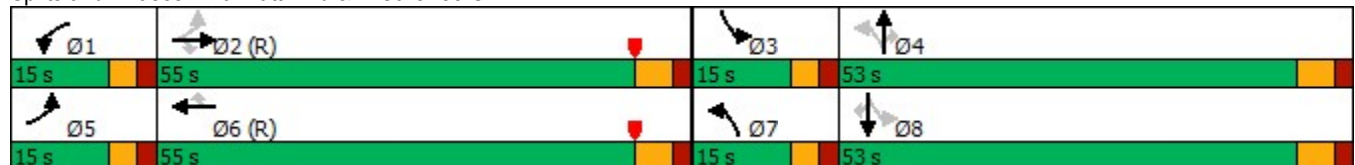
2019 Existing  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	15.0	55.0	55.0	15.0	55.0	55.0	15.0	53.0	53.0	15.0	53.0	53.0
Total Split (%)	10.9%	39.9%	39.9%	10.9%	39.9%	39.9%	10.9%	38.4%	38.4%	10.9%	38.4%	38.4%
Maximum Green (s)	10.0	49.0	49.0	10.0	49.0	49.0	10.0	47.0	47.0	10.0	47.0	47.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	79.1	64.7	64.7	20.0	71.3	71.3	31.5	21.3	21.3	33.1	22.1	22.1
Actuated g/C Ratio	0.57	0.47	0.47	0.14	0.52	0.52	0.23	0.15	0.15	0.24	0.16	0.16
v/c Ratio	0.46	0.33	0.06	0.54	0.24	0.17	0.35	0.71	0.45	0.96	0.55	0.50
Control Delay	13.7	24.1	0.1	63.3	19.7	3.7	41.5	62.4	10.3	96.5	56.9	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	24.1	0.1	63.3	19.7	3.7	41.5	62.4	10.3	96.5	56.9	10.0
LOS	B	C	A	E	B	A	D	E	B	F	E	B
Approach Delay		20.7			23.6			45.6			54.5	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 91 (66%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 33.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 64.5%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2019 Existing  
PM

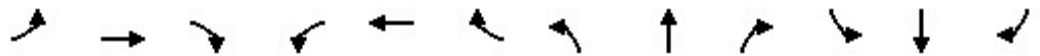


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	911	52	98	667	199	117	195	48	236	82	145
Future Volume (vph)	240	911	52	98	667	199	117	195	48	236	82	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5045	0	1770	5085	1583	1770	1807	0	1770	1863	1583
Flt Permitted	0.324			0.250			0.692			0.194		
Satd. Flow (perm)	604	5045	0	466	5085	1583	1289	1807	0	361	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				203		7				177
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	250	949	54	100	681	203	122	203	50	288	100	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	250	1003	0	100	681	203	122	253	0	288	100	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2019 Existing  
PM

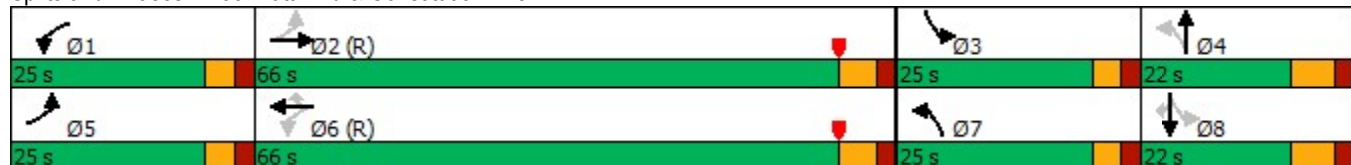


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	66.0		25.0	66.0	66.0	25.0	22.0		25.0	22.0	22.0
Total Split (%)	18.1%	47.8%		18.1%	47.8%	47.8%	18.1%	15.9%		18.1%	15.9%	15.9%
Maximum Green (s)	20.0	60.0		20.0	60.0	60.0	20.0	15.5		20.0	15.5	15.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	85.7	71.4		75.5	65.9	65.9	29.8	15.6		41.5	22.8	22.8
Actuated g/C Ratio	0.62	0.52		0.55	0.48	0.48	0.22	0.11		0.30	0.17	0.17
v/c Ratio	0.51	0.38		0.30	0.28	0.24	0.38	1.20		0.93	0.32	0.43
Control Delay	15.3	20.6		13.4	22.5	3.5	40.2	176.0		76.2	55.5	10.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	15.3	20.6		13.4	22.5	3.5	40.2	176.0		76.2	55.5	10.8
LOS	B	C		B	C	A	D	F		E	E	B
Approach Delay		19.5			17.7			131.9			52.1	
Approach LOS		B			B			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 120 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.20  
 Intersection Signal Delay: 38.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	78	994	11	6	882	16	4	0	4	2	0	37
Future Vol, veh/h	78	994	11	6	882	16	4	0	4	2	0	37
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	100	100	100	100	100	100	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	1104	12	6	882	16	4	0	4	2	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	898	0	0	1116	0	0	1643	2188	552	1510	2184	441
Stage 1	-	-	-	-	-	-	1278	1278	-	894	894	-
Stage 2	-	-	-	-	-	-	365	910	-	616	1290	-
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	438	-	-	344	-	-	105	45	409	127	45	482
Stage 1	-	-	-	-	-	-	127	235	-	236	358	-
Stage 2	-	-	-	-	-	-	574	352	-	405	232	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	438	-	-	344	-	-	80	35	409	105	35	482
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	35	-	105	35	-
Stage 1	-	-	-	-	-	-	102	188	-	189	352	-
Stage 2	-	-	-	-	-	-	515	346	-	321	186	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			33.6			14.6		
HCM LOS							D			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	134	438	-	-	344	-	-	105	482
HCM Lane V/C Ratio	0.06	0.198	-	-	0.017	-	-	0.021	0.086
HCM Control Delay (s)	33.6	15.2	-	-	15.7	-	-	40	13.2
HCM Lane LOS	D	C	-	-	C	-	-	E	B
HCM 95th %tile Q(veh)	0.2	0.7	-	-	0.1	-	-	0.1	0.3

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	157	83	84	508	385	133
Future Vol, veh/h	157	83	84	508	385	133
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	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	90	90	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	199	105	93	564	385	133

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1202	452	518	0	-	0
Stage 1	452	-	-	-	-	-
Stage 2	750	-	-	-	-	-
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	204	608	1048	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 186	608	1048	-	-	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.8	1.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1048	-	320	608	-	-
HCM Lane V/C Ratio	0.089	-	0.621	0.173	-	-
HCM Control Delay (s)	8.8	-	33	12.2	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	3.9	0.6	-	-

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

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔		↔	↔	
Traffic Vol, veh/h	28	0	17	3	0	6	33	725	3	1	461	49
Future Vol, veh/h	28	0	17	3	0	6	33	725	3	1	461	49
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	-	-	-	25	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	88	88	88	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	17	3	0	6	38	824	3	1	461	49

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1393	1391	486	1398	1414	826	510	0	0	827	0	0
Stage 1	488	488	-	902	902	-	-	-	-	-	-	-
Stage 2	905	903	-	496	512	-	-	-	-	-	-	-
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	119	142	581	118	138	372	1055	-	-	804	-	-
Stage 1	561	550	-	332	356	-	-	-	-	-	-	-
Stage 2	331	356	-	556	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	114	137	581	111	133	372	1055	-	-	804	-	-
Mov Cap-2 Maneuver	114	137	-	111	133	-	-	-	-	-	-	-
Stage 1	541	549	-	320	343	-	-	-	-	-	-	-
Stage 2	314	343	-	539	535	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	33.3		23		0.4		0	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1055	-	-	114	581	209	804	-	-
HCM Lane V/C Ratio	0.036	-	-	0.246	0.029	0.043	0.001	-	-
HCM Control Delay (s)	8.5	-	-	46.6	11.4	23	9.5	-	-
HCM Lane LOS	A	-	-	E	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.1	0.1	0	-	-

Intersection												
Int Delay, s/veh	4.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	7	20	13	11	1	28	5	7	2	7	3
Future Vol, veh/h	3	7	20	13	11	1	28	5	7	2	7	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	64	64	64	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	16	47	20	17	2	28	5	7	2	7	3

























Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	63	0	0	117	113	40	118	135	18
Stage 1	-	-	-	-	-	-	54	54	-	58	58	-
Stage 2	-	-	-	-	-	-	63	59	-	60	77	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1597	-	-	1540	-	-	859	777	1031	858	756	1061
Stage 1	-	-	-	-	-	-	958	850	-	954	847	-
Stage 2	-	-	-	-	-	-	948	846	-	951	831	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1597	-	-	1540	-	-	838	763	1031	837	742	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	838	763	-	837	742	-
Stage 1	-	-	-	-	-	-	953	846	-	949	836	-
Stage 2	-	-	-	-	-	-	925	835	-	934	827	-

Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.7			3.8			9.4			9.5		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	856	1540	-	-	1597	-	819
HCM Lane V/C Ratio	0.047	0.013	-	-	0.004	-	0.015
HCM Control Delay (s)	9.4	7.4	0	-	7.3	0	9.5
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

ST Background  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	304	175	129	763	95	41	94	41	58	185	68
Future Volume (vph)	67	304	175	129	763	95	41	94	41	58	185	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.342			0.950			0.564			0.656		
Satd. Flow (perm)	637	5085	1583	1770	5085	1583	1051	3539	1583	1222	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175			98			97			97
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	0.97	0.97	0.97	0.79	0.79	0.79	0.98	0.98	0.98
Adj. Flow (vph)	67	304	175	133	787	98	52	119	52	59	189	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	304	175	133	787	98	52	119	52	59	189	69
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

ST Background  
AM

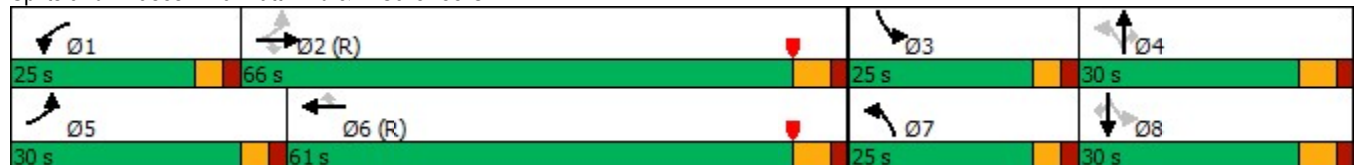


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	30.0	66.0	66.0	25.0	61.0	61.0	25.0	30.0	30.0	25.0	30.0	30.0
Total Split (%)	20.5%	45.2%	45.2%	17.1%	41.8%	41.8%	17.1%	20.5%	20.5%	17.1%	20.5%	20.5%
Maximum Green (s)	25.0	60.0	60.0	20.0	55.0	55.0	20.0	24.0	24.0	20.0	24.0	24.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	95.9	87.8	87.8	16.2	99.1	99.1	21.6	12.7	12.7	22.4	13.1	13.1
Actuated g/C Ratio	0.66	0.60	0.60	0.11	0.68	0.68	0.15	0.09	0.09	0.15	0.09	0.09
v/c Ratio	0.14	0.10	0.17	0.68	0.23	0.09	0.26	0.39	0.23	0.26	0.60	0.30
Control Delay	7.8	12.1	10.5	79.0	10.6	2.3	50.7	66.1	2.6	50.8	71.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	12.1	10.5	79.0	10.6	2.3	50.7	66.1	2.6	50.8	71.5	7.5
LOS	A	B	B	E	B	A	D	E	A	D	E	A
Approach Delay		11.1			18.7			47.7			53.7	
Approach LOS		B			B			D			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 64 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 25.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 45.2%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

ST Background  
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	521	84	71	1039	126	50	31	14	100	55	158
Future Volume (vph)	67	521	84	71	1039	126	50	31	14	100	55	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979				0.850		0.953				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4979	0	1770	5085	1583	1770	1775	0	1770	1863	1583
Flt Permitted	0.206			0.375			0.721			0.641		
Satd. Flow (perm)	384	4979	0	699	5085	1583	1343	1775	0	1194	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				124		13				158
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.74	0.74	0.74	1.00	1.00	1.00
Adj. Flow (vph)	69	537	87	76	1105	134	68	42	19	100	55	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	624	0	76	1105	134	68	61	0	100	55	158
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

