
TRAFFIC IMPACT REPORT

DHIC SKYLINE RIDGE COLORADO SPRINGS, COLORADO

May 30, 2023

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I. INTRODUCTION

A. Project Overview

DR Horton is proposing to develop a property containing approximately 23.8 acres of land situated along the west side of Arch St. in Colorado Springs, Colorado. More specifically, the subject property is bound by Arch St. to the east, undeveloped land to the west and south, and South Blvd. as well as some commercial/industrial properties to the north. Upon build-out, the development, to be known as DHIC Skyline Ridge, will consist of 168 single-family attached housing units.

Vehicular access for the proposed DHIC Skyline Ridge development will be provided via an internal roadway network providing connectivity to the external transportation system at the following locations:

- A full access driveway intersecting Arch St. and Spectra Dr., forming a four-legged intersection at the eastern end of the site. This intersection will be stop-controlled on the northbound and southbound approaches.
- A full access driveway intersecting Race St. and South Blvd., forming a three-legged intersection at the northern end of the site. This intersection will be stop-controlled on the eastbound approach.

Figure 1 provides a site location map of the proposed project and surrounding transportation system. Figure 2 graphically illustrates the conceptual site plan and proposed access points for the proposed DHIC Skyline Ridge development.

B. Purpose of Study

The purpose of this study is to evaluate the impact of the vehicular trips projected to be generated by the proposed DHIC Skyline Ridge development on the study area intersections and roadway system. The study includes 2022 (existing), 2025 (year of anticipated project build-out), and 2045 (long-term) analysis horizons.

C. Study Area

The study area encompasses the existing roadway system in the vicinity of the project site. Specifically, the following intersections are included in the study:

- Busch Ave./S. 21st St.
- Wheeler Ave./S. 21st St.
- Busch St./Race St.
- Busch Ave./Pecan St.
- S. 26th St./Westend Ave.
- Gold Camp Rd./Bear Creek Rd.
- Wheeler Ave./Bear Creek Rd.

II. EXISTING CONDITIONS

A. Existing Traffic Volumes

Existing peak hour intersection turning movement traffic volume counts were collected for this study at the following intersections on Thursday, August 18, 2022:

- Busch Ave./S. 21st St.
- Wheeler Ave./S. 21st St.
- Busch St./Race St.
- Busch Ave./Pecan St.
- S. 26th St./Westend Ave.
- Gold Camp Rd./Bear Creek Rd.
- Wheeler Ave./Bear Creek Rd.

24-hour directional traffic volume counts were collected for this study at the following locations on Thursday, August 18, 2022:

- Wheeler Ave. east of Bear Creek Rd.
- Wheeler Ave. west of S. 21st St.
- S. 21st St. north of Wheeler Ave.
- S. 21st St. south of Wheeler Ave.
- Busch Ave. west of S. 21st St.
- S. 21st St. south of Busch Ave.

These counts were compared to available pre-COVID traffic volume count data found on the Colorado Springs Traffic Count Map for locations on Wheeler Ave. and S. 21st St. in order to confirm their validity and justify that a COVID adjustment factor is not needed for the collected count data.

A summary of the 2022 (existing) peak hour intersection turning movement and daily directional counts is illustrated in Figure 3. Detailed traffic volume count data collected for this study is provided in Appendix “A”.

B. Existing Roadway System

The existing transportation network in the vicinity of the proposed DHIC Skyline Ridge development is graphically illustrated in Figure 1. The following narrative provides a description of the study area roadways and associated intersections:

Study Area Roadways:

- **Busch Ave.** – Within the study area (Westend Ave. to S. 21st St.) Busch Ave. is classified as a local roadway under the jurisdiction of the City of Colorado Springs. The roadway section consists of one travel lane in each direction. There is curb and gutter along both sides of the roadway and sections that include attached sidewalk along the northern side of the roadway. The roadway has a posted speed limit of 30 mph.
- **Wheeler Ave.** – Within the study area (Bear Creek Rd. to S. 21st St.) Wheeler Ave. is classified as a collector roadway under the jurisdiction of the City of Colorado Springs. The roadway section consists of one travel lane in each direction. There is curb and

gutter on both sides of the roadway east of Westend Avenue. West of Westend Ave. there is no curb or gutter along the roadway. There are no sidewalks along any segment of the roadway. The roadway has a posted speed limit of 30 mph.

- **S. 21st St.** – Within the study area (Broadway St. to Gold Camp Rd.) S. 21st St. is classified as a minor arterial roadway under the jurisdiction of the City of Colorado Springs. The roadway section generally consists of one travel lane in each direction with a center two-way left turn lane and a bicycle lane along the western shoulder of the roadway. There is generally no curb and gutter or sidewalk along either side of the roadway in the vicinity of Busch Ave. and Wheeler Ave. The roadway is anticipated to be expanded to include two travel lanes in each direction along with a center two-way left turn lane by the 2045 (long-term) analysis horizon based on the Colorado Springs 2045 *Long Range Transportation Plan*. The roadway has a posted speed limit of 40 mph.

Study Area Intersections:

- **Busch Ave./S. 21st St.** – The Busch Ave./S. 21st St. intersection is a three-legged “T” intersection operating under two-way stop control with the stop control on the eastbound approach. The west leg of the intersection has one shared left turn/right turn lane on the eastbound approach, and one westbound departure lane. The north leg of the intersection has one shared through/right turn lane on the southbound approach and one northbound departure lane. The south leg of the intersection has one left turn lane from a center two-way left turn lane and one through lane on the northbound approach and one southbound departure lane. It is anticipated that S. 21st St. will be expanded to two travel lanes in each direction along with the center two-way left turn lane by the 2045 (long-term) analysis horizon.
- **Wheeler Ave./S. 21st St.** – The Wheeler Ave./S. 21st St. intersection is a three-legged “T” intersection operating under two-way stop control with the stop control on the eastbound approach. The west leg of the intersection has one shared left turn/right turn lane on the eastbound approach, and one westbound departure lane. The north leg of the intersection has one shared through/right turn lane on the southbound approach and one northbound departure lane. The south leg of the intersection has one left turn lane from a center two-way left turn lane and one through lane on the northbound approach and one southbound departure lane. It is anticipated that S. 21st St. will be expanded to two travel lanes in each direction along with the center two-way left turn lane by the 2045 (long-term) analysis horizon. It is also anticipated that the adjacent Gold Hill Mesa development to the east will be completed by the 2045 (long-term) analysis horizon creating an east leg to this intersection. This leg will include one shared left turn/through lane and one right turn lane on the westbound approach as well as one eastbound departure lane.
- **Busch Ave./Race St.** – The Busch Ave./Race St. intersection is a four-legged intersection operating under two-way stop control with the stop control on the northbound and southbound approaches. The east leg of the intersection has one shared left turn/through/right turn lane on the westbound approach, and one eastbound departure lane. The west leg of the intersection has one shared left turn/through/right turn lane on the eastbound approach, and one westbound departure lane. The north leg of the intersection has one shared left turn/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection is a dirt road with no markings but is assumed to have one shared left turn/through/right turn lane on the northbound approach, and one southbound departure lane.

- **Busch Ave./Pecan St.** – The Busch Ave./Pecan St. intersection is a four-legged intersection operating under two-way stop control with the stop control on the northbound and southbound approaches. The east leg of the intersection has one shared left turn/through/right turn lane on the westbound approach, and one eastbound departure lane. The west leg of the intersection has one shared left turn/through/right turn lane on the eastbound approach, and one westbound departure lane. The north leg of the intersection has one shared left turn/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left turn/through/right turn lane on the northbound approach, and one southbound departure lane.
- **S. 26th St./Westend Ave.** – The S. 26th St./Westend Ave. intersection is a three-legged “T” intersection operating under two-way stop control with the stop-control on the northbound approach. The northeast leg of the intersection has one shared left turn/through lane along with a bicycle lane on the southwest bound approach, and one northeast bound departure lane with a bicycle lane. The southwest leg of the intersection has one shared through/right turn lane along with a bicycle lane on the northeast bound approach, and one southwest bound departure lane with a bicycle lane. The south leg of the intersection has one shared left turn/right turn lane on the northbound approach, and one southbound departure lane.
- **Gold Camp Rd./Bear Creek Rd.** – The Gold Camp Rd./Bear Creek Rd. intersection is a four-legged intersection operating under all-way stop control. The east leg of the intersection has one shared left turn/through/right turn lane on the westbound approach, and one eastbound departure lane. The west leg of the intersection has one shared left turn/through/right turn lane on the eastbound approach, and one westbound departure lane. The north leg of the intersection has one shared left turn/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left turn/through/right turn lane on the northbound approach, and one southbound departure lane.
- **Wheeler Ave./Bear Creek Rd.** – The Wheeler Ave./Bear Creek Rd. intersection is a three-legged “T” intersection operating under two-way stop control with the stop-control on the westbound approach. While the approach along Wheeler Ave. could be considered a fifth leg to the Gold Camp Rd./Bear Creek Rd. intersection, based on how this approach functions in operation, as well as the limitations of HCM analysis, this was analyzed as a separate intersection along Bear Creek Rd. The east leg of the intersection has one shared left turn/right turn lane on the westbound approach, and one eastbound departure lane. The north leg of the intersection has one shared left turn/through lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared through/right turn lane on the northbound approach, and one southbound departure lane.

C. 2022 (Existing) Conditions Operational Analysis

In order to establish a base condition in which to evaluate and compare the impacts of the traffic generated by the proposed DHIC Skyline Ridge development on the study area intersections, peak hour capacity analyses were performed for the 2022 (existing) conditions scenario. These analyses utilized the methodologies contained in the *Highway Capacity Manual 6th Edition* (HCM 6) employing *Synchro 11* software and resulted in a qualitative measure of the operational characteristics of the intersection, described by a letter designation ranging from “A”

to “F” known as “Level of Service” (LOS). LOS “A” represents free-flow operating conditions, whereas LOS “F” represents excessive congestion and delay. Unsignalized intersection capacity analysis reports a LOS designation for each impeded intersection movement. Signalized intersection capacity analysis reports the overall LOS designation for the intersection as well as for each lane group and approach. LOS “D” is considered the minimum acceptable standard of operation.

The study area intersections included in the 2022 (existing) conditions analysis are as follows:

- Busch Ave./S. 21st St.
- Wheeler Ave./S. 21st St.
- Busch St./Race St.
- Busch Ave./Pecan St.
- S. 26th St./Westend Ave.
- Gold Camp Rd./Bear Creek Rd.
- Wheeler Ave./Bear Creek Rd.

The results of the 2022 (existing) conditions operational analysis are summarized in Table 1, below. Figure 4 graphically illustrates the results of the existing conditions analysis and detailed *Synchro 11* software intersection capacity analysis reports are provided in Appendix “B”.

As shown in Table 1, all of the existing study area intersections are shown to be operating at acceptable levels of service (LOS “D” or better), overall, as well as all impeded lane groups, with the exception of the following:

- Busch Ave./S. 21st St.
 - The eastbound left turn/right turn movement is projected to experience a poor level of service (LOS “E”) during the p.m. peak hour.
- Wheeler Ave./S. 21st St.
 - The eastbound left turn/right turn movement is projected to experience a poor level of service (LOS “E”) during the p.m. peak hour.

D. 2022 (Existing) Conditions Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the existing study area intersections were computed utilizing the *Synchro 11* 95%tile reported queues. Queue length calculations are based on a 25-foot vehicle length and reported as the total cumulative computed queue length for all traffic lanes in the lane group.

Existing storage capacity for auxiliary lane groups (left turn and right turn lanes) is reported as the cumulative capacity of all lanes in the group. Table 2 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 2, there are no study area intersections that are experiencing queue related issues based on the reported queues in the 2022 (existing) conditions analysis scenario.

**TABLE 1
2022 (EXISTING) CONDITIONS
SUMMARY OF OPERATIONAL ANALYSIS**

INTERSECTION	CONTROL	2022 EXISTING TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. Busch Ave./S. 21st St. a. EB LR b. NB L c. INTERSECTION	TWSC				
	Stop	C	24.9	E	45.4
		A	8.7	A	9.3
		A	1.0	A	1.8
2. Wheeler Ave./S. 21st St. a. EB LR b. NB L c. INTERSECTION	TWSC				
	Stop	D	25.7	E	42.9
		A	8.7	A	9.4
		A	0.7	A	0.9
3. Busch Ave./Race St. a. EB LTR b. WB LTR c. NB LTR d. SB LTR e. INTERSECTION	TWSC				
	Stop	A	0.0	A	0.0
		A	0.0	A	0.0
		A	0.0	A	0.0
		A	8.6	A	8.6
		A	0.4	A	0.5
4. Busch Ave./Pecan St. a. EB LTR b. WB LTR c. NB LTR d. SB LTR e. INTERSECTION	TWSC				
	Stop	A	7.3	A	0.0
		A	7.3	A	7.3
		A	8.6	A	8.6
		A	9.7	A	9.5
		A	3.6	A	4.1
5. S. 26th St./Westend Ave. a. SWB LT b. NB LR c. INTERSECTION	TWSC				
	Stop	A	0.0	A	0.0
		A	0.0	A	9.1
		A	0.0	A	3.2
6. Gold Camp Rd./Bear Creek Rd. a. EB LTR b. WB LTR c. NB LTR d. SB LTR f. INTERSECTION	AWSC				
	Stop	A	7.2	A	7.3
	Stop	A	7.0	A	7.3
	Stop	A	6.9	A	7.1
	Stop	A	7.3	A	7.5
	A	7.1	A	7.3	
7. S. 26th St./Westend Ave. a. WB LR b. SB LT c. INTERSECTION	TWSC				
	Stop	A	8.8	A	9.0
		A	0.0	A	7.3
		A	0.3	A	0.8

**TABLE 2
2022 (EXISTING) CONDITIONS
SUMMARY OF QUEUING ANALYSIS**

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2022 EXISTING TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM	PM
		PEAK	PEAK
1. Busch Ave./S. 21st St.			
a. EB LR (1)	*	20	45
b. NB L (1)	*	3	3
2. Wheeler Ave./S. 21st St.			
a. EB LR (1)	*	18	25
b. NB L (1)	*	0	0
3. Busch Ave./Race St.			
a. EB LTR (1)	*	0	0
b. WB LTR (1)	*	0	0
c. NB LTR (1)	*	0	0
d. SB LTR (1)	*	0	0
4. Busch Ave./Pecan St.			
a. EB LTR (1)	*	0	0
b. WB LTR (1)	*	3	0
c. NB LTR (1)	*	3	3
d. SB LTR (1)	*	0	0
5. S. 26th St./Westend Ave.			
a. SWB LT (1)	*	0	0
b. NB LR (1)	*	0	5
6. Gold Camp Rd./Bear Creek Rd.			
a. EB LTR (1)	*	0	0
b. WB LTR (1)	*	3	8
c. NB LTR (1)	*	0	5
d. SB LTR (1)	*	3	5
7. S. 26th St./Westend Ave.			
a. WB LR (1)	*	0	0
b. SB LT (1)	*	0	0

* = Extension of approach laneage.

III. BACKGROUND TRAFFIC

A. Background Traffic Volumes

The development of the background traffic models for the 2025 (build-out) and 2045 (long-term) analysis horizons were developed for this study employing the following strategy:

- 2025 (build-out) background traffic volumes - The 2025 (build-out) background traffic volumes were developed by applying a “regional” background traffic growth factor to the 2022 (existing) traffic volumes to forecast the 2025 (build-out) “regional” background traffic volume component. As there are no anticipated 2025 (build-out) “local” background traffic volume components, the 2025 (build-out) “regional” background traffic volume makes up the entire volume for this scenario.
- 2045 (long-term) background traffic volumes – The 2045 (long-term) background traffic volumes were developed employing a three-step process. The first step of the process was to apply a “regional” background traffic growth factor to the 2022 (existing) traffic volumes to forecast the 2045 (long-term) “regional” background traffic volume component. The next step was to modify the existing roadway network to include the major improvements (roadway realignments, new roadways, etc.) that are projected to be in place by the 2045 (long-term) analysis horizon and redistribute the forecast 2045 (long-term) “regional” background traffic volumes to them. The third step was to develop a “local” background traffic volume model component. This component assumed that the anticipated Gold Hill Mesa development to the east of S. 21st St. will be fully developed by the 2045 (long-term) analysis horizon. Forecast traffic volumes generated by this property were distributed and assigned to the modified study area roadway network. Combining the “regional” and “local” background traffic volume components results in the 2045 (long-term) total background traffic volume forecast for this study.

The following describes the methodology utilized in developing the 2025 (build-out) and 2045 (long-term) analysis horizons background traffic models.

- “Regional” Background Traffic Volumes:
 - CDOT traffic models providing volume projections along SH 24 in the vicinity of the study area were used to establish the average annual traffic volume growth rate to be used in this study. This average annual traffic volume growth rate is forecast to be 0.79% for all roadways within the study area. This equates to a 3-year (2022 to 2025) growth factor of 1.024 and a 23-year (2022 to 2045) growth factor of 1.20.
 - The appropriate AGRs were applied to the 2022 (existing) traffic volumes in order to develop the forecast 2025 (build-out) and 2045 (long-term) “regional” background traffic volumes.
 - For the purposes of this study, it was assumed that the distribution of intersection approach traffic (left turn, through, right turn) will remain static through the 2045 (long-term) analysis horizon.
 - Figure 5 graphically illustrates the forecast 2025 (build-out) analysis horizon “regional” background traffic volumes on the study area roadways and intersections.
 - Figure 6 graphically illustrates the forecast 2045 (long-term) analysis horizon “regional” background traffic volumes on the study area roadways and intersections.

- “Local” Background Traffic Volumes:
 - In order to account for the influence of the development of the properties adjacent to the study area roadways and intersections a “local” background traffic volume component was developed. This “local” background traffic component was applied to the 2045 (long-term) analysis horizon background traffic models based on the properties that are anticipated to be developed.
 - The first step in developing the “local” background traffic volumes was to identify the location, size and planned land uses for these properties. In order to accomplish this, information from the previous *Gold Hill Mesa* traffic impact study provided by Colorado Springs was utilized to determine land uses and sizes for the surrounding undeveloped parcels. The anticipated build-out year for this development was also utilized and it was determined that this entire development is anticipated to be built by the 2045 (long-term) analysis horizon.
 - Once the development parameters of the surrounding properties were identified, vehicular trips were generated, distributed, and assigned to the study area roadway network. Site generated vehicle trips were determined utilizing the *ITE Trip Generation Manual, 11th Edition* as well as the *Gold Hill Mesa* traffic impact study.
 - Figure 7 graphically illustrates the forecast 2045 (long-term) analysis horizon “local” background traffic volumes on the study area roadways and intersections.
- 2025 (build-out) Total Background Traffic Volumes
 - The 2025 (build-out) total background traffic volumes for this study consist only of the 2025 (build-out) “regional” background traffic volumes as there is no 2025 (build-out) “local” background traffic volume component. These volumes are once again shown in Figure 5.
- 2045 (long-term) Total Background Traffic Volumes
 - The 2045 (long-term) total background traffic volumes for this study are the sum of the 2045 (long-term) “regional” background traffic volumes plus the 2025 (build-out) “local” background traffic volumes. Figure 8 graphically illustrates the 2045 (long-term) total background traffic volumes on the study area roadways and intersections.

B. Background Traffic Operational Analysis

The following study area intersections were analyzed for the 2025 (build-out) and 2045 (long-term) total background traffic analysis horizons in order to provide a basis for comparison of their operational characteristics with and without the proposed DHIC Skyline Ridge development:

- Busch Ave./S. 21st St.
- Wheeler Ave./S. 21st St.
- Busch St./Race St.
- Busch Ave./Pecan St.
- S. 26th St./Westend Ave.
- Gold Camp Rd./Bear Creek Rd.
- Wheeler Ave./Bear Creek Rd.

The results of the background traffic operational analyses are summarized graphically for the 2025 (build-out) and 2045 (long-term) background traffic analysis horizons in Figures 9 and 10,

respectively. A summary of the results of the intersection capacity analyses are provided in Table 3 and detailed *Synchro 11* software intersection capacity analysis reports in Appendix “B”.

As shown in Table 3, all of the existing study area intersections as well as all of their individual lane groups are projected to operate at acceptable levels of service (LOS “D” or better), overall, during the 2025 (build-out) and 2045 (long-term) analysis horizon background traffic scenario with the exception of the following:

- Busch Ave./S. 21st St.
 - The eastbound left turn/right turn movement is projected to experience a poor level of service (LOS “E”) during the p.m. peak hour by the 2025 (build-out) analysis horizon and during the a.m. peak hour by the 2045 (long-term) analysis horizon. It is projected to worsen to a failing level of service (LOS “F”) during the p.m. peak hour by the 2045 (long-term) analysis horizon.

- Wheeler Ave./S. 21st St. (TWSC)
 - The overall intersection is projected to experience a poor level of service (LOS “E”) during the a.m. peak hour and failing level of service (LOS “F”) during the p.m. peak hour by the 2045 (long-term) analysis horizon.
 - The eastbound left turn/right turn movement is projected to experience a poor level of service (LOS “E”) during the p.m. peak hour by the 2025 (build-out) analysis horizon. It is projected to deteriorate to a failing level of service (LOS “F”) during both the a.m. and p.m. peak hour by the 2045 (long-term) analysis horizon.
 - The westbound left turn/through turn movement is projected to experience a failing level of service (LOS “F”) during both the a.m. and p.m. peak hour by the 2045 (long-term) analysis horizon.

**TABLE 3
2025 (BUILD-OUT) & 2045 (LONG-TERM) BACKGROUND TRAFFIC
SUMMARY OF OPERATIONAL ANALYSIS**

INTERSECTION	CONTROL	2025 BACKGROUND TRAFFIC				2045 BACKGROUND TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY	AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. Busch Ave./S. 21st St. a. EB LR b. NB L c. INTERSECTION	TWSC								
	Stop	D	26.4	E	49.7	E	37.2	F	126.4
		A	8.8	A	9.4	A	10.0	B	11.2
		A	1.0	A	2.0	A	1.2	A	3.9
2a. Wheeler Ave./S. 21st St. a. EB L(T)R b. WB LT c. WB R d. NB L e. SB L f. INTERSECTION	TWSC								
	Stop	D	27.1	E	46.4	F	784.8	F	-
	Stop	-	-	-	-	F	575.8	F	-
	Stop	-	-	-	-	B	14.5	C	15.9
		A	8.8	A	9.5	A	9.8	B	11.1
		A	0.8	A	1.0	E	41.9	F	-
2b. Wheeler Ave./S. 21st St. a. EB LTR b. WB LT c. WB R d. NB L e. NB TR f. SB L g. SB TR h. INTERSECTION	Signal								
		-	-	-	-	C	25.4	C	27.2
		-	-	-	-	C	25.0	C	26.0
		-	-	-	-	C	29.8	C	30.3
		-	-	-	-	A	0.3	A	0.6
		-	-	-	-	A	0.8	A	1.0
		-	-	-	-	A	2.8	A	4.8
		-	-	-	-	A	3.4	A	3.5
		-	-	-	-	A	4.9	A	4.5
3. Busch Ave./Race St. a. EB LTR b. WB LTR c. NB LTR d. SB LTR e. INTERSECTION	TWSC								
		A	0.0	A	0.0	A	0.0	A	0.0
		A	0.0	A	0.0	A	0.0	A	0.0
	Stop	A	0.0	A	0.0	A	0.0	A	0.0
	Stop	A	8.6	A	8.6	A	8.7	A	8.6
		A	0.4	A	0.5	A	0.3	A	0.4
4. Busch Ave./Pecan St. a. EB LTR b. WB LTR c. NB LTR d. SB LTR e. INTERSECTION	TWSC								
		A	7.3	A	0.0	A	7.3	A	0.0
		A	7.3	A	7.3	A	7.4	A	7.3
	Stop	A	8.6	A	8.6	A	8.6	A	8.7
	Stop	A	9.7	A	9.5	B	10.0	A	9.6
		A	3.6	A	4.1	A	3.6	A	4.2
5. S. 26th St./Westend Ave. a. SWB LT b. NB LR c. INTERSECTION	TWSC								
		A	0.0	A	0.0	A	0.0	A	0.0
	Stop	A	0.0	A	9.1	A	0.0	A	9.2
		A	0.0	A	3.2	A	0.0	A	3.2
6. Gold Camp Rd./Bear Creek Rd. a. EB LTR b. WB LTR c. NB LTR d. SB LTR f. INTERSECTION	AWSC								
	Stop	A	7.2	A	7.3	A	7.2	A	7.4
	Stop	B	7.0	A	7.3	A	7.0	A	7.4
	Stop	A	6.9	A	7.1	A	6.9	A	7.2
	Stop	A	7.3	A	7.5	A	7.3	A	7.6
		A	7.1	A	7.3	A	7.1	A	7.4
7. S. 26th St./Westend Ave. a. WB LR b. SB LT c. INTERSECTION	TWSC								
	Stop	A	8.8	A	9.0	A	9.1	A	9.1
		A	0.0	A	7.4	A	7.3	A	7.4
		A	0.3	A	0.8	A	3.5	A	0.8

C. Background Traffic Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the existing study area intersections were computed for the 2025 (build-out) and 2045 (long-term) analysis horizon background traffic scenarios. Table 4 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 4, there are no queue related issues projected to be experienced at the study area intersections based on the reported queues in the 2025 (build-out) and 2045 (long-term) analysis horizon background traffic analysis scenarios.

**TABLE 4
2025 (BUILD-OUT) & 2045 (LONG-TERM) BACKGROUND TRAFFIC
SUMMARY OF QUEUING ANALYSIS**

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2025 BACKGROUND TRAFFIC QUEUE LENGTH (FT) 95TH%		2045 BACKGROUND TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM	PM	AM	PM
		PEAK	PEAK	PEAK	PEAK
1. Busch Ave./S. 21st St.					
a. EB LR (1)	*	20	50	35	108
b. NB L (1)	*	3	3	3	3
2a. Wheeler Ave./S. 21st St.					
a. EB L(T)R (1)	*	18	28	213	-
b. WB LT (1)	*	-	-	173	-
c. WB R (1)	*	-	-	23	20
d. NB L (1)	*	0	0	0	3
e. SB L (1)	*	-	-	8	30
2b. Wheeler Ave./S. 21st St.					
a. EB LTR (1)	*	-	-	51	62
b. WB LT (1)	*	-	-	50	42
c. WB R (1)	*	-	-	48	42
d. NB L (1)	*	-	-	1	2
e. NB TR (2)	*	-	-	97	110
f. SB L (1)	*	-	-	20	128
g. SB TR (2)	*	-	-	162	245
3. Busch Ave./Race St.					
a. EB LTR (1)	*	0	0	0	0
b. WB LTR (1)	*	0	0	0	0
c. NB LTR (1)	*	0	0	0	0
d. SB LTR (1)	*	0	0	0	0
4. Busch Ave./Pecan St.					
a. EB LTR (1)	*	0	0	0	0
b. WB LTR (1)	*	3	0	3	0
c. NB LTR (1)	*	3	3	3	3
d. SB LTR (1)	*	0	0	0	0
5. S. 26th St./Westend Ave.					
a. SWB LT (1)	*	0	0	0	0
b. NB LR (1)	*	0	5	0	5
6. Gold Camp Rd./Bear Creek Rd.					
a. EB LTR (1)	*	0	0	0	0
b. WB LTR (1)	*	5	8	5	8
c. NB LTR (1)	*	0	5	0	5
d. SB LTR (1)	*	3	5	3	5
7. S. 26th St./Westend Ave.					
a. WB LR (1)	*	0	0	0	0
b. SB LT (1)	*	0	0	3	0

* = Extension of approach laneage

IV. PROJECT DEVELOPMENT

A. Trip Generation

The trip generation projections for the proposed DHIC Skyline Ridge development were forecast using the publication *Trip Generation, 11th Edition*, by the Institute of Transportation Engineers (ITE). Estimates of total daily traffic volumes and a.m. and p.m. peak hour traffic volumes were calculated. Trip generation reductions as a result of internal trip capture, transportation demand management or transit use were not considered.

For the purposes of this study, it was assumed that the proposed DHIC Skyline Ridge development will be fully built out by 2025 and consist of 168 single-family attached housing units. Based on these parameters, at buildout, the proposed DHIC Skyline Ridge development is projected to generate 1,230 daily vehicle trips of which 82 are projected to be generated during the a.m. peak hour and 97 are projected to be generated during the p.m. peak hour. A summary of the trip generation projections is provided in Table 5.