ST Background  
AM

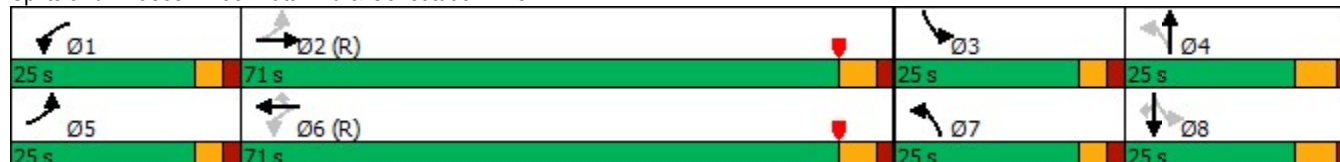


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	71.0		25.0	71.0	71.0	25.0	25.0		25.0	25.0	25.0
Total Split (%)	17.1%	48.6%		17.1%	48.6%	48.6%	17.1%	17.1%		17.1%	17.1%	17.1%
Maximum Green (s)	20.0	65.0		20.0	65.0	65.0	20.0	18.5		20.0	18.5	18.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	85.8	77.1		87.2	79.5	79.5	38.0	26.9		42.8	31.2	31.2
Actuated g/C Ratio	0.59	0.53		0.60	0.54	0.54	0.26	0.18		0.29	0.21	0.21
v/c Ratio	0.23	0.24		0.16	0.40	0.15	0.18	0.18		0.25	0.14	0.34
Control Delay	11.0	13.5		11.7	20.4	3.9	38.0	42.7		39.0	50.4	9.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	11.0	13.5		11.7	20.4	3.9	38.0	42.7		39.0	50.4	9.4
LOS	B	B		B	C	A	D	D		D	D	A
Approach Delay		13.3			18.2			40.2			26.1	
Approach LOS		B			B			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 137 (94%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 19.0  
 Intersection LOS: B  
 Intersection Capacity Utilization 50.6%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	61	292	5	2	840	4	7	0	0	5	0	12
Future Vol, veh/h	61	292	5	2	840	4	7	0	0	5	0	12
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	100	100	100	69	69	69	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	340	6	2	840	4	10	0	0	5	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	844	0	0	346	0	0	822	1330	170	1122	1332	420
Stage 1	-	-	-	-	-	-	482	482	-	844	844	-
Stage 2	-	-	-	-	-	-	340	848	-	278	488	-
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	465	-	-	799	-	-	325	153	718	217	153	497
Stage 1	-	-	-	-	-	-	451	552	-	255	377	-
Stage 2	-	-	-	-	-	-	594	376	-	647	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	465	-	-	799	-	-	280	129	718	191	129	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	129	-	191	129	-
Stage 1	-	-	-	-	-	-	382	468	-	216	376	-
Stage 2	-	-	-	-	-	-	578	375	-	548	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0	18.3	15.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	280	465	-	-	799	-	-	191	497
HCM Lane V/C Ratio	0.036	0.153	-	-	0.003	-	-	0.026	0.024
HCM Control Delay (s)	18.3	14.1	-	-	9.5	-	-	24.4	12.4
HCM Lane LOS	C	B	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	0.1	0.1

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	34	37	30	151	266	70
Future Vol, veh/h	34	37	30	151	266	70
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	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	37	30	151	271	71

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	518	307	342	0	-	0
Stage 1	307	-	-	-	-	-
Stage 2	211	-	-	-	-	-
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	518	733	1217	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	505	733	1217	-	-	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1217	-	580	733	-	-
HCM Lane V/C Ratio	0.025	-	0.059	0.05	-	-
HCM Control Delay (s)	8	-	11.6	10.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	0.2	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	3	11	10	179	383	21
Future Vol, veh/h	3	11	10	179	383	21
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	0	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	11	10	179	456	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	668	469	481	0	-	0
Stage 1	469	-	-	-	-	-
Stage 2	199	-	-	-	-	-
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	423	594	1082	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	419	594	1082	-	-	-
Mov Cap-2 Maneuver	508	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	835	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1082	-	508	594	-	-
HCM Lane V/C Ratio	0.009	-	0.006	0.019	-	-
HCM Control Delay (s)	8.4	-	12.1	11.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-	-

Intersection												
Int Delay, s/veh	4.8											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	10	19	7	2	0	9	0	5	0	5	5
Future Vol, veh/h	1	10	19	7	2	0	9	0	5	0	5	5
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	88	88	88	68	68	68	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	10	19	8	2	0	13	0	7	0	6	6































Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	29	0	0	46	40	20	43	49	2
Stage 1	-	-	-	-	-	-	22	22	-	18	18	-
Stage 2	-	-	-	-	-	-	24	18	-	25	31	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1620	-	-	1584	-	-	955	852	1058	960	843	1082
Stage 1	-	-	-	-	-	-	996	877	-	1001	880	-
Stage 2	-	-	-	-	-	-	994	880	-	993	869	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	1584	-	-	941	847	1058	949	838	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	941	847	-	949	838	-
Stage 1	-	-	-	-	-	-	995	876	-	1000	876	-
Stage 2	-	-	-	-	-	-	977	876	-	985	868	-

Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.2			5.7			8.8			8.9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	980	1584	-	-	1620	-	944
HCM Lane V/C Ratio	0.021	0.005	-	-	0.001	-	0.012
HCM Control Delay (s)	8.8	7.3	0	-	7.2	0	8.9
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

Short-Term Background  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	218	693	40	135	604	150	86	387	174	211	314	216
Future Volume (vph)	218	693	40	135	604	150	86	387	174	211	314	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.405			0.950			0.432			0.294		
Satd. Flow (perm)	754	5085	1583	1770	5085	1583	805	3539	1583	548	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			155			174			216
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	0.89	0.89	0.89	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	245	779	45	139	623	155	86	387	174	211	314	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	779	45	139	623	155	86	387	174	211	314	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

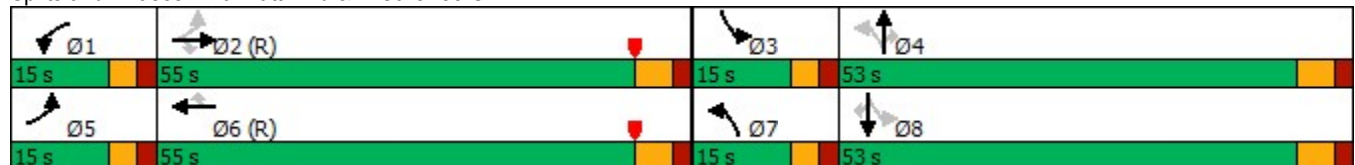
Short-Term Background  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	15.0	55.0	55.0	15.0	55.0	55.0	15.0	53.0	53.0	15.0	53.0	53.0
Total Split (%)	10.9%	39.9%	39.9%	10.9%	39.9%	39.9%	10.9%	38.4%	38.4%	10.9%	38.4%	38.4%
Maximum Green (s)	10.0	49.0	49.0	10.0	49.0	49.0	10.0	47.0	47.0	10.0	47.0	47.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	79.1	64.7	64.7	20.0	71.3	71.3	31.5	21.3	21.3	33.1	22.1	22.1
Actuated g/C Ratio	0.57	0.47	0.47	0.14	0.52	0.52	0.23	0.15	0.15	0.24	0.16	0.16
v/c Ratio	0.46	0.33	0.06	0.54	0.24	0.17	0.35	0.71	0.45	0.96	0.55	0.50
Control Delay	13.7	24.1	0.1	63.3	19.7	3.7	41.5	62.4	10.3	96.5	56.9	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	24.1	0.1	63.3	19.7	3.7	41.5	62.4	10.3	96.5	56.9	10.0
LOS	B	C	A	E	B	A	D	E	B	F	E	B
Approach Delay		20.7			23.6			45.6			54.5	
Approach LOS		C			C			D			D	

Intersection Summary























Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 91 (66%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 33.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 64.5%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

Short-Term Background  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	911	52	98	667	199	117	195	48	236	82	145
Future Volume (vph)	240	911	52	98	667	199	117	195	48	236	82	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5045	0	1770	5085	1583	1770	1807	0	1770	1863	1583
Flt Permitted	0.324			0.250			0.692			0.194		
Satd. Flow (perm)	604	5045	0	466	5085	1583	1289	1807	0	361	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				203		7				177
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	250	949	54	100	681	203	122	203	50	288	100	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	250	1003	0	100	681	203	122	253	0	288	100	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

Short-Term Background  
PM

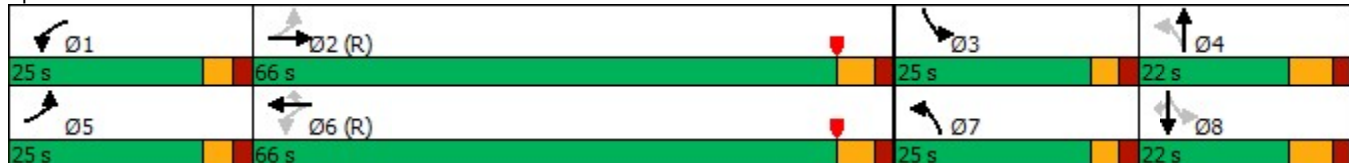


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	66.0		25.0	66.0	66.0	25.0	22.0		25.0	22.0	22.0
Total Split (%)	18.1%	47.8%		18.1%	47.8%	47.8%	18.1%	15.9%		18.1%	15.9%	15.9%
Maximum Green (s)	20.0	60.0		20.0	60.0	60.0	20.0	15.5		20.0	15.5	15.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	85.7	71.4		75.5	65.9	65.9	29.8	15.6		41.5	22.8	22.8
Actuated g/C Ratio	0.62	0.52		0.55	0.48	0.48	0.22	0.11		0.30	0.17	0.17
v/c Ratio	0.51	0.38		0.30	0.28	0.24	0.38	1.20		0.93	0.32	0.43
Control Delay	15.3	20.6		13.4	22.5	3.5	40.2	176.0		76.2	55.5	10.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	15.3	20.6		13.4	22.5	3.5	40.2	176.0		76.2	55.5	10.8
LOS	B	C		B	C	A	D	F		E	E	B
Approach Delay		19.5			17.7			131.9			52.1	
Approach LOS		B			B			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 120 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.20  
 Intersection Signal Delay: 38.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	78	994	11	6	882	16	4	0	4	2	0	37
Future Vol, veh/h	78	994	11	6	882	16	4	0	4	2	0	37
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	100	100	100	100	100	100	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	1104	12	6	882	16	4	0	4	2	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	898	0	0	1116	0	0	1643	2188	552	1510	2184	441
Stage 1	-	-	-	-	-	-	1278	1278	-	894	894	-
Stage 2	-	-	-	-	-	-	365	910	-	616	1290	-
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	438	-	-	344	-	-	105	45	409	127	45	482
Stage 1	-	-	-	-	-	-	127	235	-	236	358	-
Stage 2	-	-	-	-	-	-	574	352	-	405	232	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	438	-	-	344	-	-	80	35	409	105	35	482
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	35	-	105	35	-
Stage 1	-	-	-	-	-	-	102	188	-	189	352	-
Stage 2	-	-	-	-	-	-	515	346	-	321	186	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			33.6			14.6		
HCM LOS							D			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	134	438	-	-	344	-	-	105	482
HCM Lane V/C Ratio	0.06	0.198	-	-	0.017	-	-	0.021	0.086
HCM Control Delay (s)	33.6	15.2	-	-	15.7	-	-	40	13.2
HCM Lane LOS		D	C	-	-	C	-	E	B
HCM 95th %tile Q(veh)	0.2	0.7	-	-	0.1	-	-	0.1	0.3

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	157	83	84	508	385	133
Future Vol, veh/h	157	83	84	508	385	133
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	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	90	90	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	199	105	93	564	385	133

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1202	452	518	0	-	0
Stage 1	452	-	-	-	-	-
Stage 2	750	-	-	-	-	-
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	204	608	1048	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 186	608	1048	-	-	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.8	1.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1048	-	320	608	-	-
HCM Lane V/C Ratio	0.089	-	0.621	0.173	-	-
HCM Control Delay (s)	8.8	-	33	12.2	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	3.9	0.6	-	-

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

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	17	33	725	461	49
Future Vol, veh/h	28	17	33	725	461	49
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	0	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	88	88	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	17	38	824	461	49

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1386	486	510	0	-	0
Stage 1	486	-	-	-	-	-
Stage 2	900	-	-	-	-	-
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	158	581	1055	-	-	-
Stage 1	618	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	152	581	1055	-	-	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	397	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1055	-	283	581	-	-
HCM Lane V/C Ratio	0.036	-	0.099	0.029	-	-
HCM Control Delay (s)	8.5	-	19.1	11.4	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.1	-	-

Intersection												
Int Delay, s/veh	4.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	7	20	13	11	1	28	5	7	2	7	3
Future Vol, veh/h	3	7	20	13	11	1	28	5	7	2	7	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	64	64	64	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	16	47	20	17	2	28	5	7	2	7	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	63	0	0	117	113	40	118	135	18
Stage 1	-	-	-	-	-	-	54	54	-	58	58	-
Stage 2	-	-	-	-	-	-	63	59	-	60	77	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1597	-	-	1540	-	-	859	777	1031	858	756	1061
Stage 1	-	-	-	-	-	-	958	850	-	954	847	-
Stage 2	-	-	-	-	-	-	948	846	-	951	831	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1597	-	-	1540	-	-	838	763	1031	837	742	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	838	763	-	837	742	-
Stage 1	-	-	-	-	-	-	953	846	-	949	836	-
Stage 2	-	-	-	-	-	-	925	835	-	934	827	-

Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.7			3.8			9.4			9.5		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	856	1540	-	-	1597	-	819
HCM Lane V/C Ratio	0.047	0.013	-	-	0.004	-	0.015
HCM Control Delay (s)	9.4	7.4	0	-	7.3	0	9.5
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

ST Background + Site  
AM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	22	37	82	71	37	30	181	26	11	307	93
Future Volume (vph)	47	22	37	82	71	37	30	181	26	11	307	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		120	120		140
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			85			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.906			0.949				0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1688	0	1770	1768	0	1770	1863	1583	1770	1798	0
Flt Permitted	0.589			0.719			0.488			0.643		
Satd. Flow (perm)	1097	1688	0	1339	1768	0	909	1863	1583	1198	1798	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			25				87		21	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		581			398			1734			2040	
Travel Time (s)		13.2			9.0			33.8			39.7	
Peak Hour Factor	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00	0.98	0.98	0.98
Adj. Flow (vph)	47	22	37	89	77	40	30	181	26	11	313	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	59	0	89	117	0	30	181	26	11	408	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