**TABLE 5
DHIC SKYLINE RIDGE – TRIP GENERATION SUMMARY**

Land Use	Intensity		ITE Code	Daily (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					Total	In	Out	Total	In	Out
Single-Family Attached Housing	168	DU	215	1230	82	25	57	97	55	42
Total				1,230	82	25	57	97	55	42

B. Trip Distribution

The distribution of the projected vehicular trips generated by the proposed DHIC Skyline Ridge development was established based on the following:

- Current and projected future traffic patterns on the surrounding transportation system
- Efficiency of access to principal transportation corridors such as SH 24, I-25, etc.
- Potential trip origins/destinations for the proposed land uses such as surrounding shopping centers, schools and employment centers.

Figure 11 graphically illustrates the projected trip distribution patterns for the proposed DHIC Skyline Ridge development.

C. Trip Assignment

The vehicular traffic volumes projected to be generated by the proposed DHIC Skyline Ridge development, shown in Table 5, were assigned to the study area roadways and intersections utilizing the trip distribution methodology described above. Figure 12 graphically illustrates the site generated trip assignment for the proposed DHIC Skyline Ridge development.

V. TOTAL TRAFFIC

Total traffic forecasts for the 2025 (build-out) and 2045 (long-term) analysis horizons were computed by combining the associated 2025 (build-out) and 2045 (long-term) background traffic volumes with the projected site generated traffic volumes. Figures 13 & 14 graphically illustrate the total traffic projections for the study area intersections for the 2025 (build-out) and 2045 (long-term) analysis horizons, respectively.

VI. PROJECT ANALYSIS

A. Operational Analysis

In order to evaluate the impact of the proposed DHIC Skyline Ridge development on the study area roadway system, peak hour intersection capacity analyses for the total traffic conditions were performed for the 2025 (build-out) and 2045 (long-term) analysis horizon total traffic scenarios at each of the study area intersections listed below:

- Busch Ave./S. 21st St.
- Wheeler Ave./S. 21st St.
- Busch St./Race St.
- Busch Ave./Pecan St.
- S. 26th St./Westend Ave.
- Gold Camp Rd./Bear Creek Rd.
- Wheeler Ave./Bear Creek Rd.

The results of the total traffic operational analyses are summarized in Table 6, below. Figures 15 and 16 graphically illustrate the 2025 (build-out) and 2045 (long-term) analysis horizon total traffic scenarios operational analyses, respectively. Detailed *Synchro 11* software intersection capacity analysis reports are provided in Appendix “B”.

A comparison of the 2025 (build-out) and 2045 (long-term) analysis horizons background and total traffic operational analyses indicates that the addition of the projected site generated vehicle trips from the proposed DHIC Skyline Ridge development will have a minimal impact on the overall operational characteristics of all of the study area intersections, based on level of service. None of the study area intersections or individual lane groups are projected to deteriorate from an overall acceptable level of service (LOS “D” or better) to a poor or failing level of service (LOS “E” or “F”) with the addition of the traffic projected to be generated by the proposed DHIC Skyline Ridge development. However, the following movements are still projected to experience a poor or failing level of service (LOS “E” or “F”) in the total traffic analysis horizons:

- Busch Ave./S. 21st St.
 - The eastbound left turn/right turn movement is projected to experience a failing level of service (LOS “F”) during the p.m. peak hour by the 2025 (build-out) analysis horizon and during the a.m. peak hour by the 2045 (long-term) analysis horizon.
- Wheeler Ave./S. 21st St. (TWSC)
 - The overall intersection is projected to experience a failing level of service (LOS “F”) during both the a.m. and p.m. peak hour by the 2045 (long-term) analysis horizon.
 - The eastbound left turn/right turn movement is projected to experience a failing level of service (LOS “F”) during the p.m. peak hour by the 2025 (build-out) analysis horizon and during the a.m. peak hour by the 2045 (long-term) analysis horizon.
 - The westbound left turn/through turn movement is projected to experience a failing level of service (LOS “F”) during both the a.m. and p.m. peak hour by the 2045 (long-term) analysis horizon.

Table 7 provides a side-by-side comparative summary of the 2025 (build-out) and 2045 (long-term) analysis horizons background and total traffic operational analyses.

**TABLE 6
2025 (BUILD-OUT) & 2045 (LONG-TERM) TOTAL TRAFFIC
SUMMARY OF OPERATIONAL ANALYSIS**

INTERSECTION	CONTROL	2025 TOTAL TRAFFIC				2045 TOTAL TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY	AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1a. Busch Ave./S. 21st St. a. EB LR b. NB L c. INTERSECTION	TWSC								
	Stop	D	33.4	F	79.1	F	56.3	F	256.8
		A	8.9	A	9.6	B	10.1	B	11.6
		A	2.3	A	4.6	A	3.0	B	11.2
1b. Busch Ave./S. 21st St. a. EB LR b. NB L c. NB T d. SB TR e. INTERSECTION	Signal								
		D	36.9	D	36.6	D	35.9	D	35.2
		A	3.7	A	5.4	A	1.9	A	2.2
		A	3.7	A	4.3	A	2.6	A	3.1
		A	3.3	A	4.3	A	0.6	A	0.9
		A	5.7	A	6.1	A	3.4	A	3.4
2a. Wheeler Ave./S. 21st St. a. EB L(T)R b. WB LT c. WB R d. NB L e. SB L f. INTERSECTION	TWSC								
	Stop	D	30.4	F	52.9	F	1121.4	F	-
	Stop	-	-	-	-	F	654.2	F	-
	Stop	-	-	-	-	B	14.8	C	16.1
		A	8.8	A	9.6	A	9.9	B	11.3
		-	-	-	-	B	11.2	B	14.5
		A	1.0	A	1.3	F	59.3	F	-
2b. Wheeler Ave./S. 21st St. a. EB LTR b. WB LT c. WB R d. NB L e. NB TR f. SB L g. SB TR h. INTERSECTION	Signal								
		-	-	-	-	C	25.5	C	27.4
		-	-	-	-	C	25.0	C	26.0
		-	-	-	-	C	29.8	C	30.2
		-	-	-	-	A	0.3	A	0.7
		-	-	-	-	A	0.9	A	1.1
		-	-	-	-	A	2.8	A	4.9
		-	-	-	-	A	3.4	A	3.6
		-	-	-	-	A	4.9	A	4.5
3. Busch Ave./Race St. a. EB LTR b. WB LTR c. NB LTR d. SB LTR e. INTERSECTION	TWSC								
		A	0.0	A	0.0	A	0.0	A	0.0
		A	7.2	A	7.3	A	7.3	A	7.3
	Stop	A	8.8	A	8.8	A	8.8	A	8.8
	Stop	A	9.2	A	9.4	A	9.2	A	9.4
		A	5.8	A	6.2	A	5.4	A	5.9
4. Busch Ave./Pecan St. a. EB LTR b. WB LTR c. NB LTR d. SB LTR e. INTERSECTION	TWSC								
		A	7.3	A	0.0	A	7.3	A	0.0
		A	7.4	A	7.4	A	7.4	A	7.4
	Stop	A	8.9	A	8.9	A	8.9	A	8.9
	Stop	B	10.4	B	10.3	B	10.7	B	10.4
		A	4.2	A	4.6	A	4.2	A	4.6
5. S. 26th St./Westend Ave. a. SWB LT b. NB LR c. INTERSECTION	TWSC								
	Stop	A	0.0	A	0.0	A	0.0	A	0.0
		A	0.0	A	9.2	A	0.0	A	9.3
	A	0.0	A	3.2	A	0.0	A	3.3	
6. Gold Camp Rd./Bear Creek Rd. a. EB LTR b. WB LTR c. NB LTR d. SB LTR f. INTERSECTION	AWSC								
	Stop	A	7.2	A	7.4	A	7.2	A	7.4
	Stop	A	7.0	A	7.3	A	7.0	A	7.4
	Stop	A	6.9	A	7.1	A	6.9	A	7.2
	Stop	A	7.2	A	7.5	A	7.3	A	7.6
		A	7.1	A	7.3	A	7.1	A	7.4
7. S. 26th St./Westend Ave. a. WB LR b. SB LT c. INTERSECTION	TWSC								
	Stop	A	8.8	A	9.1	A	8.9	A	9.2
		A	0.0	A	7.4	A	0.0	A	7.4
	A	0.7	A	0.9	A	0.6	A	0.9	

**TABLE 7
BACKGROUND & TOTAL TRAFFIC
OPERATIONAL ANALYSIS COMPARISON**

INTERSECTION	CONTROL	2025 TOTAL TRAFFIC				2045 TOTAL TRAFFIC			
		AM PEAK	AM PEAK	PM PEAK	PM PEAK	AM PEAK	AM PEAK	PM PEAK	PM PEAK
		LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
1a. Busch Ave./S. 21st St.	TWSC								
a. EB LR	Stop	D	33.4	F	79.1	F	56.3	F	256.8
b. NBL		A	8.9	A	9.6	B	10.1	B	11.6
c. INTERSECTION		A	2.3	A	4.6	A	3.0	B	11.2
1b. Busch Ave./S. 21st St.	Signal								
a. EB LR		D	36.9	D	36.6	D	35.9	D	35.2
b. NBL		A	3.7	A	5.4	A	1.9	A	2.2
c. NBT		A	3.7	A	4.3	A	2.6	A	3.1
d. SB TR		A	3.3	A	4.3	A	0.6	A	0.9
e. INTERSECTION		A	5.7	A	6.1	A	3.4	A	3.4
2a. Wheeler Ave./S. 21st St.	TWSC								
a. EB L(T)R	Stop	D	30.4	F	52.9	F	1121.4	F	-
b. WB LT	Stop	-	-	-	-	F	654.2	F	-
c. WB R	Stop	-	-	-	-	B	14.8	C	16.1
d. NBL		A	8.8	A	9.6	A	9.9	B	11.3
e. SB L		-	-	-	-	B	11.2	B	14.5
f. INTERSECTION		A	1.0	A	1.3	F	59.3	F	-
2b. Wheeler Ave./S. 21st St.	Signal								
a. EB LTR		-	-	-	-	C	25.5	C	27.4
b. WB LT		-	-	-	-	C	25.0	C	26.0
c. WB R		-	-	-	-	C	29.8	C	30.2
d. NBL		-	-	-	-	A	0.3	A	0.7
e. NB TR		-	-	-	-	A	0.9	A	1.1
f. SB L		-	-	-	-	A	2.8	A	4.9
g. SB TR		-	-	-	-	A	3.4	A	3.6
h. INTERSECTION		-	-	-	-	A	4.9	A	4.5
3. Busch Ave./Race St.	TWSC								
a. EB LTR		A	0.0	A	0.0	A	0.0	A	0.0
b. WB LTR		A	7.2	A	7.3	A	7.3	A	7.3
c. NB LTR	Stop	A	8.8	A	8.8	A	8.8	A	8.8
d. SB LTR	Stop	A	9.2	A	9.4	A	9.2	A	9.4
e. INTERSECTION		A	5.8	A	6.2	A	5.4	A	5.9
4. Busch Ave./Pecan St.	TWSC								
a. EB LTR		A	7.3	A	0.0	A	7.3	A	0.0
b. WB LTR		A	7.4	A	7.4	A	7.4	A	7.4
c. NB LTR	Stop	A	8.9	A	8.9	A	8.9	A	8.9
d. SB LTR	Stop	B	10.4	B	10.3	B	10.7	B	10.4
e. INTERSECTION		A	4.2	A	4.6	A	4.2	A	4.6
5. S. 26th St./Westend Ave.	TWSC								
a. SWB LT		A	0.0	A	0.0	A	0.0	A	0.0
b. NBLR	Stop	A	0.0	A	9.2	A	0.0	A	9.3
c. INTERSECTION		A	0.0	A	3.2	A	0.0	A	3.3
6. Gold Camp Rd./Bear Creek Rd.	AWSC								
a. EB LTR	Stop	A	7.2	A	7.4	A	7.2	A	7.4
b. WB LTR	Stop	A	7.0	A	7.3	A	7.0	A	7.4
c. NB LTR	Stop	A	6.9	A	7.1	A	6.9	A	7.2
d. SB LTR	Stop	A	7.2	A	7.5	A	7.3	A	7.6
f. INTERSECTION		A	7.1	A	7.3	A	7.1	A	7.4
7. S. 26th St./Westend Ave.	TWSC								
a. WB LR	Stop	A	8.8	A	9.1	A	8.9	A	9.2
b. SB LT		A	0.0	A	7.4	A	0.0	A	7.4
c. INTERSECTION		A	0.7	A	0.9	A	0.6	A	0.9

B. Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the study area intersections were computed for the 2025 (build-out) and 2045 (long-term) analysis horizon total traffic scenarios. Table 8 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections. As shown in Table 8, the addition of the projected site generated vehicle trips from the proposed DHIC Skyline Ridge development do not create any queuing issues.