ST Background + Site  
AM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	23.5		10.5	23.5		23.5	23.5	23.5	23.5	23.5	
Total Split (s)	15.0	35.5		10.5	31.0		54.0	54.0	54.0	54.0	54.0	
Total Split (%)	15.0%	35.5%		10.5%	31.0%		54.0%	54.0%	54.0%	54.0%	54.0%	
Maximum Green (s)	9.5	30.0		5.0	25.5		48.5	48.5	48.5	48.5	48.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)		7.0			7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effct Green (s)	18.7	12.2		15.1	12.1		68.4	68.4	68.4	68.4	68.4	
Actuated g/C Ratio	0.19	0.12		0.15	0.12		0.68	0.68	0.68	0.68	0.68	
v/c Ratio	0.18	0.25		0.40	0.50		0.05	0.14	0.02	0.01	0.33	
Control Delay	29.8	20.2		36.6	39.1		7.9	7.5	0.0	7.0	6.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	29.8	20.2		36.6	39.1		7.9	7.5	0.0	7.0	6.6	
LOS	C	C		D	D		A	A	A	A	A	
Approach Delay		24.5			38.0			6.7			6.6	
Approach LOS		C			D			A			A	

Intersection Summary

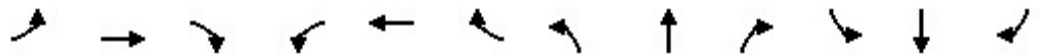
Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.50  
 Intersection Signal Delay: 15.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 45.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 11: Tutt Blvd & S Carefree Cir



Lanes, Volumes, Timings  
17: Tutt Blvd & Holiday Inn Access/Golf Club Access

ST Background + Site  
AM (New Signals)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	11	11	65	7	114	10	216	47	106	395	21
Future Volume (vph)	3	11	11	65	7	114	10	216	47	106	395	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	25		120	25		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.925			0.859				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1600	0	1770	1863	1583	1770	1848	0
Flt Permitted				0.471			0.482			0.560		
Satd. Flow (perm)	1863	1723	0	877	1600	0	898	1863	1583	1043	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			228				147		4	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		189			393			2040			666	
Travel Time (s)		4.3			8.9			39.7			13.0	
Peak Hour Factor	1.00	1.00	1.00	0.50	0.50	0.50	1.00	1.00	1.00	0.84	0.84	0.84
Adj. Flow (vph)	3	11	11	130	14	228	10	216	47	126	470	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	22	0	130	242	0	10	216	47	126	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2		2	6		



Lanes, Volumes, Timings  
 17: Tutt Blvd & Holiday Inn Access/Golf Club Access

ST Background + Site  
 AM (New Signals)

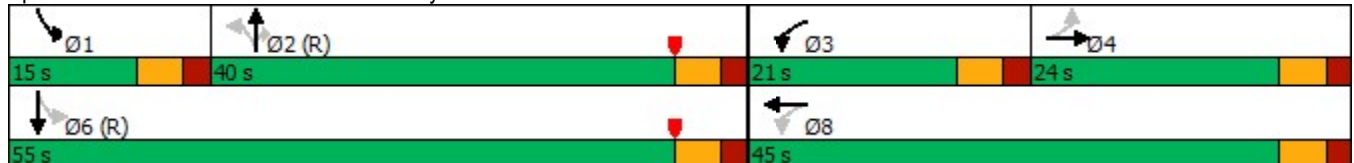


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		3	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.5	23.5		10.5	23.5		23.5	23.5	23.5	10.5	23.5	
Total Split (s)	24.0	24.0		21.0	45.0		40.0	40.0	40.0	15.0	55.0	
Total Split (%)	24.0%	24.0%		21.0%	45.0%		40.0%	40.0%	40.0%	15.0%	55.0%	
Maximum Green (s)	18.5	18.5		15.5	39.5		34.5	34.5	34.5	9.5	49.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effct Green (s)	6.4	6.4		17.1	17.1		58.4	58.4	58.4	71.9	71.9	
Actuated g/C Ratio	0.06	0.06		0.17	0.17		0.58	0.58	0.58	0.72	0.72	
v/c Ratio	0.03	0.18		0.51	0.52		0.02	0.20	0.05	0.16	0.37	
Control Delay	43.3	32.9		41.5	9.2		10.5	9.3	0.3	6.4	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	43.3	32.9		41.5	9.2		10.5	9.3	0.3	6.4	7.9	
LOS	D	C		D	A		B	A	A	A	A	
Approach Delay		34.2			20.5			7.8			7.6	
Approach LOS		C			C			A			A	

Intersection Summary

























Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.52  
 Intersection Signal Delay: 11.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 50.2%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 17: Tutt Blvd & Holiday Inn Access/Golf Club Access



Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

ST Background + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	322	78	171	816	98	125	113	88	59	202	68
Future Volume (vph)	67	322	78	171	816	98	125	113	88	59	202	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.323			0.950			0.390			0.661		
Satd. Flow (perm)	602	5085	1583	1770	5085	1583	726	3539	1583	1231	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			101			111			97
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	0.97	0.97	0.97	0.79	0.79	0.79	0.98	0.98	0.98
Adj. Flow (vph)	67	322	78	176	841	101	158	143	111	60	206	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	322	78	176	841	101	158	143	111	60	206	69
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

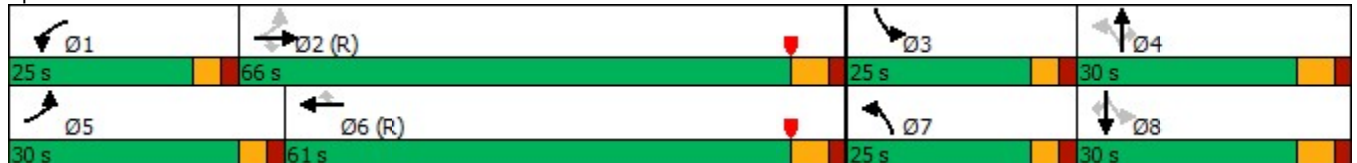
ST Background + Site  
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	30.0	66.0	66.0	25.0	61.0	61.0	25.0	30.0	30.0	25.0	30.0	30.0
Total Split (%)	20.5%	45.2%	45.2%	17.1%	41.8%	41.8%	17.1%	20.5%	20.5%	17.1%	20.5%	20.5%
Maximum Green (s)	25.0	60.0	60.0	20.0	55.0	55.0	20.0	24.0	24.0	20.0	24.0	24.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	82.0	73.6	73.6	19.9	88.3	88.3	36.5	23.4	23.4	24.1	13.8	13.8
Actuated g/C Ratio	0.56	0.50	0.50	0.14	0.60	0.60	0.25	0.16	0.16	0.17	0.09	0.09
v/c Ratio	0.17	0.13	0.09	0.73	0.27	0.10	0.53	0.25	0.32	0.25	0.62	0.29
Control Delay	4.9	22.4	15.4	77.2	15.2	3.1	50.5	54.9	11.2	43.8	71.4	7.2
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	4.9	22.4	15.4	77.2	15.2	3.1	50.5	54.9	11.2	43.8	71.4	7.2
LOS	A	C	B	E	B	A	D	D	B	D	E	A
Approach Delay		18.7			23.9			41.5			53.3	
Approach LOS		B			C			D			D	

Intersection Summary























Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 64 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 30.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 50.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

ST Background + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	524	84	71	1050	146	50	39	14	141	67	228
Future Volume (vph)	95	524	84	71	1050	146	50	39	14	141	67	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979				0.850		0.960				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4979	0	1770	5085	1583	1770	1788	0	1770	1863	1583
Flt Permitted	0.193			0.385			0.713			0.593		
Satd. Flow (perm)	360	4979	0	717	5085	1583	1328	1788	0	1105	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				141		10				228
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.74	0.74	0.74	1.00	1.00	1.00
Adj. Flow (vph)	98	540	87	76	1117	155	68	53	19	141	67	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	627	0	76	1117	155	68	72	0	141	67	228
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8

Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

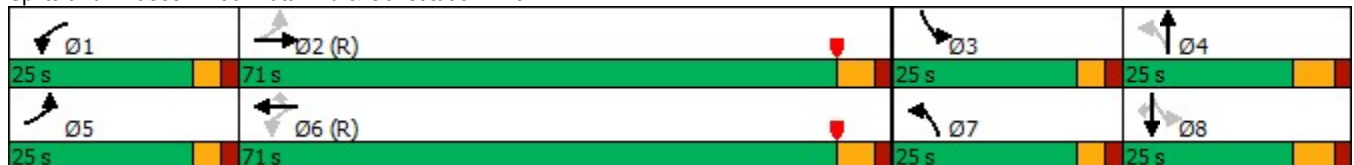
ST Background + Site  
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	71.0		25.0	71.0	71.0	25.0	25.0		25.0	25.0	25.0
Total Split (%)	17.1%	48.6%		17.1%	48.6%	48.6%	17.1%	17.1%		17.1%	17.1%	17.1%
Maximum Green (s)	20.0	65.0		20.0	65.0	65.0	20.0	18.5		20.0	18.5	18.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	86.8	77.1		85.2	76.3	76.3	35.2	24.2		44.7	31.2	31.2
Actuated g/C Ratio	0.59	0.53		0.58	0.52	0.52	0.24	0.17		0.31	0.21	0.21
v/c Ratio	0.33	0.24		0.16	0.42	0.17	0.19	0.24		0.35	0.17	0.44
Control Delay	12.6	13.5		11.8	22.1	4.0	38.4	49.4		40.8	50.7	8.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	12.6	13.5		11.8	22.1	4.0	38.4	49.4		40.8	50.7	8.9
LOS	B	B		B	C	A	D	D		D	D	A
Approach Delay		13.4			19.5			44.0			25.6	
Approach LOS		B			B			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 137 (94%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 20.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 54.6%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



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	78	341	5	2	891	5	7	0	0	10	0	28
Future Vol, veh/h	78	341	5	2	891	5	7	0	0	10	0	28
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	100	100	100	69	69	69	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	397	6	2	891	5	10	0	0	10	0	28

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	896	0	0	403	0	0	939	1479	199	1236	1480	446
Stage 1	-	-	-	-	-	-	579	579	-	895	895	-
Stage 2	-	-	-	-	-	-	360	900	-	341	585	-
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	439	-	-	752	-	-	278	125	688	185	124	479
Stage 1	-	-	-	-	-	-	387	499	-	235	357	-
Stage 2	-	-	-	-	-	-	578	355	-	593	496	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	439	-	-	752	-	-	220	99	688	155	98	479
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	99	-	155	98	-
Stage 1	-	-	-	-	-	-	307	396	-	186	356	-
Stage 2	-	-	-	-	-	-	543	354	-	470	393	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0	22.2	17.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	220	439	-	-	752	-	-	155	479
HCM Lane V/C Ratio	0.046	0.207	-	-	0.003	-	-	0.065	0.058
HCM Control Delay (s)	22.2	15.3	-	-	9.8	-	-	29.8	13
HCM Lane LOS	C	C	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0	-	-	0.2	0.2

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	47	22	37	82	71	37	20	181	26	11	307	93
Future Vol, veh/h	47	22	37	82	71	37	20	181	26	11	307	93
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	-	-	0	-	-	140	-	120	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	92	92	92	100	100	100	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	22	37	89	77	40	20	181	26	11	313	95

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	676	630	361	633	651	181	408	0	0	207	0	0
Stage 1	383	383	-	221	221	-	-	-	-	-	-	-
Stage 2	293	247	-	412	430	-	-	-	-	-	-	-
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	367	399	684	392	388	862	1151	-	-	1364	-	-
Stage 1	640	612	-	781	720	-	-	-	-	-	-	-
Stage 2	715	702	-	617	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	290	389	684	348	378	862	1151	-	-	1364	-	-
Mov Cap-2 Maneuver	290	389	-	348	378	-	-	-	-	-	-	-
Stage 1	629	607	-	768	708	-	-	-	-	-	-	-
Stage 2	597	690	-	558	578	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.8		16.8		0.7		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1151	-	-	290	533	348	468	1364	-	-
HCM Lane V/C Ratio	0.017	-	-	0.162	0.111	0.256	0.251	0.008	-	-
HCM Control Delay (s)	8.2	-	-	19.8	12.6	18.9	15.2	7.7	-	-
HCM Lane LOS	A	-	-	C	B	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.4	1	1	0	-	-

Intersection												
Int Delay, s/veh	8.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	3	11	11	65	7	114	10	216	47	106	395	21
Future Vol, veh/h	3	11	11	65	7	114	10	216	47	106	395	21
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	-	-	0	-	-	25	-	120	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	11	11	130	14	228	10	216	47	126	470	25

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1116	1018	483	982	983	216	495	0	0	263	0	0
Stage 1	735	735	-	236	236	-	-	-	-	-	-	-
Stage 2	381	283	-	746	747	-	-	-	-	-	-	-
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	185	237	584	228	249	824	1069	-	-	1301	-	-
Stage 1	411	425	-	767	710	-	-	-	-	-	-	-
Stage 2	641	677	-	405	420	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	117	212	584	198	223	824	1069	-	-	1301	-	-
Mov Cap-2 Maneuver	117	212	-	198	223	-	-	-	-	-	-	-
Stage 1	407	384	-	760	704	-	-	-	-	-	-	-
Stage 2	450	671	-	349	379	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.8	26.5	0.3	1.6
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1069	-	-	117	311	198	713	1301	-	-
HCM Lane V/C Ratio	0.009	-	-	0.026	0.071	0.657	0.339	0.097	-	-
HCM Control Delay (s)	8.4	-	-	36.6	17.5	52.4	12.6	8.1	-	-
HCM Lane LOS	A	-	-	E	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	3.9	1.5	0.3	-	-



Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	424	922	4	0	35
Future Vol, veh/h	0	424	922	4	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	100	100	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	493	922	4	0	38

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	467
HCM Lane V/C Ratio	-	-	-	0.081
HCM Control Delay (s)	-	-	-	13.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection												
Int Delay, s/veh	4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	11	61	7	3	0	23	0	5	0	5	5
Future Vol, veh/h	1	11	61	7	3	0	23	0	5	0	5	5
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	88	88	88	68	68	68	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	11	61	8	3	0	34	0	7	0	6	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	72	0	0	69	63	42	66	93	3
Stage 1	-	-	-	-	-	-	44	44	-	19	19	-
Stage 2	-	-	-	-	-	-	25	19	-	47	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1528	-	-	923	828	1029	927	797	1081
Stage 1	-	-	-	-	-	-	970	858	-	1000	880	-
Stage 2	-	-	-	-	-	-	993	880	-	967	833	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	1528	-	-	908	823	1029	916	792	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	908	823	-	916	792	-
Stage 1	-	-	-	-	-	-	969	857	-	999	876	-
Stage 2	-	-	-	-	-	-	976	876	-	959	832	-

Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.1			5.2			9.1			9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	927	1528	-	-	1619	-	914
HCM Lane V/C Ratio	0.044	0.005	-	-	0.001	-	0.013
HCM Control Delay (s)	9.1	7.4	0	-	7.2	0	9
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	11	3	16	30	4
Future Vol, veh/h	11	11	3	16	30	4
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	88	88	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	3	18	30	4























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	56	32	34	0	0
Stage 1	32	-	-	-	-
Stage 2	24	-	-	-	-
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	952	1042	1578	-	-
Stage 1	991	-	-	-	-
Stage 2	999	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	950	1042	1578	-	-
Mov Cap-2 Maneuver	950	-	-	-	-
Stage 1	989	-	-	-	-
Stage 2	999	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	994	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

ST Background + Site  
PM (New Signals)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	70	83	49	41	21	84	549	83	36	414	149
Future Volume (vph)	181	70	83	49	41	21	84	549	83	36	414	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		120	120		140
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			85			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.919			0.949				0.850		0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1712	0	1770	1768	0	1770	1863	1583	1770	1788	0
Flt Permitted	0.475			0.660			0.294			0.329		
Satd. Flow (perm)	885	1712	0	1229	1768	0	548	1863	1583	613	1788	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			23				164			25
Link Speed (mph)		30			30			35				35
Link Distance (ft)		581			398			1734				2044
Travel Time (s)		13.2			9.0			33.8				39.8
Peak Hour Factor	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	181	70	83	53	45	23	84	549	83	36	414	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	181	153	0	53	68	0	84	549	83	36	563	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt		NA
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

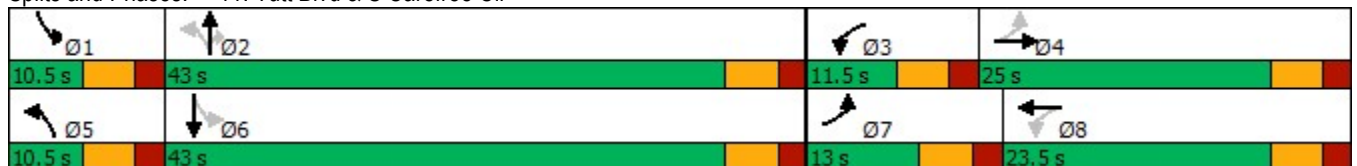
ST Background + Site  
PM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	23.5		10.5	23.5		10.5	23.5	23.5	10.5	23.5	
Total Split (s)	13.0	25.0		11.5	23.5		10.5	43.0	43.0	10.5	43.0	
Total Split (%)	14.4%	27.8%		12.8%	26.1%		11.7%	47.8%	47.8%	11.7%	47.8%	
Maximum Green (s)	7.5	19.5		6.0	18.0		5.0	37.5	37.5	5.0	37.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	16.8	12.6		13.2	8.6		44.2	41.4	41.4	43.1	39.3	
Actuated g/C Ratio	0.22	0.16		0.17	0.11		0.57	0.53	0.53	0.56	0.51	
v/c Ratio	0.65	0.47		0.21	0.31		0.21	0.55	0.09	0.09	0.61	
Control Delay	36.5	24.8		24.3	27.6		9.3	17.7	0.2	8.3	19.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	36.5	24.8		24.3	27.6		9.3	17.7	0.2	8.3	19.2	
LOS	D	C		C	C		A	B	A	A	B	
Approach Delay		31.1			26.2			14.7			18.6	
Approach LOS		C			C			B			B	

Intersection Summary

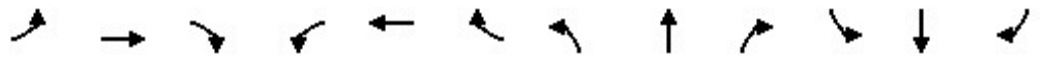
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	77.5
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	19.9
Intersection LOS:	B
Intersection Capacity Utilization:	68.0%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 11: Tutt Blvd & S Carefree Cir



Lanes, Volumes, Timings  
17: Tutt Blvd & Holiday Inn Access/Golf Club Access

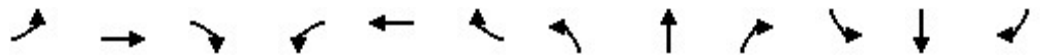
ST Background + Site  
PM (New Signals)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	5	17	48	6	86	33	68	48	114	497	49
Future Volume (vph)	28	5	17	48	6	86	33	68	48	114	497	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	25		120	25		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.885			0.860				0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1649	0	1770	1602	0	1770	1863	1583	1770	1839	0
Flt Permitted	0.678			0.395			0.460			0.636		
Satd. Flow (perm)	1263	1649	0	736	1602	0	857	1863	1583	1185	1839	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			115				164			9
Link Speed (mph)		30			30			35				35
Link Distance (ft)		189			393			2044				666
Travel Time (s)		4.3			8.9			39.8				13.0
Peak Hour Factor	0.87	0.87	0.87	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	6	20	64	8	115	33	68	48	114	497	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	26	0	64	123	0	33	68	48	114	546	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	pm+pt		NA
Protected Phases		4		3	8			2		1		6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings  
17: Tutt Blvd & Holiday Inn Access/Golf Club Access

ST Background + Site  
PM (New Signals)

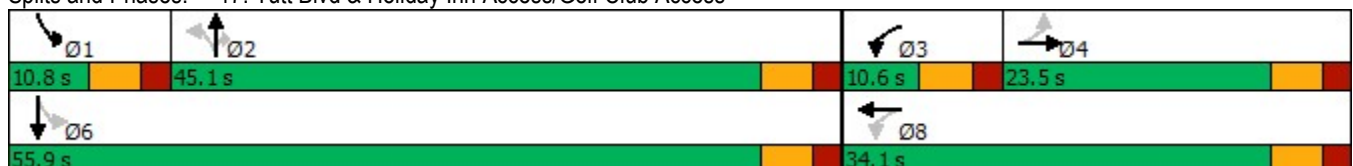


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		3	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.5	23.5		10.5	23.5		23.5	23.5	23.5	10.5	23.5	
Total Split (s)	23.5	23.5		10.6	34.1		45.1	45.1	45.1	10.8	55.9	
Total Split (%)	26.1%	26.1%		11.8%	37.9%		50.1%	50.1%	50.1%	12.0%	62.1%	
Maximum Green (s)	18.0	18.0		5.1	28.6		39.6	39.6	39.6	5.3	50.4	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effct Green (s)	7.5	7.5		13.4	13.5		46.6	46.6	46.6	54.0	55.1	
Actuated g/C Ratio	0.10	0.10		0.18	0.18		0.61	0.61	0.61	0.71	0.72	
v/c Ratio	0.26	0.14		0.32	0.32		0.06	0.06	0.05	0.13	0.41	
Control Delay	38.2	19.4		29.3	8.6		11.4	10.8	0.1	6.0	7.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	38.2	19.4		29.3	8.6		11.4	10.8	0.1	6.0	7.7	
LOS	D	B		C	A		B	B	A	A	A	
Approach Delay		29.8			15.7			7.5			7.4	
Approach LOS		C			B			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	76.2
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.41
Intersection Signal Delay:	10.1
Intersection LOS:	B
Intersection Capacity Utilization:	47.6%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Tutt Blvd & Holiday Inn Access/Golf Club Access



Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

ST Background + Site  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	752	127	179	639	152	139	401	208	214	332	216
Future Volume (vph)	218	752	127	179	639	152	139	401	208	214	332	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.398			0.950			0.395			0.298		
Satd. Flow (perm)	741	5085	1583	1770	5085	1583	736	3539	1583	555	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			152			208			216
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	218	752	127	179	639	152	139	401	208	214	332	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	752	127	179	639	152	139	401	208	214	332	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8



Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

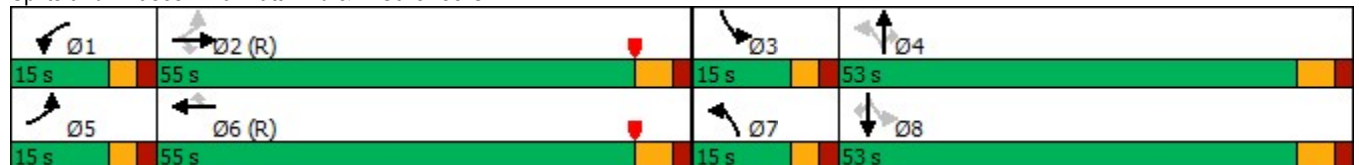
ST Background + Site  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	15.0	55.0	55.0	15.0	55.0	55.0	15.0	53.0	53.0	15.0	53.0	53.0
Total Split (%)	10.9%	39.9%	39.9%	10.9%	39.9%	39.9%	10.9%	38.4%	38.4%	10.9%	38.4%	38.4%
Maximum Green (s)	10.0	49.0	49.0	10.0	49.0	49.0	10.0	47.0	47.0	10.0	47.0	47.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	70.0	56.5	56.5	27.3	71.2	71.2	33.1	22.2	22.2	33.4	22.4	22.4
Actuated g/C Ratio	0.51	0.41	0.41	0.20	0.52	0.52	0.24	0.16	0.16	0.24	0.16	0.16
v/c Ratio	0.46	0.36	0.18	0.51	0.24	0.17	0.56	0.70	0.48	0.96	0.58	0.49
Control Delay	15.5	29.1	4.9	56.4	19.8	3.7	47.7	61.3	9.9	96.1	57.1	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	29.1	4.9	56.4	19.8	3.7	47.7	61.3	9.9	96.1	57.1	9.9
LOS	B	C	A	E	B	A	D	E	A	F	E	A
Approach Delay		23.6			24.0			44.5			54.7	
Approach LOS		C			C			D			D	

Intersection Summary























Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 91 (66%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 34.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.7%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

ST Background + Site  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	923	52	98	674	240	117	207	48	262	90	188
Future Volume (vph)	311	923	52	98	674	240	117	207	48	262	90	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5045	0	1770	5085	1583	1770	1811	0	1770	1863	1583
Flt Permitted	0.343			0.188			0.696			0.190		
Satd. Flow (perm)	639	5045	0	350	5085	1583	1296	1811	0	354	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				240		7				196
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Adj. Flow (vph)	342	1014	57	98	674	240	117	207	48	273	94	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	342	1071	0	98	674	240	117	255	0	273	94	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8

Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

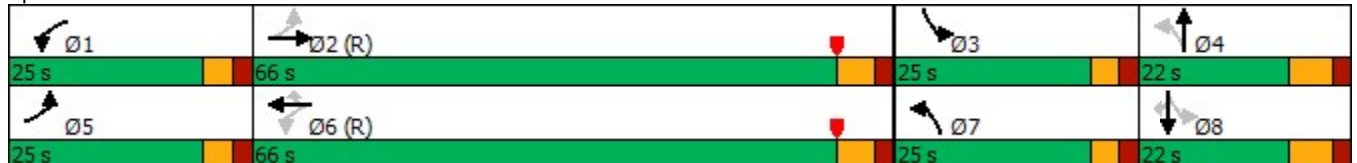
ST Background + Site  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	66.0		25.0	66.0	66.0	25.0	22.0		25.0	22.0	22.0
Total Split (%)	18.1%	47.8%		18.1%	47.8%	47.8%	18.1%	15.9%		18.1%	15.9%	15.9%
Maximum Green (s)	20.0	60.0		20.0	60.0	60.0	20.0	15.5		20.0	15.5	15.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max		Max	C-Max	C-Max	Min	Min		Min	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	81.0	60.0		81.0	60.0	60.0	29.9	16.0		41.6	23.2	23.2
Actuated g/C Ratio	0.59	0.43		0.59	0.43	0.43	0.22	0.12		0.30	0.17	0.17
v/c Ratio	0.64	0.49		0.24	0.30	0.29	0.36	1.18		0.89	0.30	0.46
Control Delay	18.6	28.0		12.0	25.9	3.7	39.9	168.3		70.8	54.7	10.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	18.6	28.0		12.0	25.9	3.7	39.9	168.3		70.8	54.7	10.6
LOS	B	C		B	C	A	D	F		E	D	B
Approach Delay		25.7			19.3			127.9			47.2	
Approach LOS		C			B			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 120 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.18  
 Intersection Signal Delay: 38.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