**TABLE 8
2025 (BUILD-OUT) & 2045 (LONG-TERM) TOTAL TRAFFIC
SUMMARY OF QUEUING ANALYSIS**

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2025 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%		2045 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM	PM	AM	PM
		PEAK	PEAK	PEAK	PEAK
1a. Busch Ave./S. 21st St.					
a. EB LR (1)	*	50	103	85	195
b. NB L (1)	*	3	5	3	5
1b. Busch Ave./S. 21st St.					
a. EB LR (1)	*	53	55	-	-
b. NB L (1)	*	10	14	-	-
c. NB T (1)	*	190	244	-	-
d. SB TR (1)	*	146	234	-	-
1c. Busch Ave./S. 21st St.					
a. EB LR (1)	*	-	-	56	59
b. NB L (1)	*	-	-	12	17
c. NB T (2)	*	-	-	201	268
d. SB TR (2)	*	-	-	36	99
2a. Wheeler Ave./S. 21st St.					
a. EB L(T)R (1)	*	23	35	245	-
b. WB LT (1)	*	-	-	180	-
c. WB R (1)	*	-	-	23	20
d. NB L (1)	*	0	0	0	3
e. SB L (1)	*	-	-	8	30
2b. Wheeler Ave./S. 21st St.					
a. EB L(T)R (1)	*	-	-	54	64
b. WB LT (1)	*	-	-	49	41
c. WB R (1)	*	-	-	49	43
d. NB L (1)	*	-	-	1	2
e. NB TR (2)	*	-	-	105	124
f. SB L (1)	*	-	-	21	131
g. SB TR (2)	*	-	-	171	260

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2025 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%		2045 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM	PM	AM	PM
		PEAK	PEAK	PEAK	PEAK
3. Busch Ave./Race St.					
a. EB LTR (1)	*	0	0	0	0
b. WB LTR (1)	*	0	0	0	0
c. NB LTR (1)	*	3	3	3	3
d. SB LTR (1)	*	0	0	0	0
4. Busch Ave./Pecan St.					
a. EB LTR (1)	*	0	0	0	0
b. WB LTR (1)	*	3	3	3	3
c. NB LTR (1)	*	5	5	5	5
d. SB LTR (1)	*	0	0	0	3
5. S. 26th St./Westend Ave.					
a. SWB LT (1)	*	0	0	0	0
b. NB LR (1)	*	0	5	0	5
6. Gold Camp Rd./Bear Creek Rd.					
a. EB LTR (1)	*	0	0	0	0
b. WB LTR (1)	*	5	8	5	8
c. NB LTR (1)	*	0	5	0	5
d. SB LTR (1)	*	3	5	3	5
7. S. 26th St./Westend Ave.					
a. WB LR (1)	*	0	0	0	0
b. SB LT (1)	*	0	0	0	0

* = Extension of approach laneage.

C. Traffic Signal Warrant Analysis

Existing and forecast traffic volumes were evaluated for satisfying the criteria for the installation of a traffic signal based on the methodology presented in the *Manual on Uniform Traffic Control Devices for Streets and Highways, 2009* at the following intersection:

- Busch Ave./S. 21st St.
- Wheeler Ave./S. 21st St.

Warrant 1 – Eight Hour Vehicular Volume, Warrant 2 – Four Hour Vehicular Volume, and Warrant 3 – Peak Hour were evaluated based on the projected background and total traffic volumes. Hourly approach volumes were derived assuming the same hourly distribution of the approach volumes from the 24-hour directional counts collected on Thursday, August 18, 2022.

The forecast hourly background traffic volumes for the 2025 (build-out) and 2045 (long-term) analysis horizon were forecast using the methodology described in Section III of this study. The distribution of the intersection approach movement (left turn, through, right turn) volumes was based on the existing usage as well as trip distribution and assignment assumptions made for the undeveloped parcels and the proposed site.

Based on these parameters and the analysis performed herein, it was determined that the Busch Ave./S. 21st St. intersection will warrant a traffic signal based on Warrant 1 and Warrant 2 by the 2025 (build-out) analysis horizon total traffic scenario and based on Warrant 3 by the 2045 (long-term) analysis horizon total traffic scenario. It was determined that the Wheeler Ave./S. 21st St. intersection will warrant a traffic signal based on Warrant 1, Warrant 2, and Warrant 3 by the 2045 (long-term) analysis horizon background traffic scenario.

A summary of the results of the traffic signal warrant analyses is presented in Table 9. Tables 10 and 11 provides a summary of the proportional contribution of the traffic projected to be generated by the proposed DHIC Skyline Ridge development to the total traffic entering the Busch Ave./S. 21st St. and Wheeler Ave./S. 21st St. intersections, respectively. Detailed traffic signal warrant analysis worksheets and volume data are provided in Appendix “C”.

Analysis of the Busch Ave./S. 21st St. and Wheeler Ave./S. 21st St. intersections under signalized control is summarized in Table 3 and Table 6. Figures 10, 15, and 16 graphically illustrate the alternative results and detailed *Synchro 11* software intersection capacity analysis reports are provided in Appendix “D”.

**TABLE 9
TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY**

Intersections	Analysis Horizon	Eight Hour - Warrant 1 Met?	Four Hour - Warrant 2 Met?	Peak Hour - Warrant 3 Met?
Busch Ave./ S. 21st St.	2022 Existing Traffic	NO	NO	NO
	2025 Background Traffic	NO	NO	NO
	2025 Total Traffic	YES	YES	NO
	2045 Background Traffic	NO	NO	NO
	2045 Total Traffic	YES	YES	YES
Wheeler Ave./ S. 21st St.	2022 Existing Traffic	NO	NO	NO
	2025 Background Traffic	NO	NO	NO
	2025 Total Traffic	NO	NO	NO
	2045 Background Traffic	YES	YES	YES
	2045 Total Traffic	YES	YES	YES

**TABLE 10
PROPORTIONAL CONTRIBUTION OF TOTAL ENTERING TRAFFIC VOLUME
BUSCH AVE./S. 21ST ST. INTERSECTION**

Analysis Horizon Total Traffic Scenario	Site Trips (Volume/%)	Background Traffic (Volume/%)	Total Traffic (Volume/%)
2025 (Build-Out)	59	1289	1348
AM Peak Hour	4%	96%	100%
2025 (Build-Out)	69	1549	1618
PM Peak Hour	4%	96%	100%
2025 (Build-Out)	877	24471	25348
Daily Volume	4%	96%	100%
2045 (Long-Term)	59	1863	1922
AM Peak Hour	3%	97%	100%
2045 (Long-Term)	69	2286	2355
PM Peak Hour	3%	97%	100%
2045 (Long-Term)	877	27456	28333
Daily Volume	3%	97%	100%

**TABLE 11
PROPORTIONAL CONTRIBUTION OF TOTAL ENTERING TRAFFIC VOLUME
WHEELER AVE./S. 21ST ST. INTERSECTION**

Analysis Horizon Total Traffic Scenario	Site Trips (Volume/%)	Background Traffic (Volume/%)	Total Traffic (Volume/%)
2045 (Long-Term)	39	2095	2134
AM Peak Hour	2%	98%	100%
2045 (Long-Term)	46	2606	2652
PM Peak Hour	2%	98%	100%
2045 (Long-Term)	585	28411	28996
Daily Volume	2%	98%	100%

D. Summary of Operational Analysis & Recommended Improvements

Based on the analyses contained in this study, the following improvements are recommended for the study area roadways and intersections in order to mitigate the traffic impacts of the proposed DHIC Skyline Ridge development.

Study Area Roadways:

- **Busch Ave.** – There are no geometric or operational modifications recommended for Busch Ave. within the study area (Westend Ave. to S. 21st St.) as a result of the proposed DHIC Skyline Ridge development.
- **Wheeler Ave.** – There are no geometric or operational modifications recommended for Wheeler Ave. within the study area (Bear Creek Rd. to S. 21st St.) as a result of the proposed DHIC Skyline Ridge development.
- **S. 21st St.** – There are no geometric or operational modifications being recommended for S. 21st St. within the study area (Broadway St. to Gold Camp Rd.) as a result of the proposed DHIC Skyline Ridge development. The road is anticipated to be expanded to two travel lanes in each direction with a center two-way left turn lane by the 2045 (long-term) analysis horizon based on the Colorado Springs *2045 Long Range Transportation Plan*.

Study Area Intersections:

- **Busch Ave./S. 21st St.** – The Busche Ave./S. 21st St. intersection is anticipated to be expanded along with the expected widening of S. 21st St. by the 2045 (long-term) analysis horizon based on the Colorado Spring *2045 Long Range Transportation Plan*. Along with this change, it is anticipated that the lane configuration of the intersection will be adjusted accordingly. This will include an additional through lane on both the northbound and southbound approaches. With the rest of the intersection and method of control unchanged, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario with the exception of the following:
 - EB LR - The EB LR movement is projected to experience a poor level of service (LOS “E”) during the p.m. peak hour by the 2025 (build-out) analysis horizon and during the a.m. peak hour by the 2045 (long-term) analysis horizon for the background traffic scenario. This movement is projected to deteriorate to a failing level of service (LOS “F”) during the p.m. peak hour by the 2025 (build-out) analysis horizon and during the a.m. peak hour by the 2045 (build-out) analysis horizon for the total traffic scenario.

Therefore, traffic signal warrant analysis was conducted for this intersection. It was shown that this intersection meets traffic signal warrants by the 2025 (build-out) analysis horizon total traffic scenario. Analysis of the intersection under traffic signal control shows that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. However, due to the proximity and nature of the Wheeler Ave./S. 21st intersection, which will be a four-legged intersection that is also projected to meet traffic signal warrants, it is recommended that only the Wheeler Ave./S. 21st intersection be signalized. This will likely divert eastbound left turning traffic from Busch

Ave. to Wheeler Ave. thus improving the operations of the Busch Ave./S. 21st St. intersection in the process.

- **Wheeler Ave./S. 21st St.** – The Wheeler Ave./S. 21st St. intersection is anticipated to be expanded along with the expected widening of S. 21st St. by the 2045 (long-term) analysis horizon based on the Colorado Spring *2045 Long Range Transportation Plan*. Along with this change, it is anticipated that the lane configuration of the intersection will be adjusted accordingly. This will include an additional through lane on both the northbound and southbound approaches. It is also anticipated that an east leg will be added to the intersection along with the completion of the Gold Hill Mesa development by the 2045 (long-term) analysis horizon. This leg will include one shared left turn/through lane and one right turn lane on the westbound approach, and one eastbound departure lane. With the rest of the intersection and method of control unchanged, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario with the exception of the following:
 - The overall intersection is projected to experience a poor level of service (LOS “E”) during the a.m. peak hour by the 2045 (long-term) analysis horizon background traffic scenario. It is projected to deteriorate to a failing level of service (LOS “F”) during the p.m. peak hour by the 2045 (long-term) analysis horizon background traffic scenario and during the a.m. peak hour by the 2045 (long-term) analysis horizon background total traffic scenario.
 - EB LR - The EB LR movement is projected to experience a poor level of service (LOS “E”) during the p.m. peak hour by the 2025 (build-out) analysis horizon background traffic scenario. This movement is projected to deteriorate to a failing level of service (LOS “F”) during the p.m. peak hour by the 2025 (build-out) analysis horizon total traffic scenario and during the a.m. peak hour by the 2045 (long-term) analysis horizon background total traffic scenario.
 - WB LT - The WB LT movement is projected to experience a failing level of service (LOS “F”) during both the a.m. and p.m. peak hour by the 2045 (long-term) analysis horizon background traffic scenario.

Therefore, traffic signal warrant analysis was conducted for this intersection. It was shown that this intersection meets traffic signal warrants by the 2045 (long-term) analysis horizon background traffic scenario. Analysis of the intersection under traffic signal control shows that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. Therefore, it is recommended that a traffic signal be installed at this intersection along with the completion of the east leg as a part of the Gold Hill Mesa development.

- **Busch Ave./Race St.** – The Busch Ave./Race St. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2045 (long-term) analysis horizon based on the Colorado Springs *2045 Long Range Transportation Plan*. Based on these parameters, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. Therefore, there are no geometric or operational changes recommended for this intersection based on the DHIC Skyline Ridge development.

- **Busch Ave./Pecan St.** – The Busch Ave./Pecan St. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2045 (long-term) analysis horizon based on the Colorado Springs *2045 Long Range Transportation Plan*. Based on these parameters, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. Therefore, there are no geometric or operational changes recommended for this intersection based on the DHIC Skyline Ridge development.
- **S. 26th St./Westend Ave.** – The S. 26th St./Westend Ave. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2045 (long-term) analysis horizon based on the Colorado Springs *2045 Long Range Transportation Plan*. Based on these parameters, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. Therefore, there are no geometric or operational changes recommended for this intersection based on the DHIC Skyline Ridge development.
- **Gold Camp Rd./Bear Creek Rd.** – The Gold Camp Rd./Bear Creek Rd. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2045 (long-term) analysis horizon based on the Colorado Springs *2045 Long Range Transportation Plan*. Based on these parameters, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. Therefore, there are no geometric or operational changes recommended for this intersection based on the DHIC Skyline Ridge development.
- **Wheeler Ave./Bear Creek Rd.** – The Wheeler Ave./Bear Creek Rd. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2045 (long-term) analysis horizon based on the Colorado Springs *2045 Long Range Transportation Plan*. Based on these parameters, it is projected that the intersection, overall, as well as all impeded lane groups, will operate at an acceptable level of service (LOS “D” or better) through the 2045 (long-term) analysis horizon total traffic scenario. Therefore, there are no geometric or operational changes recommended for this intersection based on the DHIC Skyline Ridge development.

VII. CONCLUSIONS

DR Horton is proposing to develop a property containing approximately 23.8 acres of land situated along the west side of Arch St. in Colorado Springs, Colorado. More specifically, the subject property is bound by Arch St. to the east, undeveloped land to the west and south, and South Blvd. as well as some commercial/industrial properties to the north. Upon build-out, the development, to be known as DHIC Skyline Ridge, will consist of 168 single-family attached housing units.

Vehicular access for the proposed DHIC Skyline Ridge development will be provided via an internal roadway network providing connectivity to the external transportation system at the following locations:

- A full access driveway intersecting Arch St. and Spectra Dr., forming a four-legged intersection at the eastern end of the site. This intersection will be stop-controlled on the northbound and southbound approaches.
- A full access driveway intersecting Race St. and South Blvd., forming a three-legged intersection at the northern end of the site. This intersection will be stop-controlled on the eastbound approach.

Based on these parameters, at buildout, the proposed DHIC Skyline Ridge development is projected to generate 1,230 daily vehicle trips of which 82 are projected to be generated during the a.m. peak hour and 97 during the p.m. peak hour.