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	135	1034	11	6	944	18	4	0	4	6	0	47
Future Vol, veh/h	135	1034	11	6	944	18	4	0	4	6	0	47
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	100	100	100	100	100	100	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	150	1149	12	6	944	18	4	0	4	7	0	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	962	0	0	1161	0	0	1839	2423	575	1716	2417	472
Stage 1	-	-	-	-	-	-	1449	1449	-	956	956	-
Stage 2	-	-	-	-	-	-	390	974	-	760	1461	-
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	408	-	-	327	-	-	80	32	395	95	32	461
Stage 1	-	-	-	-	-	-	96	194	-	214	335	-
Stage 2	-	-	-	-	-	-	554	328	-	331	192	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	408	-	-	327	-	-	50	20	395	66	20	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	20	-	66	20	-
Stage 1	-	-	-	-	-	-	61	123	-	135	329	-
Stage 2	-	-	-	-	-	-	482	322	-	207	121	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.1			49.4			19.7		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	89	408	-	-	327	-	-	66	461
HCM Lane V/C Ratio	0.09	0.368	-	-	0.018	-	-	0.102	0.115
HCM Control Delay (s)	49.4	18.9	-	-	16.2	-	-	65.7	13.8
HCM Lane LOS	E	C	-	-	C	-	-	F	B
HCM 95th %tile Q(veh)	0.3	1.7	-	-	0.1	-	-	0.3	0.4

Intersection												
Int Delay, s/veh	65.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Vol, veh/h	181	70	83	49	41	21	84	549	83	36	414	149
Future Vol, veh/h	181	70	83	49	41	21	84	549	83	36	414	149
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	-	-	0	-	-	140	-	120	120	-	140
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	92	92	92	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	181	70	83	53	45	23	84	549	83	36	414	149

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1279	1286	414	1354	1352	549	563	0	0	632	0	0
Stage 1	486	486	-	717	717	-	-	-	-	-	-	-
Stage 2	793	800	-	637	635	-	-	-	-	-	-	-
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	~ 143	164	638	127	150	535	1008	-	-	951	-	-
Stage 1	563	551	-	421	434	-	-	-	-	-	-	-
Stage 2	382	397	-	465	472	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 93	145	638	63	132	535	1008	-	-	951	-	-
Mov Cap-2 Maneuver	~ 93	145	-	63	132	-	-	-	-	-	-	-
Stage 1	516	530	-	386	398	-	-	-	-	-	-	-
Stage 2	298	364	-	338	454	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	309.8	99.8	1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1008	-	-	93	250	63	177	951	-	-
HCM Lane V/C Ratio	0.083	-	-	1.946	0.612	0.845	0.381	0.038	-	-
HCM Control Delay (s)	8.9	-	-	\$ 538.1	39.7	178.8	37.3	8.9	-	-
HCM Lane LOS	A	-	-	F	E	F	E	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	15.4	3.6	3.9	1.6	0.1	-	-

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

Intersection												
Int Delay, s/veh	12.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	28	5	17	48	6	86	33	747	68	114	497	49
Future Vol, veh/h	28	5	17	48	6	86	33	747	68	114	497	49
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	-	-	0	-	-	25	-	120	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	75	75	75	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	6	20	64	8	115	33	747	68	114	497	49

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1659	1631	522	1576	1587	747	546	0	0	815	0	0
Stage 1	750	750	-	813	813	-	-	-	-	-	-	-
Stage 2	909	881	-	763	774	-	-	-	-	-	-	-
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	78	101	555	89	108	413	1023	-	-	812	-	-
Stage 1	403	419	-	372	392	-	-	-	-	-	-	-
Stage 2	329	365	-	397	408	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	46	84	555	71	90	413	1023	-	-	812	-	-
Mov Cap-2 Maneuver	46	84	-	71	90	-	-	-	-	-	-	-
Stage 1	390	360	-	360	379	-	-	-	-	-	-	-
Stage 2	225	353	-	324	351	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	114		75.6		0.3			1.8		
HCM LOS	F		F							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1023	-	-	46	244	71	335	812	-	-
HCM Lane V/C Ratio	0.032	-	-	0.7	0.104	0.901	0.366	0.14	-	-
HCM Control Delay (s)	8.6	-	-	186.6	21.5	178.6	21.8	10.2	-	-
HCM Lane LOS	A	-	-	F	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.7	0.3	4.5	1.6	0.5	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	1180	962	14	0	20
Future Vol, veh/h	0	1180	962	14	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1180	962	14	0	21

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	450
HCM Lane V/C Ratio	-	-	-	0.047
HCM Control Delay (s)	-	-	-	13.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	8	8	13	42	30	13
Future Vol, veh/h	8	8	13	42	30	13
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	9	9	14	46	33	14

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	114	40	47	0	0
Stage 1	40	-	-	-	-
Stage 2	74	-	-	-	-
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	882	1031	1560	-	-
Stage 1	982	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	874	1031	1560	-	-
Mov Cap-2 Maneuver	874	-	-	-	-
Stage 1	973	-	-	-	-
Stage 2	949	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1560	-	946	-	-
HCM Lane V/C Ratio	0.009	-	0.018	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Intersection												
Int Delay, s/veh	5.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	8	28	13	12	1	41	5	7	2	7	3
Future Vol, veh/h	3	8	28	13	12	1	41	5	7	2	7	3
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	-	-	-	-	-	-	-	-	-	-	-	-
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	3	9	30	14	13	1	45	5	8	2	8	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	14	0	0	39	0	0	77	72	24	79	87	14
Stage 1	-	-	-	-	-	-	30	30	-	42	42	-
Stage 2	-	-	-	-	-	-	47	42	-	37	45	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1604	-	-	1571	-	-	912	818	1052	910	803	1066
Stage 1	-	-	-	-	-	-	987	870	-	972	860	-
Stage 2	-	-	-	-	-	-	967	860	-	978	857	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1604	-	-	1571	-	-	895	809	1052	891	794	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	895	809	-	891	794	-
Stage 1	-	-	-	-	-	-	985	868	-	970	852	-
Stage 2	-	-	-	-	-	-	947	852	-	963	855	-

Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.6			3.7			9.3			9.2		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	904	1571	-	-	1604	-	865
HCM Lane V/C Ratio	0.064	0.009	-	-	0.002	-	0.015
HCM Control Delay (s)	9.3	7.3	0	-	7.2	0	9.2
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	0

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

2040 Background  
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	375	175	130	950	95	45	125	45	60	225	70
Future Volume (vph)	70	375	175	130	950	95	45	125	45	60	225	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.289			0.950			0.503			0.632		
Satd. Flow (perm)	538	5085	1583	1770	5085	1583	937	3539	1583	1177	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175			97			97			97
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Adj. Flow (vph)	70	375	175	130	950	95	47	132	47	60	225	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	375	175	130	950	95	47	132	47	60	225	70
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

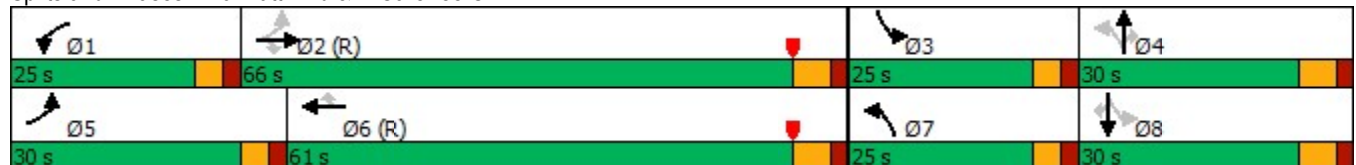
2040 Background  
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	30.0	66.0	66.0	25.0	61.0	61.0	25.0	30.0	30.0	25.0	30.0	30.0
Total Split (%)	20.5%	45.2%	45.2%	17.1%	41.8%	41.8%	17.1%	20.5%	20.5%	17.1%	20.5%	20.5%
Maximum Green (s)	25.0	60.0	60.0	20.0	55.0	55.0	20.0	24.0	24.0	20.0	24.0	24.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	95.1	86.9	86.9	16.0	97.8	97.8	22.4	13.8	13.8	23.9	14.6	14.6
Actuated g/C Ratio	0.65	0.60	0.60	0.11	0.67	0.67	0.15	0.09	0.09	0.16	0.10	0.10
v/c Ratio	0.17	0.12	0.17	0.67	0.28	0.09	0.24	0.39	0.20	0.26	0.64	0.29
Control Delay	7.6	13.1	10.9	78.9	11.5	2.4	49.3	65.1	1.9	49.8	71.3	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	13.1	10.9	78.9	11.5	2.4	49.3	65.1	1.9	49.8	71.3	7.1
LOS	A	B	B	E	B	A	D	E	A	D	E	A
Approach Delay		11.9			18.2			48.7			55.0	
Approach LOS		B			B			D			D	

Intersection Summary

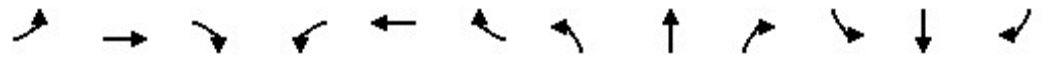
Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 64 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 25.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 50.1%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2040 Background  
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	650	85	75	1275	130	50	50	15	100	75	160
Future Volume (vph)	70	650	85	75	1275	130	50	50	15	100	75	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4999	0	1770	5085	1583	1770	1798	0	1770	1863	1583
Flt Permitted	0.160			0.325			0.708			0.619		
Satd. Flow (perm)	298	4999	0	605	5085	1583	1319	1798	0	1153	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				104		9				160
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Adj. Flow (vph)	70	650	85	75	1275	130	53	53	16	100	75	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	735	0	75	1275	130	53	69	0	100	75	160
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8

Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

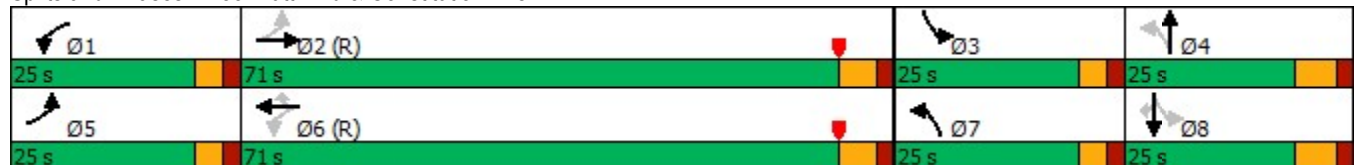
2040 Background  
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	71.0		25.0	71.0	71.0	25.0	25.0		25.0	25.0	25.0
Total Split (%)	17.1%	48.6%		17.1%	48.6%	48.6%	17.1%	17.1%		17.1%	17.1%	17.1%
Maximum Green (s)	20.0	65.0		20.0	65.0	65.0	20.0	18.5		20.0	18.5	18.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	85.8	77.1		87.1	79.4	79.4	37.0	26.9		43.7	32.1	32.1
Actuated g/C Ratio	0.59	0.53		0.60	0.54	0.54	0.25	0.18		0.30	0.22	0.22
v/c Ratio	0.28	0.28		0.18	0.46	0.14	0.15	0.20		0.25	0.18	0.34
Control Delay	12.1	14.2		11.9	21.5	5.3	37.5	46.9		39.0	50.0	9.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	12.1	14.2		11.9	21.5	5.3	37.5	46.9		39.0	50.0	9.1
LOS	B	B		B	C	A	D	D		D	D	A
Approach Delay		14.1			19.6			42.8			27.2	
Approach LOS		B			B			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 146  
 Actuated Cycle Length: 146  
 Offset: 137 (94%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.46  
 Intersection Signal Delay: 19.9      Intersection LOS: B  
 Intersection Capacity Utilization 55.3%      ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	5	470	5	15	1164	6	6	0	65	10	0	5
Future Vol, veh/h	5	470	5	15	1164	6	6	0	65	10	0	5
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	100	100	100	95	95	95	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	495	5	15	1164	6	6	0	68	10	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1170	0	0	500	0	0	1001	1705	248	1402	1704	582
Stage 1	-	-	-	-	-	-	505	505	-	1194	1194	-
Stage 2	-	-	-	-	-	-	496	1200	-	208	510	-
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	324	-	-	677	-	-	255	90	641	147	91	391
Stage 1	-	-	-	-	-	-	435	539	-	146	258	-
Stage 2	-	-	-	-	-	-	479	256	-	711	536	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	324	-	-	677	-	-	245	87	641	128	88	391
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	87	-	128	88	-
Stage 1	-	-	-	-	-	-	428	531	-	144	252	-
Stage 2	-	-	-	-	-	-	462	250	-	625	528	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			12.4			28.4		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	564	324	-	-	677	-	-	128	391
HCM Lane V/C Ratio	0.133	0.016	-	-	0.022	-	-	0.078	0.013
HCM Control Delay (s)	12.4	16.3	-	-	10.4	-	-	35.5	14.3
HCM Lane LOS	B	C	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.2	0

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	40	30	175	300	70
Future Vol, veh/h	35	40	30	175	300	70
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	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	40	30	175	300	70

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	570	335	370	0	-	0
Stage 1	335	-	-	-	-	-
Stage 2	235	-	-	-	-	-
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	483	707	1189	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	471	707	1189	-	-	-
Mov Cap-2 Maneuver	556	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1189	-	556	707	-	-
HCM Lane V/C Ratio	0.025	-	0.063	0.057	-	-
HCM Control Delay (s)	8.1	-	11.9	10.4	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	0.2	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	15	10	200	425	25
Future Vol, veh/h	5	15	10	200	425	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	15	10	200	447	26

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	680	460	473	0	-	0
Stage 1	460	-	-	-	-	-
Stage 2	220	-	-	-	-	-
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	417	601	1089	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	413	601	1089	-	-	-
Mov Cap-2 Maneuver	506	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1089	-	506	601	-	-
HCM Lane V/C Ratio	0.009	-	0.01	0.025	-	-
HCM Control Delay (s)	8.3	-	12.2	11.1	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-	-