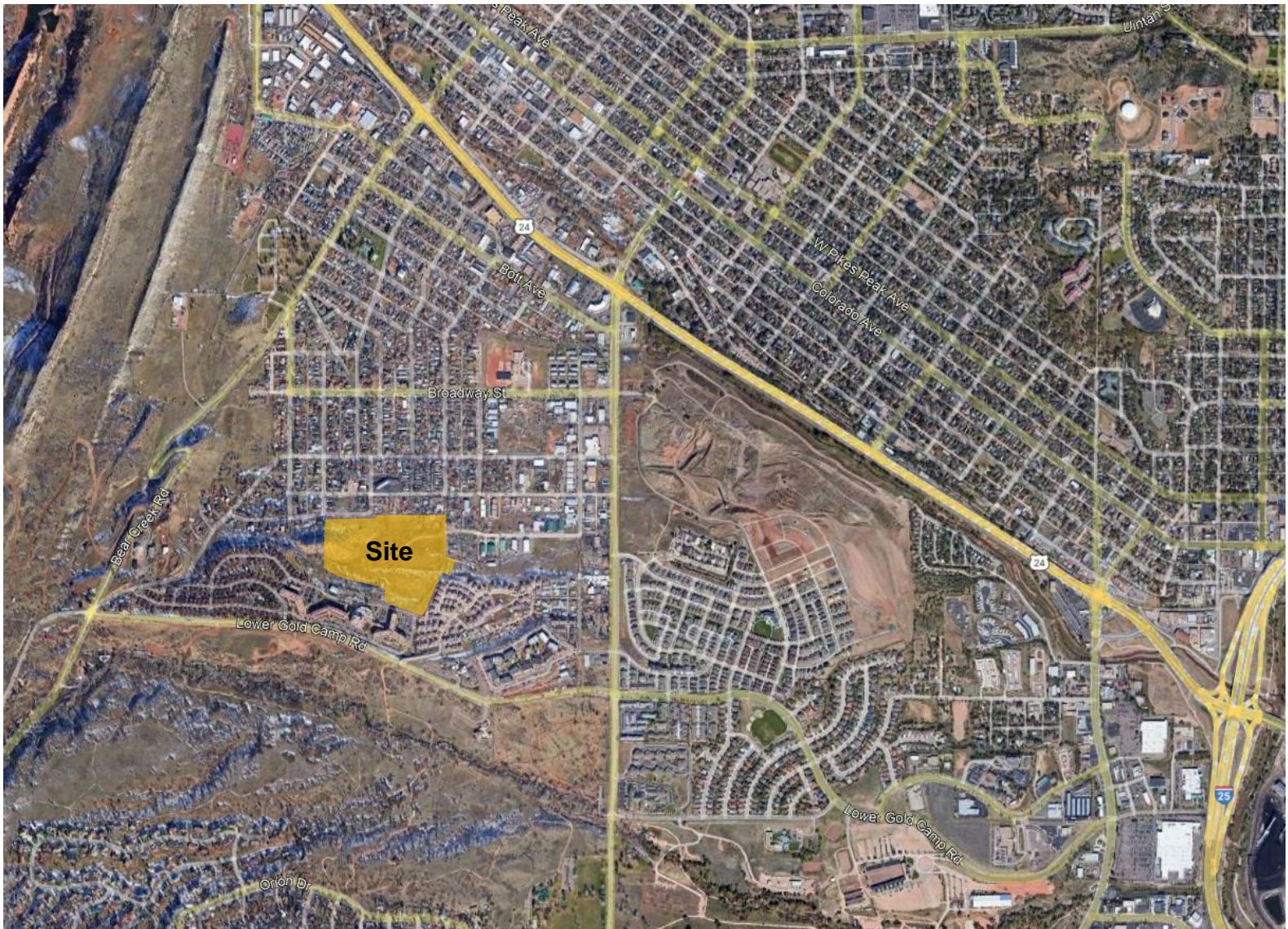
Based on the analyses contained herein Table 12 summarizes the recommendations for geometric and operational improvements/modifications to the study area roadways and intersections to sufficiently mitigate and/or off-set the impacts created by the traffic generated by the proposed DHIC Skyline Ridge development.

**TABLE 12
SUMMARY OF RECOMMENDATIONS**

Roadway	Recommendations	Responsibility	Timing
Busch Ave.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A
Wheeler Ave.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A
S. 21 st St.	It is anticipated that S. 21 st St. will be expanded to include two travel lanes in each direction along with the center two-way left turn lane by the 2045 (long-term) analysis horizon based on the Colorado Springs 2045 Long Range Transportation Plan.	City of Colorado Springs	2045

**TABLE 12 (CONT.)
SUMMARY OF RECOMMENDATIONS**

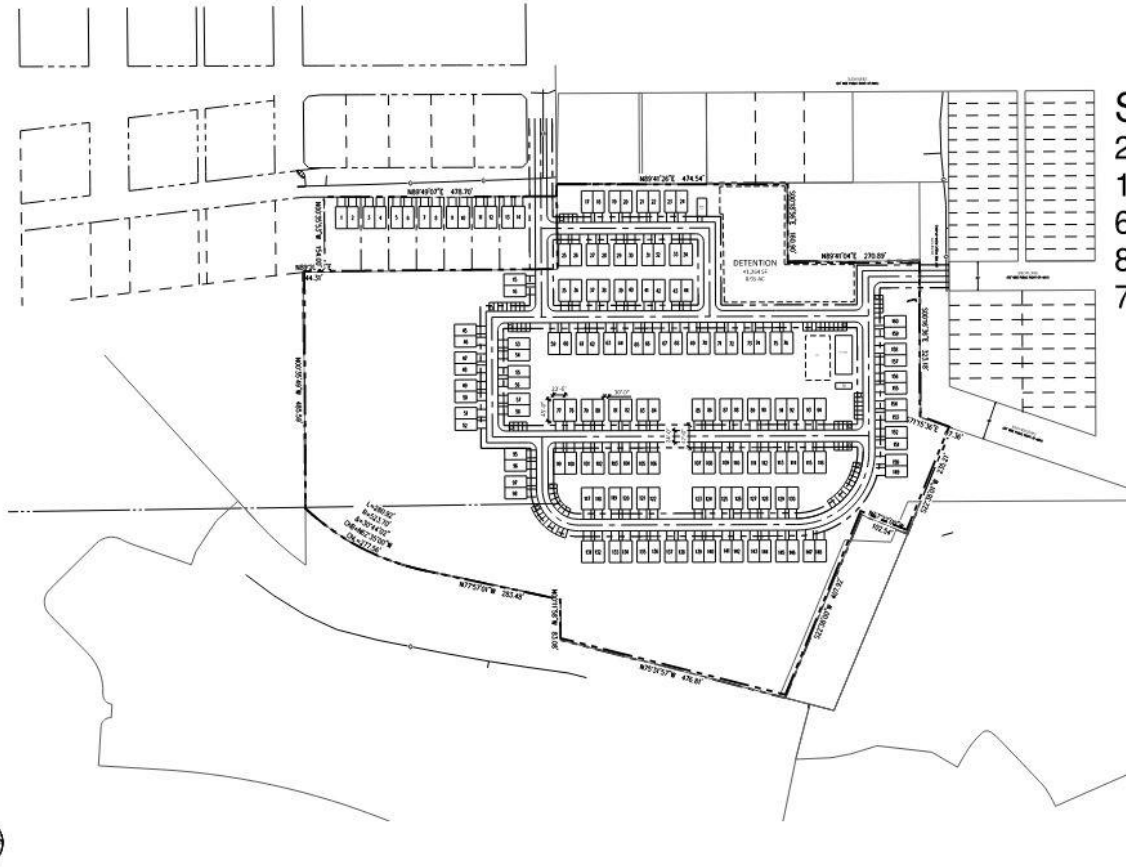
Intersection	Recommendations	Responsibility	Timing
Busch Ave./ S. 21 st St.	<p>The lane configuration will be updated accordingly along with the anticipated expansion of S. 21st St. to include two travel lanes in each direction along with the center two-way left turn lane by the 2045 (long-term) analysis horizon based on the Colorado Springs <i>2045 Long Range Transportation Plan</i>.</p> <p>Although traffic signal warrants were met for this intersection, no geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge. A signal is instead only recommended at the Wheeler Ave./S. 21st St. intersection due to the proximity and relative volume of that intersection.</p>	<p>City of Colorado Springs</p> <p>N/A</p>	<p>2045</p> <p>N/A</p>
Wheeler Ave./ S. 21 st St.	<p>The lane configuration will be updated accordingly along with the anticipated expansion of S. 21st St. to include two travel lanes in each direction along with the center two-way left turn lane by the 2045 (long-term) analysis horizon based on the Colorado Springs <i>2045 Long Range Transportation Plan</i> as well as the addition of an east leg along with the Gold Hill Mesa development. The newly added east leg will have one shared left turn/through lane and one right turn lane on the westbound approach, and one eastbound departure lane.</p> <p>The incorporation of a traffic signal is recommended at this intersection based on the traffic signal warrant analysis that was conducted. A contribution to this traffic signal will be made proportionally to the traffic that is projected to enter the intersection based on the proposed DHIC Skyline Ridge development.</p>	<p>City of Colorado Springs/Other Developer</p> <p>Developer/ Other Developer</p>	<p>2045</p> <p>As Needed</p>
Busch Ave./ Race St.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A
Busch Ave./ Pecan St.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A
S. 26 th St./ Westend Ave.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A
Gold Camp Rd./ Bear Creek Rd.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A
Wheeler Ave./ Bear Creek Rd.	No geometric or operational modifications are recommended as a result of the proposed DHIC Skyline Ridge development.	N/A	N/A





ALTA/NSPS LAND TITLE SURVEY

SITUATED IN THE WEST 1/2 OF SECTION 14 AND THE EAST 1/2 OF SECTION 15, TOWNSHIP 14 SOUTH, RANGE 67 WEST OF THE 6TH P.M., CITY OF COLORADO SPRINGS COUNTY OF EL PASO, STATE OF COLORADO



SITE DATA

23.8 ACRES
160 UNITS
6.72 DU/AC GROSS
8.96 DU/AC NET
76 GUEST PARKING



SCALE: 1" = 10'

REVISION DATE	REVISION COMMENTS
08-17-2022	

HKS HARRIS KOCHER SMITH
 1110 LINDEN STREET SUITE 1500
 DENVER, COLORADO 80202
 P: 303.433.6200 F: 303.433.6311
 HKS@HKS.COM HKS.COM

SKYLINE SITE

<CLIENT NAME>

PROJECT # 220501
SHEET NUMBER
2
2 OF 2



Conceptual Site Plan

DHIC Skyline Ridge

DR Horton

HKS #220501

Figure 3

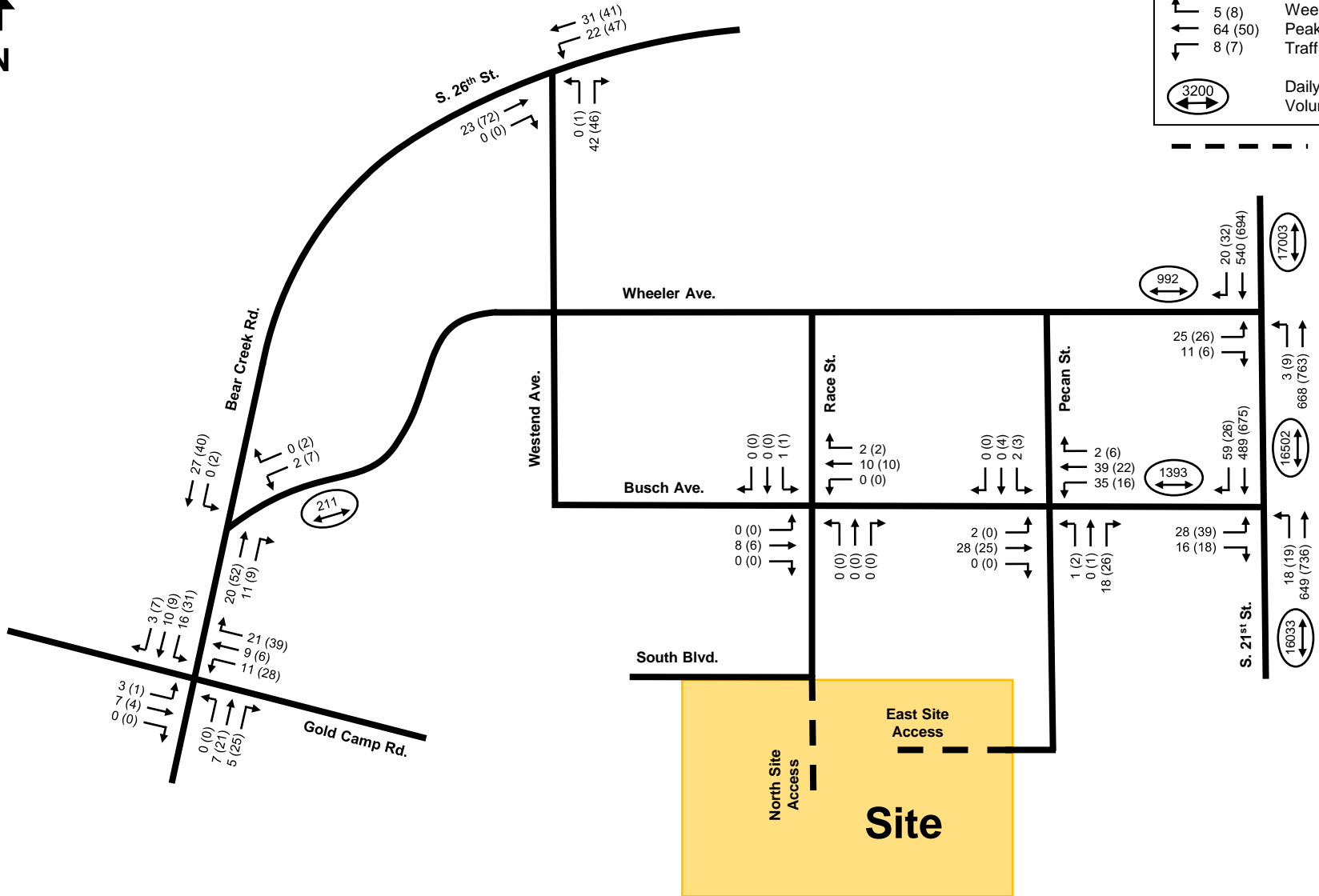


Drawing Not To Scale

Legend:

- 5 (8) Weekday AM (PM)
- 64 (50) Peak Hour
- 8 (7) Traffic Volumes, vph
- 3200 Daily Traffic Volumes, vpd