Intersection												
Int Delay, s/veh	4.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	11	20	8	3	0	10	0	6	0	6	6
Future Vol, veh/h	2	11	20	8	3	0	10	0	6	0	6	6
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	95	95	95	85	85	85	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	11	20	8	3	0	12	0	7	0	6	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	31	0	0	50	44	21	48	54	3
Stage 1	-	-	-	-	-	-	25	25	-	19	19	-
Stage 2	-	-	-	-	-	-	25	19	-	29	35	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1582	-	-	950	848	1056	953	837	1081
Stage 1	-	-	-	-	-	-	993	874	-	1000	880	-
Stage 2	-	-	-	-	-	-	993	880	-	988	866	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	1582	-	-	935	843	1056	943	832	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	935	843	-	943	832	-
Stage 1	-	-	-	-	-	-	992	873	-	999	876	-
Stage 2	-	-	-	-	-	-	975	876	-	980	865	-

Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.4			5.3			8.8			8.9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	977	1582	-	-	1619	-	940
HCM Lane V/C Ratio	0.019	0.005	-	-	0.001	-	0.013
HCM Control Delay (s)	8.8	7.3	0	-	7.2	0	8.9
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

2040 Background  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	850	40	135	750	150	90	450	175	215	350	220
Future Volume (vph)	220	850	40	135	750	150	90	450	175	215	350	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.350			0.950			0.404			0.257		
Satd. Flow (perm)	652	5085	1583	1770	5085	1583	753	3539	1583	479	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			150			175			220
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	232	895	42	135	750	150	90	450	175	215	350	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	895	42	135	750	150	90	450	175	215	350	220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

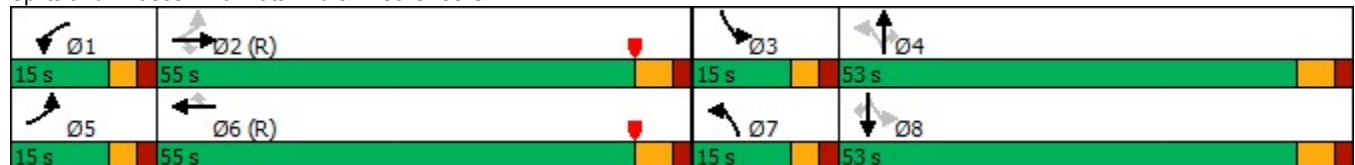
2040 Background  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	15.0	55.0	55.0	15.0	55.0	55.0	15.0	53.0	53.0	15.0	53.0	53.0
Total Split (%)	10.9%	39.9%	39.9%	10.9%	39.9%	39.9%	10.9%	38.4%	38.4%	10.9%	38.4%	38.4%
Maximum Green (s)	10.0	49.0	49.0	10.0	49.0	49.0	10.0	47.0	47.0	10.0	47.0	47.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	77.1	62.5	62.5	19.2	68.1	68.1	34.6	24.3	24.3	36.0	25.0	25.0
Actuated g/C Ratio	0.56	0.45	0.45	0.14	0.49	0.49	0.25	0.18	0.18	0.26	0.18	0.18
v/c Ratio	0.49	0.39	0.05	0.55	0.30	0.18	0.35	0.72	0.41	0.99	0.55	0.47
Control Delay	15.6	26.5	0.1	64.1	22.3	4.1	39.1	60.2	9.2	100.5	54.2	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	26.5	0.1	64.1	22.3	4.1	39.1	60.2	9.2	100.5	54.2	9.0
LOS	B	C	A	E	C	A	D	E	A	F	D	A
Approach Delay		23.4			25.1			45.1			54.2	
Approach LOS		C			C			D			D	

Intersection Summary























Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 91 (66%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 34.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 69.4%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2040 Background  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	1125	55	100	825	200	120	225	50	240	100	145
Future Volume (vph)	240	1125	55	100	825	200	120	225	50	240	100	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.973				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5050	0	1770	5085	1583	1770	1812	0	1770	1863	1583
Flt Permitted	0.267			0.193			0.689			0.185		
Satd. Flow (perm)	497	5050	0	360	5085	1583	1283	1812	0	345	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				200		7				153
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Adj. Flow (vph)	240	1125	55	100	825	200	120	225	50	253	105	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	1180	0	100	825	200	120	275	0	253	105	153
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8

Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

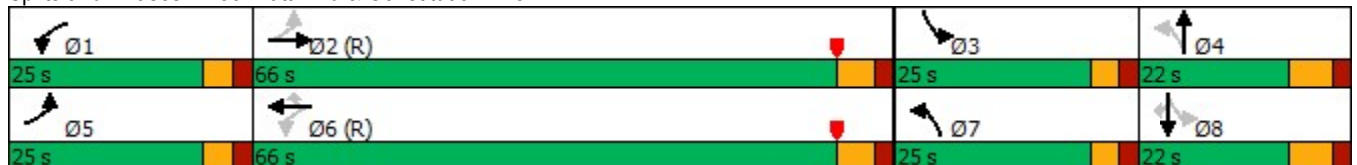
2040 Background  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	66.0		25.0	66.0	66.0	25.0	22.0		25.0	22.0	22.0
Total Split (%)	18.1%	47.8%		18.1%	47.8%	47.8%	18.1%	15.9%		18.1%	15.9%	15.9%
Maximum Green (s)	20.0	60.0		20.0	60.0	60.0	20.0	15.5		20.0	15.5	15.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	85.5	71.4		75.9	66.3	66.3	30.6	16.6		41.6	23.0	23.0
Actuated g/C Ratio	0.62	0.52		0.55	0.48	0.48	0.22	0.12		0.30	0.17	0.17
v/c Ratio	0.55	0.45		0.35	0.34	0.23	0.37	1.23		0.85	0.34	0.39
Control Delay	16.5	21.7		14.5	23.1	3.5	39.9	184.2		64.6	55.6	10.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	16.5	21.7		14.5	23.1	3.5	39.9	184.2		64.6	55.6	10.9
LOS	B	C		B	C	A	D	F		E	E	B
Approach Delay		20.8			18.8			140.3			46.7	
Approach LOS		C			B			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 120 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.23  
 Intersection Signal Delay: 37.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 76.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	80	1145	15	8	990	20	5	0	5	5	0	40
Future Vol, veh/h	80	1145	15	8	990	20	5	0	5	5	0	40
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	100	100	100	100	100	100	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	1205	16	8	990	20	5	0	5	5	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1010	0	0	1221	0	0	1785	2399	603	1656	2395	495
Stage 1	-	-	-	-	-	-	1373	1373	-	1006	1006	-
Stage 2	-	-	-	-	-	-	412	1026	-	650	1389	-
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	387	-	-	306	-	-	86	33	379	103	33	445
Stage 1	-	-	-	-	-	-	109	212	-	197	317	-
Stage 2	-	-	-	-	-	-	538	310	-	386	208	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	387	-	-	306	-	-	64	25	379	83	25	445
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	25	-	83	25	-
Stage 1	-	-	-	-	-	-	85	166	-	154	309	-
Stage 2	-	-	-	-	-	-	474	302	-	298	163	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			41			18.1		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	110	387	-	-	306	-	-	83	445
HCM Lane V/C Ratio	0.091	0.218	-	-	0.026	-	-	0.063	0.095
HCM Control Delay (s)	41	16.9	-	-	17.1	-	-	51.3	13.9
HCM Lane LOS	E	C	-	-	C	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.8	-	-	0.1	-	-	0.2	0.3

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	160	85	85	575	450	135
Future Vol, veh/h	160	85	85	575	450	135
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	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	168	89	89	605	450	135

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1301	518	585	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	783	-	-	-	-	-
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	178	558	990	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 162	558	990	-	-	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	450	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.1	1.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	990	-	298	558	-	-
HCM Lane V/C Ratio	0.09	-	0.565	0.16	-	-
HCM Control Delay (s)	9	-	31.7	12.7	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	3.2	0.6	-	-

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

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	20	35	825	525	50
Future Vol, veh/h	30	20	35	825	525	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	0	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	95	95	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	20	37	868	525	50

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1492	550	575	0	-	0
Stage 1	550	-	-	-	-	-
Stage 2	942	-	-	-	-	-
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	136	535	998	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	535	998	-	-	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	998	-	263	535	-	-
HCM Lane V/C Ratio	0.037	-	0.114	0.037	-	-
HCM Control Delay (s)	8.7	-	20.4	12	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0.1	-	-



Intersection												
Int Delay, s/veh	4.5											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	8	21	15	12	1	30	5	8	2	8	4
Future Vol, veh/h	5	8	21	15	12	1	30	5	8	2	8	4
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	64	64	64	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	19	49	23	19	2	30	5	8	2	8	4

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	21	0	0	68	0	0	140	135	44	140	158	20
Stage 1	-	-	-	-	-	-	68	68	-	66	66	-
Stage 2	-	-	-	-	-	-	72	67	-	74	92	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1595	-	-	1533	-	-	830	756	1026	830	734	1058
Stage 1	-	-	-	-	-	-	942	838	-	945	840	-
Stage 2	-	-	-	-	-	-	938	839	-	935	819	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1595	-	-	1533	-	-	806	739	1026	805	717	1058
Mov Cap-2 Maneuver	-	-	-	-	-	-	806	739	-	805	717	-
Stage 1	-	-	-	-	-	-	934	831	-	937	827	-
Stage 2	-	-	-	-	-	-	912	826	-	915	812	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.1	4	9.6	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	830	1533	-	-	1595	-	804
HCM Lane V/C Ratio	0.052	0.015	-	-	0.007	-	0.017
HCM Control Delay (s)	9.6	7.4	0	-	7.3	0	9.6
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	0.1

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

2040 Background + Site  
AM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	22	40	82	71	37	30	205	26	11	341	93
Future Volume (vph)	48	22	40	82	71	37	30	205	26	11	341	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		120	120		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			85			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.903			0.949				0.850		0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1682	0	1770	1768	0	1770	1863	1583	1770	1803	0
Flt Permitted	0.684			0.717			0.508			0.629		
Satd. Flow (perm)	1274	1682	0	1336	1768	0	946	1863	1583	1172	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			30				30			26
Link Speed (mph)		30			30			35				35
Link Distance (ft)		581			398			1734				2038
Travel Time (s)		13.2			9.0			33.8				39.7
Peak Hour Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	22	40	86	75	39	30	205	26	11	341	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	62	0	86	114	0	30	205	26	11	434	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

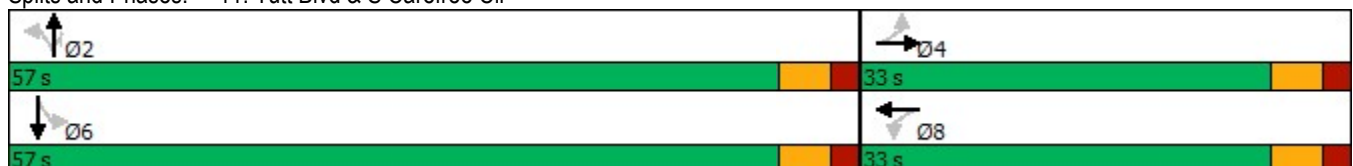
2040 Background + Site  
AM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5	23.5	23.5	23.5	
Total Split (s)	33.0	33.0		33.0	33.0		57.0	57.0	57.0	57.0	57.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		63.3%	63.3%	63.3%	63.3%	63.3%	
Maximum Green (s)	27.5	27.5		27.5	27.5		51.5	51.5	51.5	51.5	51.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	7.8	7.8		7.9	7.9		17.8	17.8	17.8	17.8	17.8	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.54	0.54	0.54	0.54	0.54	
v/c Ratio	0.16	0.14		0.27	0.26		0.06	0.20	0.03	0.02	0.44	
Control Delay	12.4	7.3		13.6	10.4		6.3	6.9	2.8	5.9	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.4	7.3		13.6	10.4		6.3	6.9	2.8	5.9	8.3	
LOS	B	A		B	B		A	A	A	A	A	
Approach Delay		9.5			11.8			6.4			8.2	
Approach LOS		A			B			A			A	

Intersection Summary

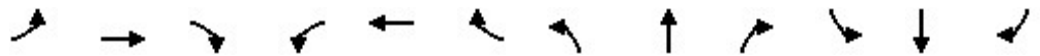
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	32.9
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	8.6
Intersection LOS:	A
Intersection Capacity Utilization:	45.3%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Tutt Blvd & S Carefree Cir



Lanes, Volumes, Timings  
 17: Tutt Blvd & Holiday Inn Access/Golf Club Access

2040 Background + Site  
 AM (New Signals)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	11	15	69	7	118	10	237	48	107	437	25
Future Volume (vph)	5	11	15	69	7	118	10	237	48	107	437	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	25		120	25		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.913			0.858				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1701	0	1770	1598	0	1770	1863	1583	1770	1848	0
Flt Permitted				0.449			0.486			0.461		
Satd. Flow (perm)	1863	1701	0	836	1598	0	905	1863	1583	859	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			139				164		5	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		189			393			2038			666	
Travel Time (s)		4.3			8.9			39.7			13.0	
Peak Hour Factor	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00	0.95	0.95	0.95
Adj. Flow (vph)	5	11	15	81	8	139	10	237	48	113	460	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	26	0	81	147	0	10	237	48	113	486	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings  
 17: Tutt Blvd & Holiday Inn Access/Golf Club Access

2040 Background + Site  
 AM (New Signals)

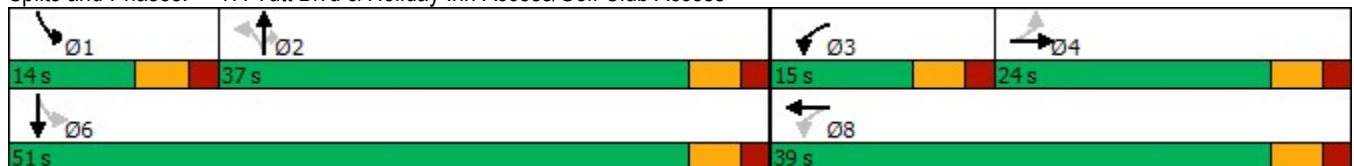


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		3	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.5	23.5		10.5	23.5		23.5	23.5	23.5	10.5	23.5	
Total Split (s)	24.0	24.0		15.0	39.0		37.0	37.0	37.0	14.0	51.0	
Total Split (%)	26.7%	26.7%		16.7%	43.3%		41.1%	41.1%	41.1%	15.6%	56.7%	
Maximum Green (s)	18.5	18.5		9.5	33.5		31.5	31.5	31.5	8.5	45.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effct Green (s)	6.4	6.4		11.3	11.0		18.7	18.7	18.7	26.8	28.5	
Actuated g/C Ratio	0.14	0.14		0.24	0.24		0.40	0.40	0.40	0.58	0.61	
v/c Ratio	0.02	0.10		0.23	0.30		0.03	0.32	0.07	0.18	0.43	
Control Delay	24.0	17.8		16.0	5.6		17.1	18.2	0.2	8.3	9.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.0	17.8		16.0	5.6		17.1	18.2	0.2	8.3	9.9	
LOS	C	B		B	A		B	B	A	A	A	
Approach Delay		18.8			9.3			15.2			9.6	
Approach LOS		B			A			B			A	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	46.4
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.43
Intersection Signal Delay:	11.2
Intersection LOS:	B
Intersection Capacity Utilization:	52.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Tutt Blvd & Holiday Inn Access/Golf Club Access



Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir























2040 Background + Site  
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	393	209	172	1003	98	129	144	92	61	242	70
Future Volume (vph)	70	393	209	172	1003	98	129	144	92	61	242	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.273			0.950			0.351			0.656		
Satd. Flow (perm)	509	5085	1583	1770	5085	1583	654	3539	1583	1222	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			97			97			97
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Adj. Flow (vph)	70	393	209	172	1003	98	136	152	97	61	242	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	393	209	172	1003	98	136	152	97	61	242	70
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2040 Background + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	653	85	75	1286	150	50	58	15	51	87	230
Future Volume (vph)	98	653	85	75	1286	150	50	58	15	51	87	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.969				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4999	0	1770	5085	1583	1770	1805	0	1770	1863	1583
Flt Permitted	0.150			0.333			0.698			0.707		
Satd. Flow (perm)	279	4999	0	620	5085	1583	1300	1805	0	1317	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				119		7				230
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Adj. Flow (vph)	98	653	85	75	1286	150	53	61	16	51	87	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	738	0	75	1286	150	53	77	0	51	87	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8





Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	22	519	5	15	1215	7	6	0	65	10	0	21
Future Vol, veh/h	22	519	5	15	1215	7	6	0	65	10	0	21
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	100	100	100	95	95	95	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	546	5	15	1215	7	6	0	68	10	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1222	0	0	551	0	0	1108	1844	273	1509	1842	608
Stage 1	-	-	-	-	-	-	592	592	-	1245	1245	-
Stage 2	-	-	-	-	-	-	516	1252	-	264	597	-
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	305	-	-	641	-	-	221	74	618	127	74	376
Stage 1	-	-	-	-	-	-	380	492	-	134	244	-
Stage 2	-	-	-	-	-	-	466	242	-	659	490	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	305	-	-	641	-	-	193	67	618	105	67	376
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	67	-	105	67	-
Stage 1	-	-	-	-	-	-	352	455	-	124	238	-
Stage 2	-	-	-	-	-	-	430	236	-	542	453	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.1			13.1			24.1		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	521	305	-	-	641	-	-	105	376
HCM Lane V/C Ratio	0.143	0.076	-	-	0.023	-	-	0.095	0.056
HCM Control Delay (s)	13.1	17.8	-	-	10.8	-	-	42.9	15.1
HCM Lane LOS	B	C	-	-	B	-	-	E	C
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.1	-	-	0.3	0.2

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↑	↔	↔	↔	↔
Traffic Vol, veh/h	48	22	40	82	71	37	30	205	26	11	341	93
Future Vol, veh/h	48	22	40	82	71	37	30	205	26	11	341	93
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	-	-	0	-	-	140	-	120	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	95	95	95	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	22	40	86	75	39	30	205	26	11	341	93

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	745	701	388	706	721	205	434	0	0	231	0	0
Stage 1	410	410	-	265	265	-	-	-	-	-	-	-
Stage 2	335	291	-	441	456	-	-	-	-	-	-	-
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	330	363	660	351	353	836	1126	-	-	1337	-	-
Stage 1	619	595	-	740	689	-	-	-	-	-	-	-
Stage 2	679	672	-	595	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	255	350	660	306	341	836	1126	-	-	1337	-	-
Mov Cap-2 Maneuver	255	350	-	306	341	-	-	-	-	-	-	-
Stage 1	602	590	-	720	670	-	-	-	-	-	-	-
Stage 2	560	654	-	534	563	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	17.2		18.5		1			0.2		
HCM LOS	C		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1126	-	-	255	502	306	428	1337	-	-
HCM Lane V/C Ratio	0.027	-	-	0.188	0.124	0.282	0.266	0.008	-	-
HCM Control Delay (s)	8.3	-	-	22.4	13.2	21.3	16.4	7.7	-	-
HCM Lane LOS	A	-	-	C	B	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.4	1.1	1.1	0	-	-

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Vol, veh/h	5	11	15	69	7	118	10	237	48	107	437	25
Future Vol, veh/h	5	11	15	69	7	118	10	237	48	107	437	25
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	-	-	0	-	-	25	-	-	25	-	120
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	85	85	85	100	100	100	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	11	15	81	8	139	10	237	48	113	460	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1041	991	460	993	993	261	486	0	0	285	0	0
Stage 1	686	686	-	281	281	-	-	-	-	-	-	-
Stage 2	355	305	-	712	712	-	-	-	-	-	-	-
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	208	246	601	224	245	778	1077	-	-	1277	-	-
Stage 1	438	448	-	726	678	-	-	-	-	-	-	-
Stage 2	662	662	-	423	436	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	154	222	601	195	221	778	1077	-	-	1277	-	-
Mov Cap-2 Maneuver	154	222	-	195	221	-	-	-	-	-	-	-
Stage 1	434	409	-	719	672	-	-	-	-	-	-	-
Stage 2	532	656	-	366	398	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.2		20.3		0.3		1.5	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1077	-	-	154	349	195	682	1277	-	-
HCM Lane V/C Ratio	0.009	-	-	0.032	0.074	0.416	0.216	0.088	-	-
HCM Control Delay (s)	8.4	-	-	29.2	16.1	36	11.7	8.1	-	-
HCM Lane LOS	A	-	-	D	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	1.9	0.8	0.3	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	546	1238	4	0	35
Future Vol, veh/h	0	546	1238	4	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	100	100	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	575	1238	4	0	37

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	621
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0 369
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	369
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	369
HCM Lane V/C Ratio	-	-	-	0.1
HCM Control Delay (s)	-	-	-	15.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection												
Int Delay, s/veh	4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	12	30	8	4	0	12	0	6	0	6	6
Future Vol, veh/h	2	12	30	8	4	0	12	0	6	0	6	6
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	12	30	8	4	0	13	0	6	0	6	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	42	0	0	57	51	27	54	66	4
Stage 1	-	-	-	-	-	-	31	31	-	20	20	-
Stage 2	-	-	-	-	-	-	26	20	-	34	46	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1618	-	-	1567	-	-	940	840	1048	944	825	1080
Stage 1	-	-	-	-	-	-	986	869	-	999	879	-
Stage 2	-	-	-	-	-	-	992	879	-	982	857	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	1567	-	-	925	835	1048	934	820	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	835	-	934	820	-
Stage 1	-	-	-	-	-	-	985	868	-	998	875	-
Stage 2	-	-	-	-	-	-	974	875	-	975	856	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.3	4.9	8.8	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	963	1567	-	-	1618	-	932
HCM Lane V/C Ratio	0.02	0.005	-	-	0.001	-	0.014
HCM Control Delay (s)	8.8	7.3	0	-	7.2	0	8.9
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	11	3	16	30	4
Future Vol, veh/h	11	11	3	16	30	4
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	95	95	95	95	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	3	17	30	4























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	55	32	34	0	0
Stage 1	32	-	-	-	-
Stage 2	23	-	-	-	-
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	953	1042	1578	-	-
Stage 1	991	-	-	-	-
Stage 2	1000	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	951	1042	1578	-	-
Mov Cap-2 Maneuver	951	-	-	-	-
Stage 1	989	-	-	-	-
Stage 2	1000	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	994	-	-
HCM Lane V/C Ratio	0.002	-	0.023	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

2040 Background + Site  
PM (New Signals)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	70	85	49	41	21	85	616	83	36	479	151
Future Volume (vph)	184	70	85	49	41	21	85	616	83	36	479	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		120	120		140
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			85			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.918			0.949				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1710	0	1770	1768	0	1770	1863	1583	1770	1796	0
Flt Permitted	0.395			0.659			0.179			0.421		
Satd. Flow (perm)	736	1710	0	1228	1768	0	333	1863	1583	784	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72			22				97		22	
Link Speed (mph)		30			30			35		35		
Link Distance (ft)		581			398			1734		2037		
Travel Time (s)		13.2			9.0			33.8		39.7		
Peak Hour Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	184	70	85	52	43	22	85	616	83	36	479	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	155	0	52	65	0	85	616	83	36	630	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12		12		12
Link Offset(ft)		0			0			0		0		0
Crosswalk Width(ft)		16			16			16		16		16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		



Lanes, Volumes, Timings  
11: Tutt Blvd & S Carefree Cir

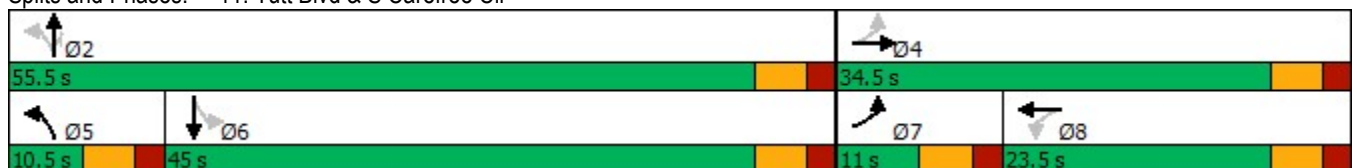
2040 Background + Site  
PM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		5	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.5	23.5		23.5	23.5		10.5	23.5	23.5	23.5	23.5	
Total Split (s)	11.0	34.5		23.5	23.5		10.5	55.5	55.5	45.0	45.0	
Total Split (%)	12.2%	38.3%		26.1%	26.1%		11.7%	61.7%	61.7%	50.0%	50.0%	
Maximum Green (s)	5.5	29.0		18.0	18.0		5.0	50.0	50.0	39.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead			Lag			Lead			Lag		
Lead-Lag Optimize?	Yes			Yes			Yes			Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	Min	Min	Min	Min	
Walk Time (s)		7.0		7.0	7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0			11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0			0	0	0	0	
Act Effct Green (s)	16.9	16.9		8.9	8.9		37.9	37.9	37.9	30.3	30.3	
Actuated g/C Ratio	0.25	0.25		0.13	0.13		0.57	0.57	0.57	0.45	0.45	
v/c Ratio	0.66	0.32		0.32	0.25		0.28	0.58	0.09	0.10	0.76	
Control Delay	36.5	15.3		36.6	25.1		9.5	12.5	1.6	13.5	23.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	36.5	15.3		36.6	25.1		9.5	12.5	1.6	13.5	23.9	
LOS	D	B		D	C		A	B	A	B	C	
Approach Delay		26.8			30.2			11.0			23.4	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	67
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	19.3
Intersection LOS:	B
Intersection Capacity Utilization:	71.8%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 11: Tutt Blvd & S Carefree Cir



Lanes, Volumes, Timings  
 17: Tutt Blvd & Holiday Inn Access/Golf Club Access

2040 Background + Site  
 PM (New Signals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	20	50	6	90	35	847	70	118	561	50
Future Volume (vph)	30	5	20	50	6	90	35	847	70	118	561	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	25		120	25		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.879			0.859				0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1637	0	1770	1600	0	1770	1863	1583	1770	1840	0
Flt Permitted	0.692			0.740			0.433			0.164		
Satd. Flow (perm)	1289	1637	0	1378	1600	0	807	1863	1583	305	1840	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			95				97			11
Link Speed (mph)		30			30			35				35
Link Distance (ft)		189			393			2037				666
Travel Time (s)		4.3			8.9			39.7				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	5	21	53	6	95	35	847	70	118	561	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	26	0	53	101	0	35	847	70	118	611	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt		NA
Protected Phases		4			8			2			1	6
Permitted Phases	4			8			2		2	6		

Lanes, Volumes, Timings  
 17: Tutt Blvd & Holiday Inn Access/Golf Club Access

2040 Background + Site  
 PM (New Signals)

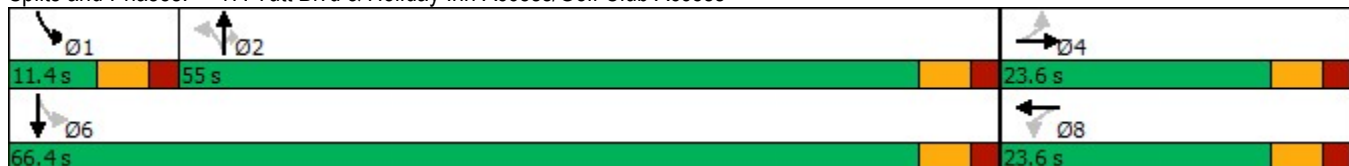


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5	23.5	10.5	23.5	
Total Split (s)	23.6	23.6		23.6	23.6		55.0	55.0	55.0	11.4	66.4	
Total Split (%)	26.2%	26.2%		26.2%	26.2%		61.1%	61.1%	61.1%	12.7%	73.8%	
Maximum Green (s)	18.1	18.1		18.1	18.1		49.5	49.5	49.5	5.9	60.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effct Green (s)	8.6	8.6		8.6	8.6		42.7	42.7	42.7	49.1	51.1	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.65	0.65	0.65	0.75	0.78	
v/c Ratio	0.19	0.11		0.30	0.35		0.07	0.70	0.07	0.32	0.43	
Control Delay	33.5	17.4		35.4	12.4		7.7	15.7	1.1	5.5	4.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.5	17.4		35.4	12.4		7.7	15.7	1.1	5.5	4.9	
LOS	C	B		D	B		A	B	A	A	A	
Approach Delay		26.3			20.3			14.3			5.0	
Approach LOS		C			C			B			A	