--- Proposed Roadway

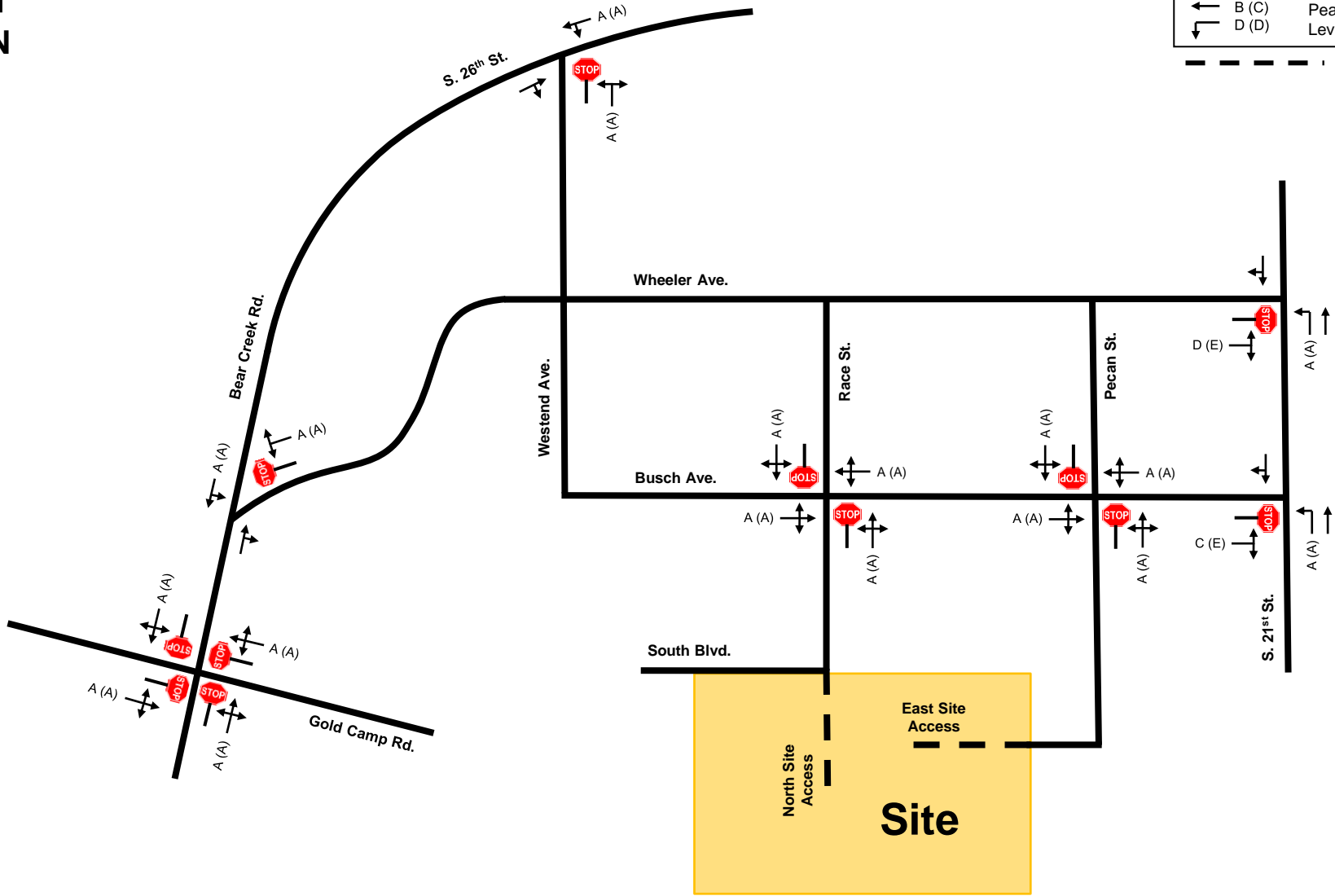




Legend: Drawing Not To Scale

	A (B)	Weekday AM (PM)
	B (C)	Peak Hour
	D (D)	Level of Service

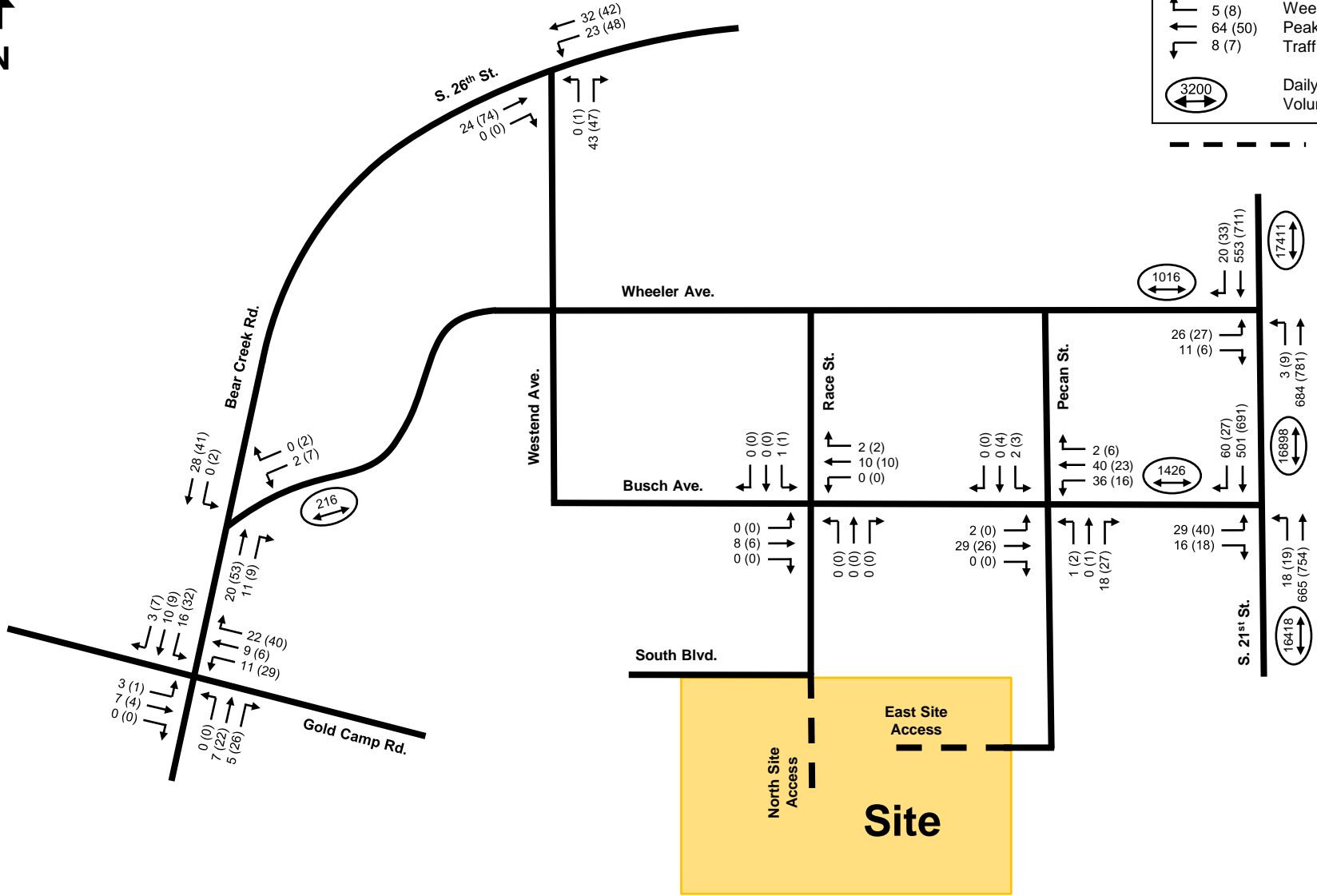
--- Proposed Roadway





Legend:

- ↔ 5 (8) Weekday AM (PM)
- ↔ 64 (50) Peak Hour
- ↔ 8 (7) Traffic Volumes, vph
- ↔ (3200) Daily Traffic Volumes, vpd

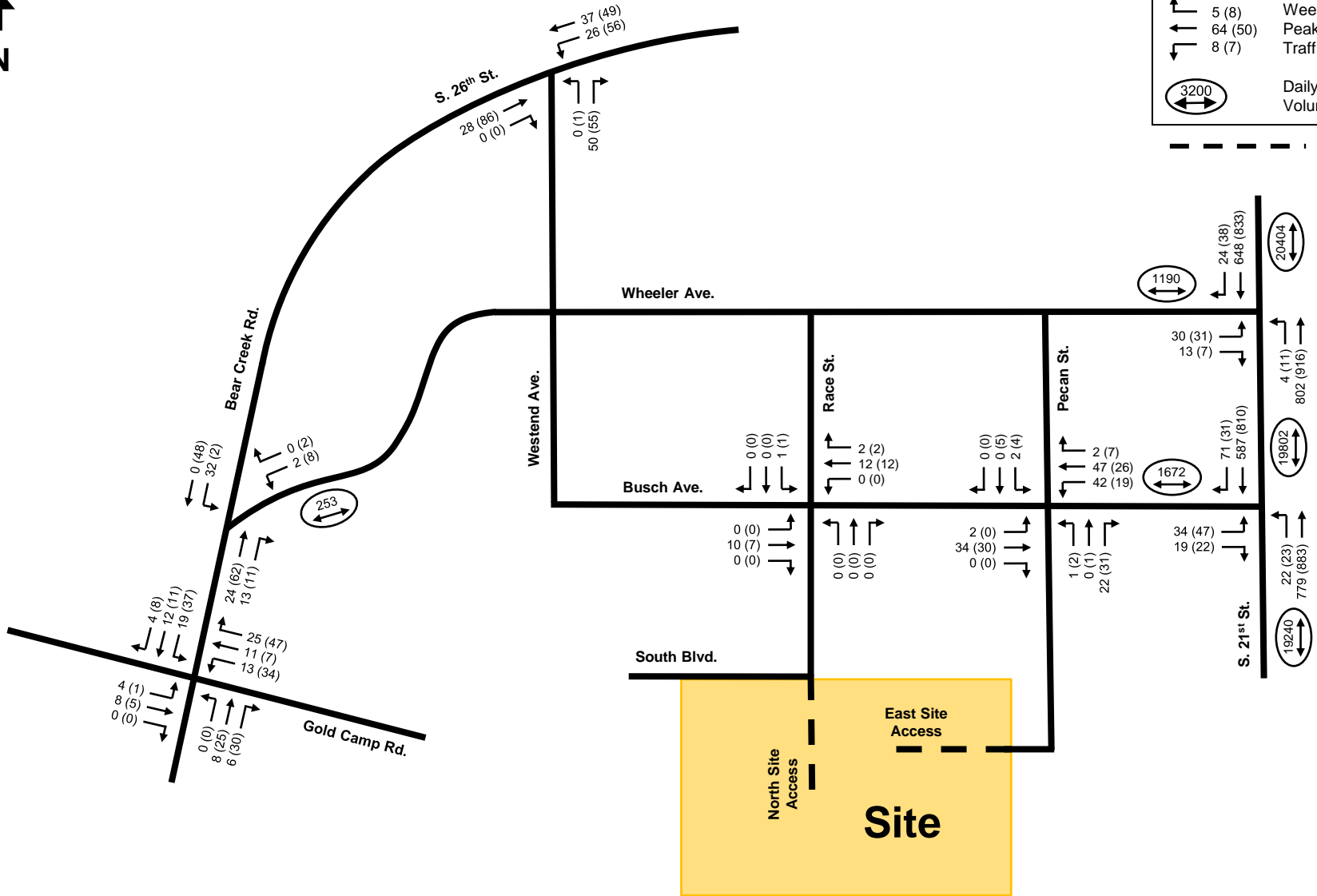




Drawing Not To Scale

Legend:



- ↖ 5 (8) Weekday AM (PM)
- ↖ 64 (50) Peak Hour
- ↖ 8 (7) Traffic Volumes, vph
- ↔ (3200) Daily Traffic Volumes, vpd



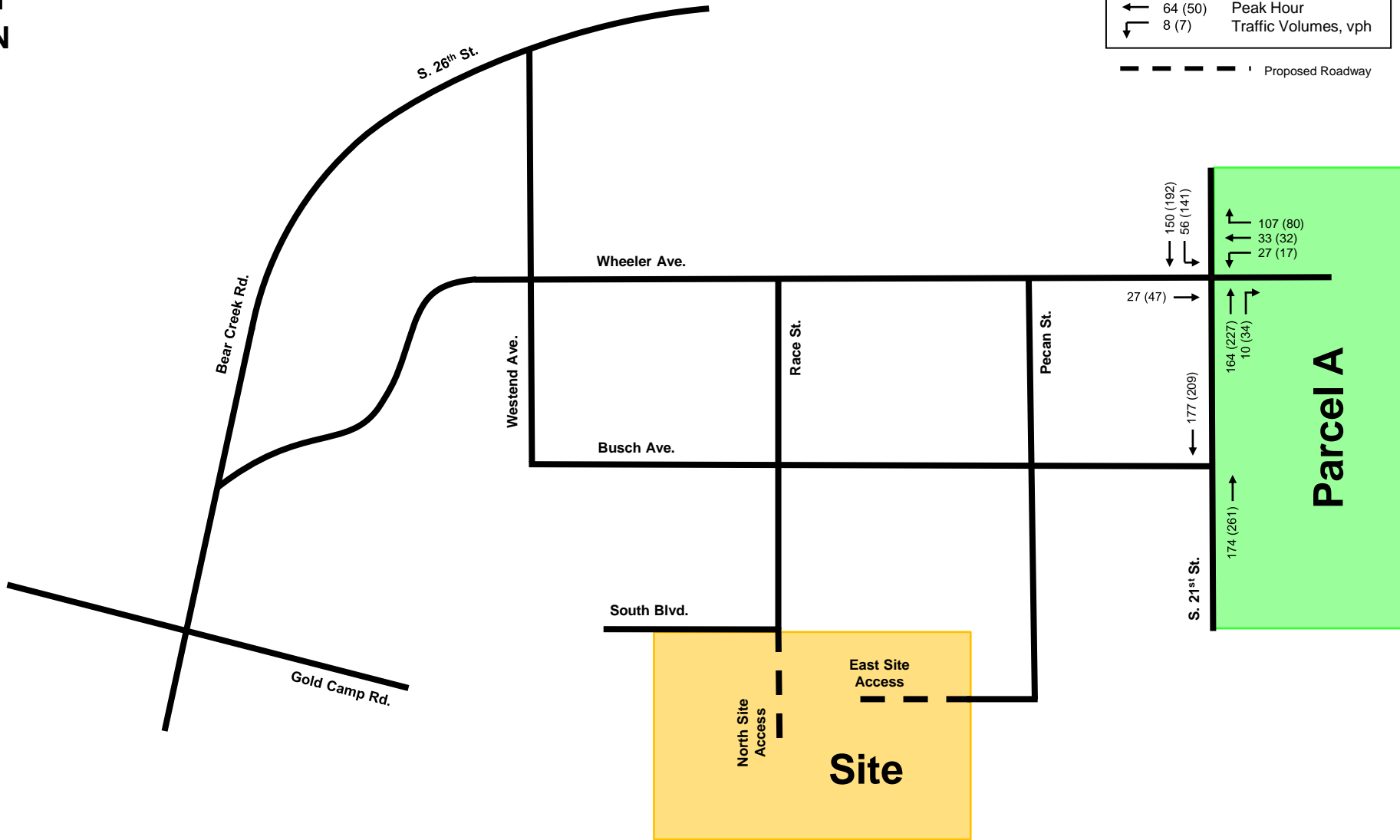


Drawing Not To Scale

Legend:

-  5 (8) Weekday AM (PM)
-  64 (50) Peak Hour
-  8 (7) Traffic Volumes, vph

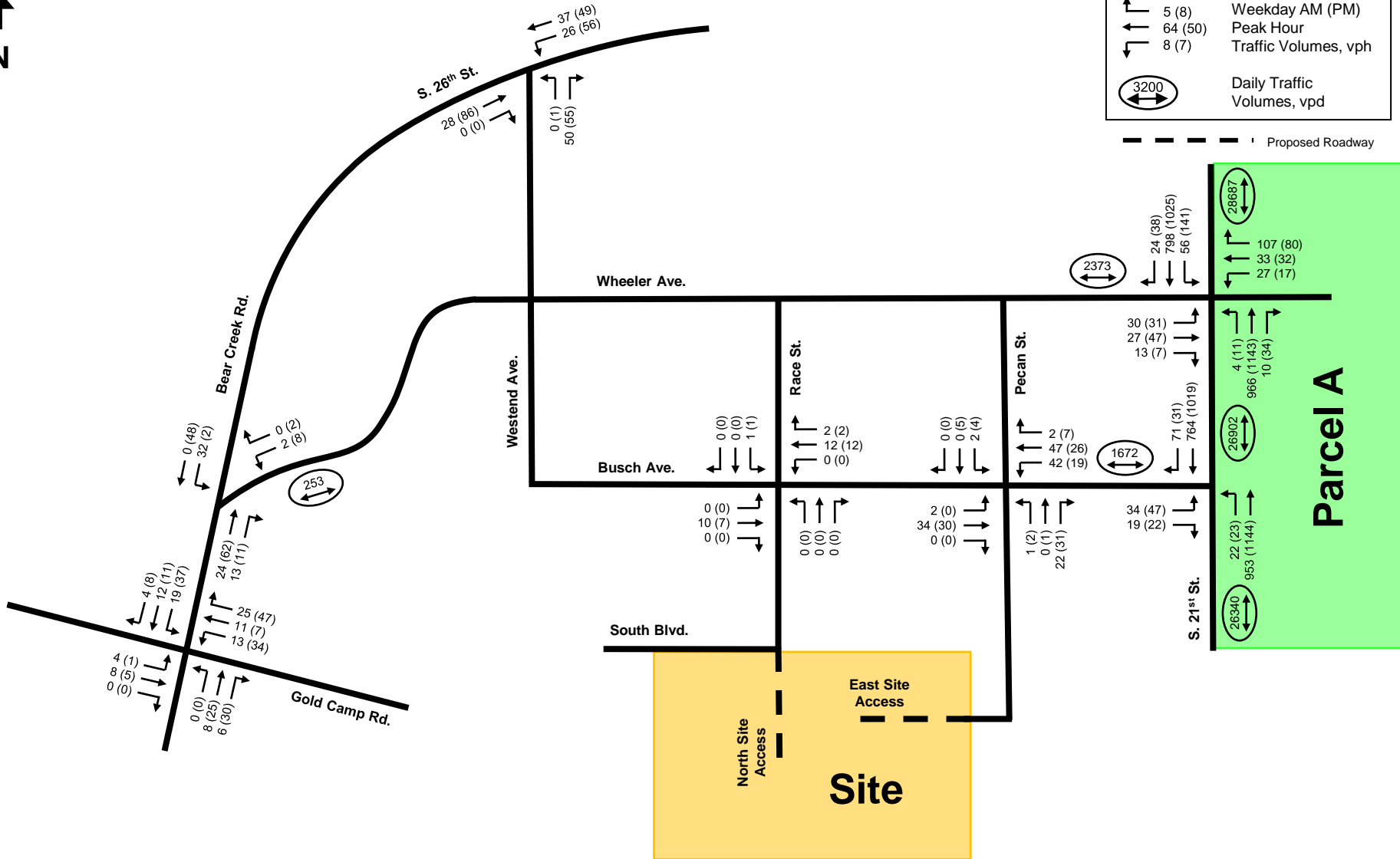
 Proposed Roadway





Legend:

- ↖ 5 (8) Weekday AM (PM)
- ↖ 64 (50) Peak Hour
- ↖ 8 (7) Traffic Volumes, vph
- ↔ (3200) Daily Traffic Volumes, vpd