Intersection Summary

























Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	65.8
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	11.6
Intersection LOS:	B
Intersection Capacity Utilization	74.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 17: Tutt Blvd & Holiday Inn Access/Golf Club Access



Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

2040 Background + Site  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	909	127	179	785	152	143	464	209	218	368	220
Future Volume (vph)	220	909	127	179	785	152	143	464	209	218	368	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	175		200	125		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	195			45			80			70		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.343			0.950			0.372			0.255		
Satd. Flow (perm)	639	5085	1583	1770	5085	1583	693	3539	1583	475	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			152			209			220
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1172			750			543			1394	
Travel Time (s)		20.0			12.8			10.6			27.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	909	127	179	785	152	143	464	209	218	368	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	220	909	127	179	785	152	143	464	209	218	368	220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2			6	4		4	8		8

Lanes, Volumes, Timings  
6: Tutt Blvd & N Carefree Cir

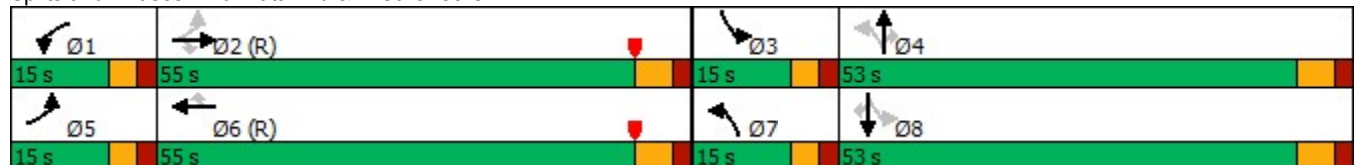
2040 Background + Site  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	16.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	15.0	55.0	55.0	15.0	55.0	55.0	15.0	53.0	53.0	15.0	53.0	53.0
Total Split (%)	10.9%	39.9%	39.9%	10.9%	39.9%	39.9%	10.9%	38.4%	38.4%	10.9%	38.4%	38.4%
Maximum Green (s)	10.0	49.0	49.0	10.0	49.0	49.0	10.0	47.0	47.0	10.0	47.0	47.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
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	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	68.0	53.9	53.9	27.3	68.0	68.0	35.7	24.8	24.8	36.0	25.0	25.0
Actuated g/C Ratio	0.49	0.39	0.39	0.20	0.49	0.49	0.26	0.18	0.18	0.26	0.18	0.18
v/c Ratio	0.52	0.46	0.18	0.51	0.31	0.18	0.56	0.73	0.46	1.00	0.57	0.47
Control Delay	17.9	32.4	5.5	56.4	22.6	4.1	45.5	60.0	9.0	104.4	54.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	32.4	5.5	56.4	22.6	4.1	45.5	60.0	9.0	104.4	54.8	8.9
LOS	B	C	A	E	C	A	D	E	A	F	D	A
Approach Delay		27.1			25.5			44.4			55.7	
Approach LOS		C			C			D			E	

Intersection Summary




























Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 91 (66%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 36.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 70.7%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 6: Tutt Blvd & N Carefree Cir



Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

2040 Background + Site  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	311	1137	55	100	832	241	120	237	50	266	108	188
Future Volume (vph)	311	1137	55	100	832	241	120	237	50	266	108	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	185		185	50		0	165		150
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			130			25			110		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.974				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5050	0	1770	5085	1583	1770	1814	0	1770	1863	1583
Flt Permitted	0.258			0.181			0.687			0.189		
Satd. Flow (perm)	481	5050	0	337	5085	1583	1280	1814	0	352	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				241		6				188
Link Speed (mph)		40			40			35				35
Link Distance (ft)		665			712			465				583
Travel Time (s)		11.3			12.1			9.1				11.4
Peak Hour Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	327	1197	58	100	832	241	120	237	50	266	108	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	327	1255	0	100	832	241	120	287	0	266	108	188
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8

Lanes, Volumes, Timings  
53: Tutt Blvd & Constitution Ave

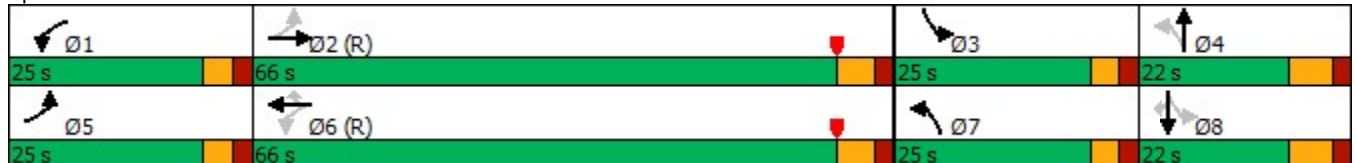
2040 Background + Site  
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	4.0	20.0		4.0	20.0	20.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.5	26.0		10.5	26.0	26.0	10.5	24.5		10.5	10.5	10.5
Total Split (s)	25.0	66.0		25.0	66.0	66.0	25.0	22.0		25.0	22.0	22.0
Total Split (%)	18.1%	47.8%		18.1%	47.8%	47.8%	18.1%	15.9%		18.1%	15.9%	15.9%
Maximum Green (s)	20.0	60.0		20.0	60.0	60.0	20.0	15.5		20.0	15.5	15.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	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
Lost Time Adjust (s)	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	6.0		5.0	6.0	6.0	5.0	6.5		5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0				
Flash Dont Walk (s)		11.0			11.0	11.0		11.0				
Pedestrian Calls (#/hr)		0			0	0		0				
Act Effct Green (s)	86.0	71.4		72.8	63.2	63.2	30.2	16.2		41.6	23.0	23.0
Actuated g/C Ratio	0.62	0.52		0.53	0.46	0.46	0.22	0.12		0.30	0.17	0.17
v/c Ratio	0.72	0.48		0.37	0.36	0.28	0.37	1.32		0.88	0.35	0.45
Control Delay	22.5	21.3		15.6	25.2	3.6	40.0	214.9		68.4	55.8	10.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	22.5	21.3		15.6	25.2	3.6	40.0	214.9		68.4	55.8	10.7
LOS	C	C		B	C	A	D	F		E	E	B
Approach Delay		21.5			19.9			163.3			46.7	
Approach LOS		C			B			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 138  
 Actuated Cycle Length: 138  
 Offset: 120 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.32  
 Intersection Signal Delay: 40.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 82.9%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 53: Tutt Blvd & Constitution Ave



Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗		↔			↖	↗
Traffic Vol, veh/h	137	1185	15	8	1082	22	5	0	5	9	0	50
Future Vol, veh/h	137	1185	15	8	1082	22	5	0	5	9	0	50
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	205	-	310	230	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	100	100	100	100	100	100	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	1247	16	8	1082	22	5	0	5	9	0	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1104	0	0	1263	0	0	1984	2655	624	1885	2649	541
Stage 1	-	-	-	-	-	-	1535	1535	-	1098	1098	-
Stage 2	-	-	-	-	-	-	449	1120	-	787	1551	-
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	349	-	-	292	-	-	65	23	367	75	23	416
Stage 1	-	-	-	-	-	-	84	176	-	170	287	-
Stage 2	-	-	-	-	-	-	511	280	-	319	173	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	349	-	-	292	-	-	38	13	367	49	13	416
Mov Cap-2 Maneuver	-	-	-	-	-	-	38	13	-	49	13	-
Stage 1	-	-	-	-	-	-	49	103	-	100	279	-
Stage 2	-	-	-	-	-	-	434	272	-	185	102	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.3			0.1			65.8			27.2		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	69	349	-	-	292	-	-	49	416
HCM Lane V/C Ratio	0.145	0.413	-	-	0.027	-	-	0.193	0.127
HCM Control Delay (s)	65.8	22.4	-	-	17.7	-	-	95.3	14.9
HCM Lane LOS	F	C	-	-	C	-	-	F	B
HCM 95th %tile Q(veh)	0.5	2	-	-	0.1	-	-	0.6	0.4



Intersection												
Int Delay, s/veh	119.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	184	70	85	49	41	21	85	616	83	36	479	151
Future Vol, veh/h	184	70	85	49	41	21	85	616	83	36	479	151
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	-	-	0	-	-	140	-	120	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	95	95	95	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	184	70	85	52	43	22	85	616	83	36	479	151

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1487	1496	555	1490	1488	616	630	0	0	699	0	0
Stage 1	627	627	-	786	786	-	-	-	-	-	-	-
Stage 2	860	869	-	704	702	-	-	-	-	-	-	-
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	~ 103	123	531	102	124	491	952	-	-	898	-	-
Stage 1	471	476	-	385	403	-	-	-	-	-	-	-
Stage 2	351	369	-	428	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 62	108	531	~ 38	109	491	952	-	-	898	-	-
Mov Cap-2 Maneuver	~ 62	108	-	~ 38	109	-	-	-	-	-	-	-
Stage 1	429	457	-	351	367	-	-	-	-	-	-	-
Stage 2	269	336	-	292	422	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	592.1		217.9		1		0.5	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	952	-	-	62	192	38	148	898	-	-
HCM Lane V/C Ratio	0.089	-	-	2.968	0.807	1.357	0.441	0.04	-	-
HCM Control Delay (s)	9.2	-	-	\$ 1028.8	73.6	\$ 433.8	47.2	9.2	-	-
HCM Lane LOS	A	-	-	F	F	F	E	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	18.9	5.7	5.3	2	0.1	-	-

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

Intersection												
Int Delay, s/veh	14.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	30	5	20	50	6	90	35	847	70	118	561	50
Future Vol, veh/h	30	5	20	50	6	90	35	847	70	118	561	50
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	-	-	0	-	-	25	-	120	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	5	21	53	6	95	35	847	70	118	561	50

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1825	1809	586	1752	1764	847	611	0	0	917	0	0
Stage 1	822	822	-	917	917	-	-	-	-	-	-	-
Stage 2	1003	987	-	835	847	-	-	-	-	-	-	-
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	59	79	510	67	84	362	968	-	-	744	-	-
Stage 1	368	388	-	326	351	-	-	-	-	-	-	-
Stage 2	292	325	-	362	378	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	35	64	510	~ 52	68	362	968	-	-	744	-	-
Mov Cap-2 Maneuver	35	64	-	~ 52	68	-	-	-	-	-	-	-
Stage 1	355	326	-	314	338	-	-	-	-	-	-	-
Stage 2	204	313	-	287	318	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	170	103.2	0.3	1.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	968	-	-	35	213	52	285	744	-	-
HCM Lane V/C Ratio	0.036	-	-	0.902	0.124	1.012	0.355	0.159	-	-
HCM Control Delay (s)	8.9	-	-	291.4	24.3	254.6	24.4	10.7	-	-
HCM Lane LOS	A	-	-	F	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.2	0.4	4.5	1.5	0.6	-	-

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

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	1337	1093	14	0	23
Future Vol, veh/h	0	1337	1093	14	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1337	1093	14	0	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	408
HCM Lane V/C Ratio	-	-	-	0.059
HCM Control Delay (s)	-	-	-	14.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	8	8	13	42	30	13
Future Vol, veh/h	8	8	13	42	30	13
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	9	9	14	46	33	14

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	114	40	47	0	0
Stage 1	40	-	-	-	-
Stage 2	74	-	-	-	-
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	882	1031	1560	-	-
Stage 1	982	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	874	1031	1560	-	-
Mov Cap-2 Maneuver	874	-	-	-	-
Stage 1	973	-	-	-	-
Stage 2	949	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1560	-	946	-	-
HCM Lane V/C Ratio	0.009	-	0.018	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	5.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	9	28	15	13	1	41	5	8	2	8	4
Future Vol, veh/h	5	9	28	15	13	1	41	5	8	2	8	4
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	-	-	-	-	-	-	-	-	-	-	-	-
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	10	30	16	14	1	45	5	9	2	9	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	40	0	0	88	82	25	89	97	15
Stage 1	-	-	-	-	-	-	35	35	-	47	47	-
Stage 2	-	-	-	-	-	-	53	47	-	42	50	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1603	-	-	1570	-	-	897	808	1051	896	793	1065
Stage 1	-	-	-	-	-	-	981	866	-	967	856	-
Stage 2	-	-	-	-	-	-	960	856	-	972	853	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1603	-	-	1570	-	-	877	797	1051	875	783	1065
Mov Cap-2 Maneuver	-	-	-	-	-	-	877	797	-	875	783	-
Stage 1	-	-	-	-	-	-	978	863	-	964	847	-
Stage 2	-	-	-	-	-	-	937	847	-	955	850	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.9	3.8	9.3	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	891	1570	-	-	1603	-	861
HCM Lane V/C Ratio	0.066	0.01	-	-	0.003	-	0.018
HCM Control Delay (s)	9.3	7.3	0	-	7.3	0	9.3
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	0.1