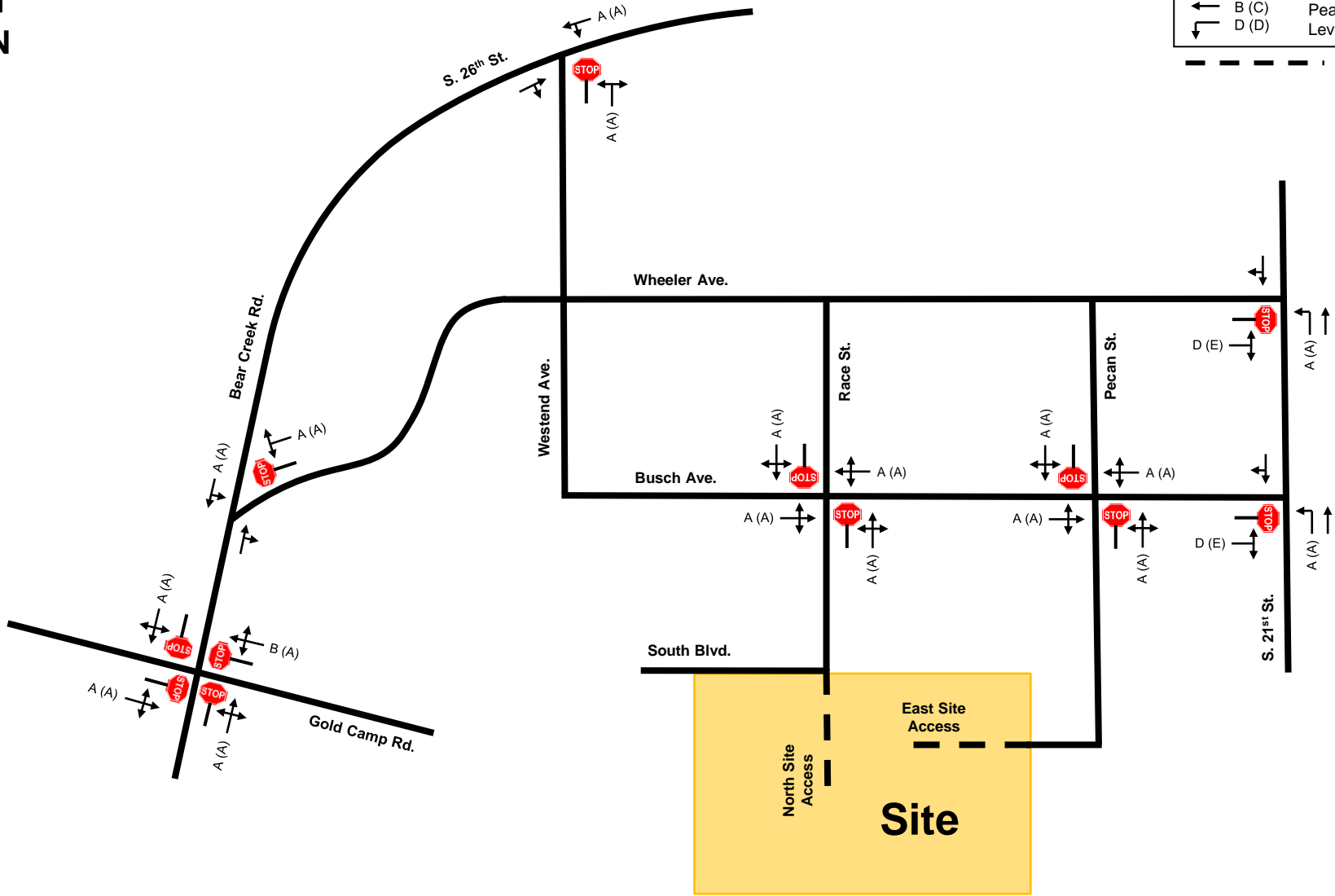




Legend: Drawing Not To Scale

	A (B) Weekday AM (PM)
	B (C) Peak Hour
	D (D) Level of Service

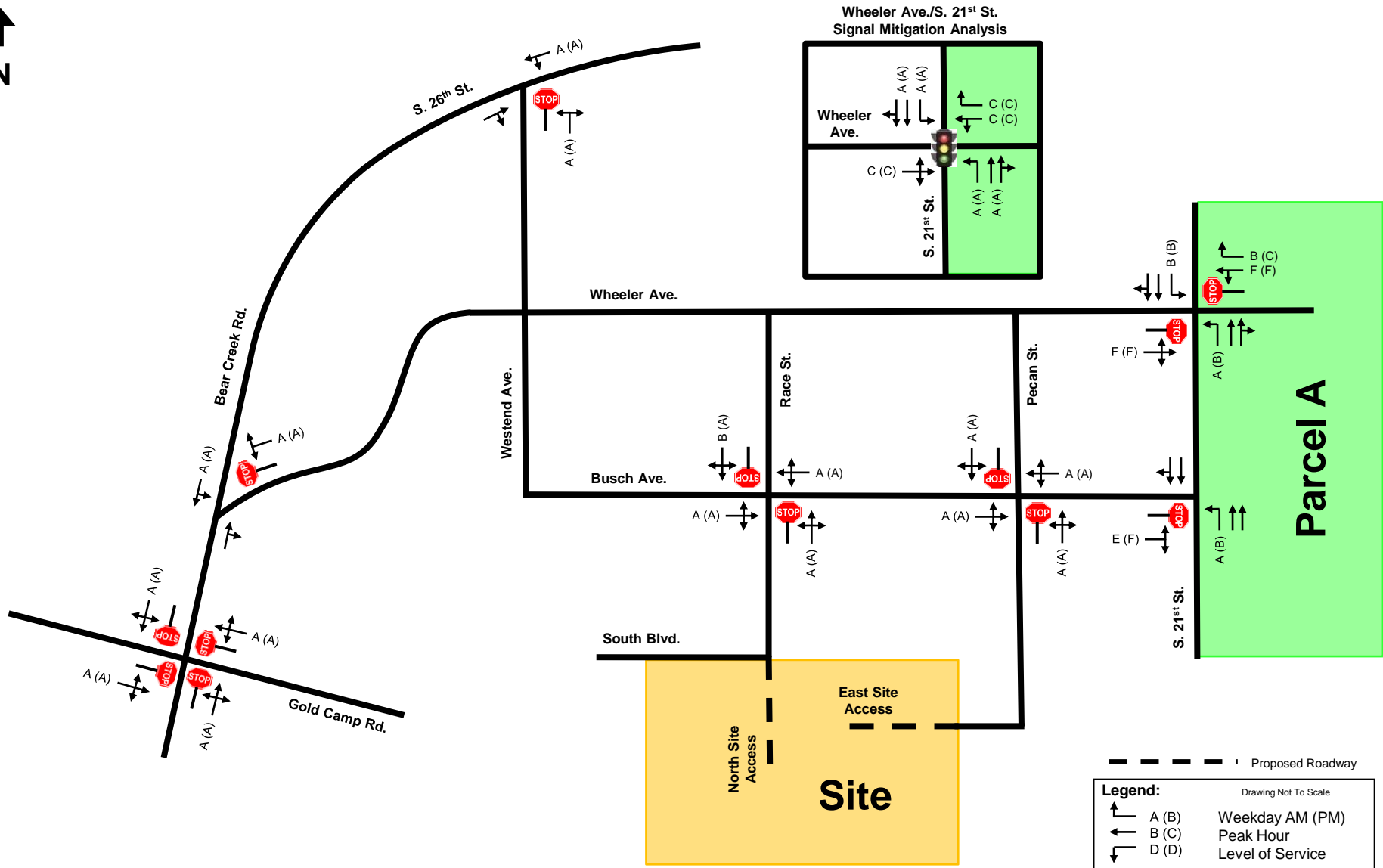
Proposed Roadway



2025 (Buildout) Background Traffic Operational Conditions

DHIC Skyline Ridge
DR Horton
HKS #220501

Figure 9

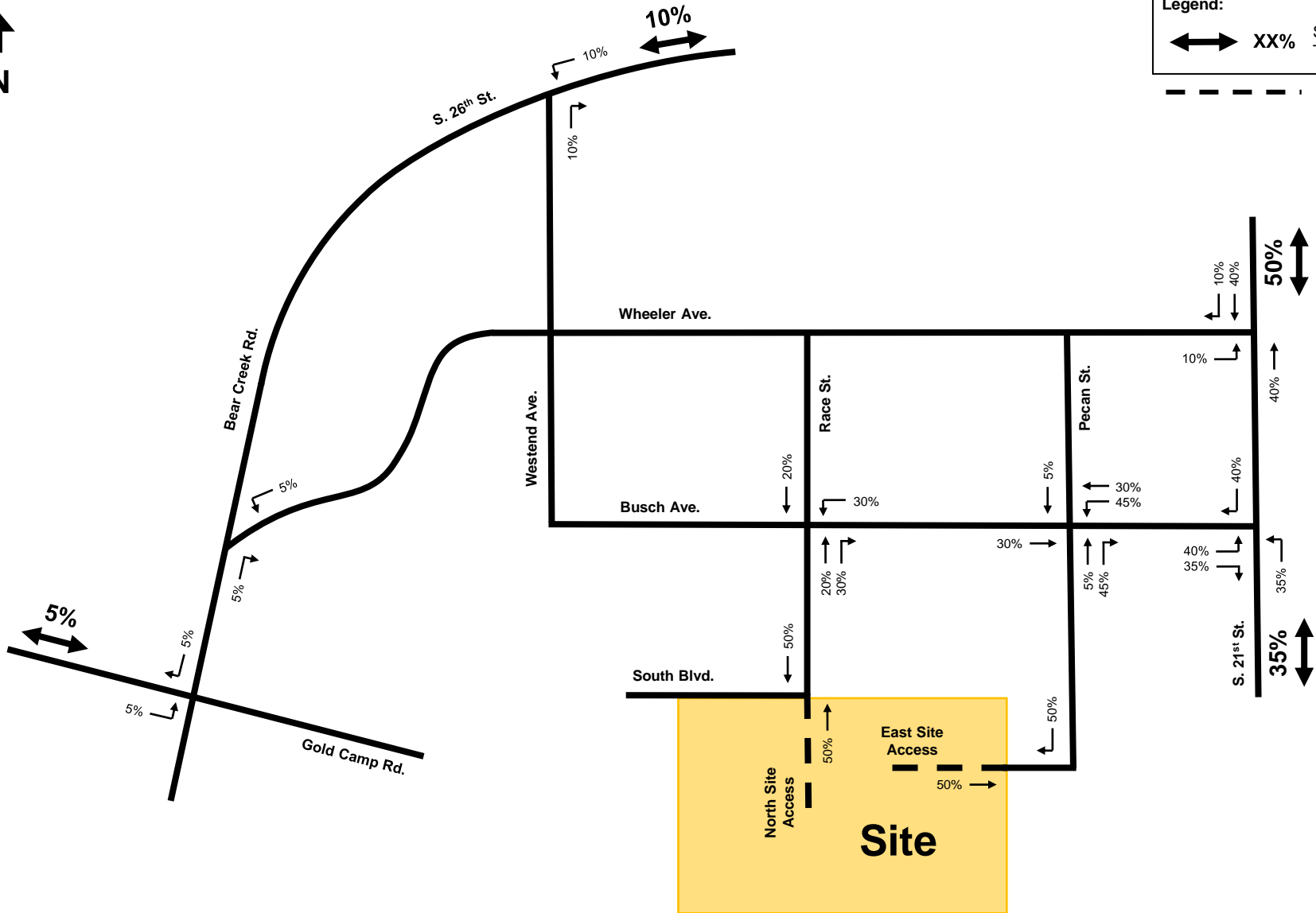




Drawing Not To Scale

Legend:

- ↔ XX% Site-Generated Trip Distribution
- - - Proposed Roadway



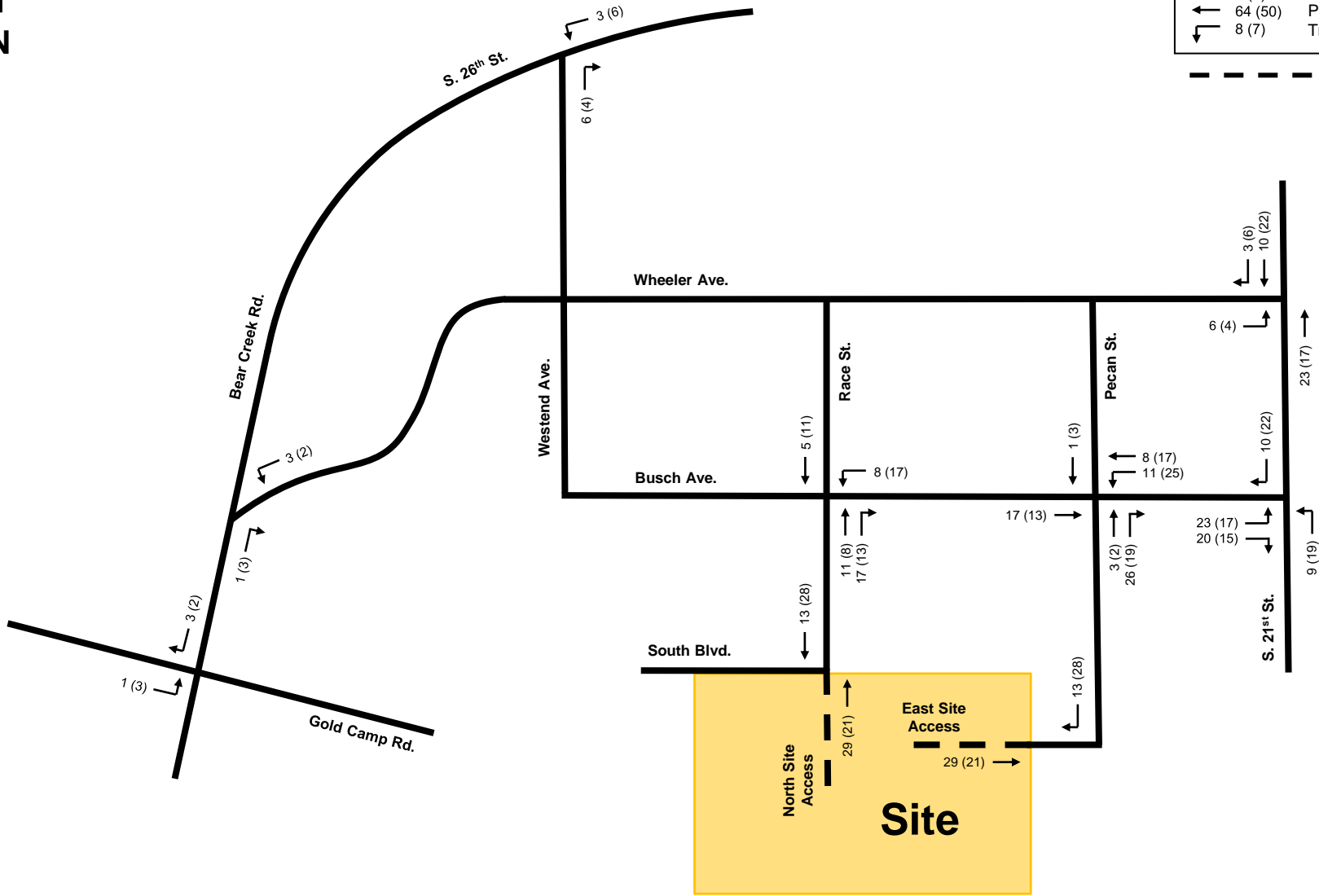


Drawing Not To Scale

Legend:

- 5 (8) Weekday AM (PM)
- 64 (50) Peak Hour
- 8 (7) Traffic Volumes, vph

Proposed Roadway



Site Generated Trip Assignment

DHIC Skyline Ridge
DR Horton
HKS #220501

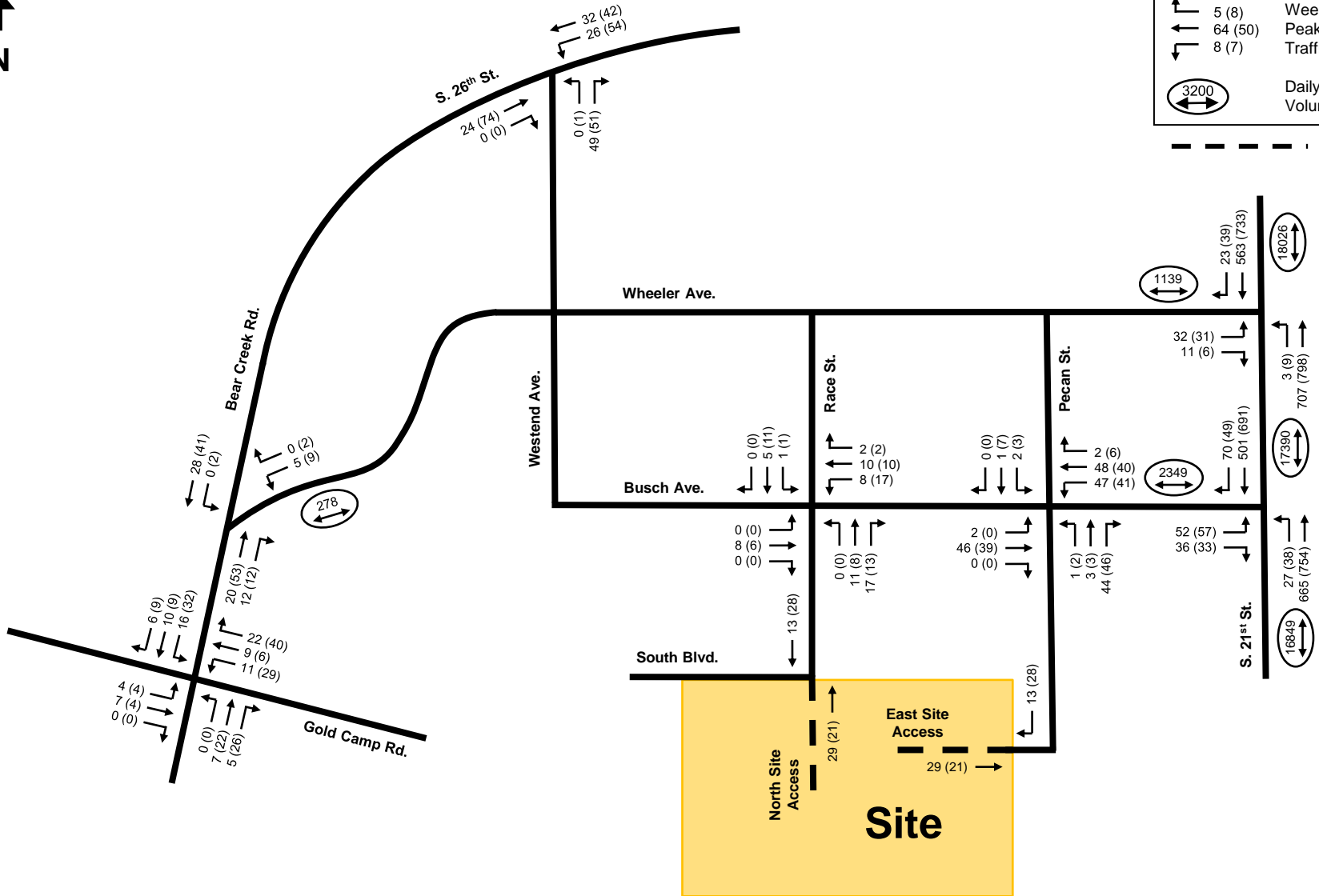


Drawing Not To Scale

Legend:

- 5 (8) Weekday AM (PM)
- 64 (50) Peak Hour
- 8 (7) Traffic Volumes, vph
- 3200 Daily Traffic Volumes, vpd

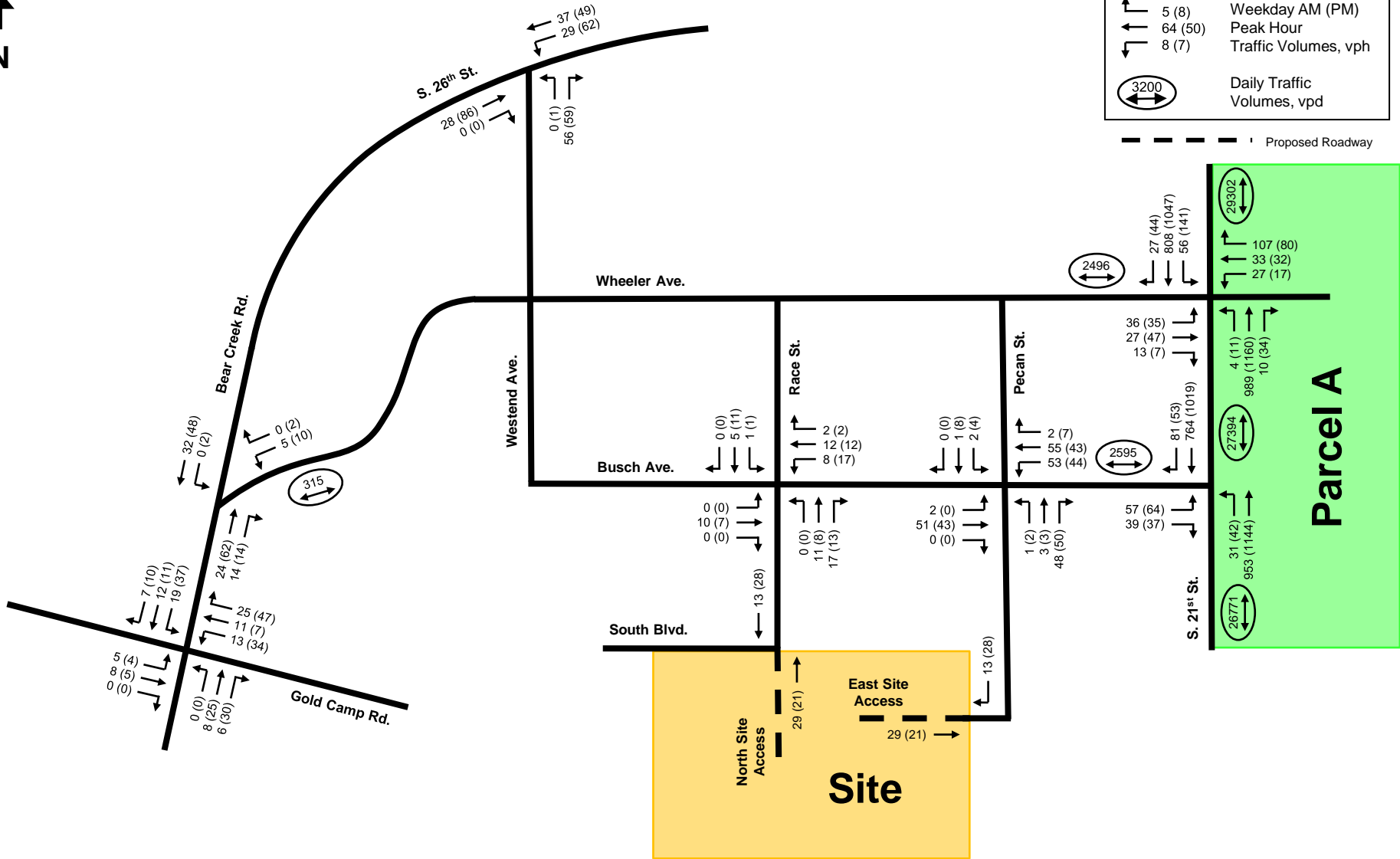
--- Proposed Roadway

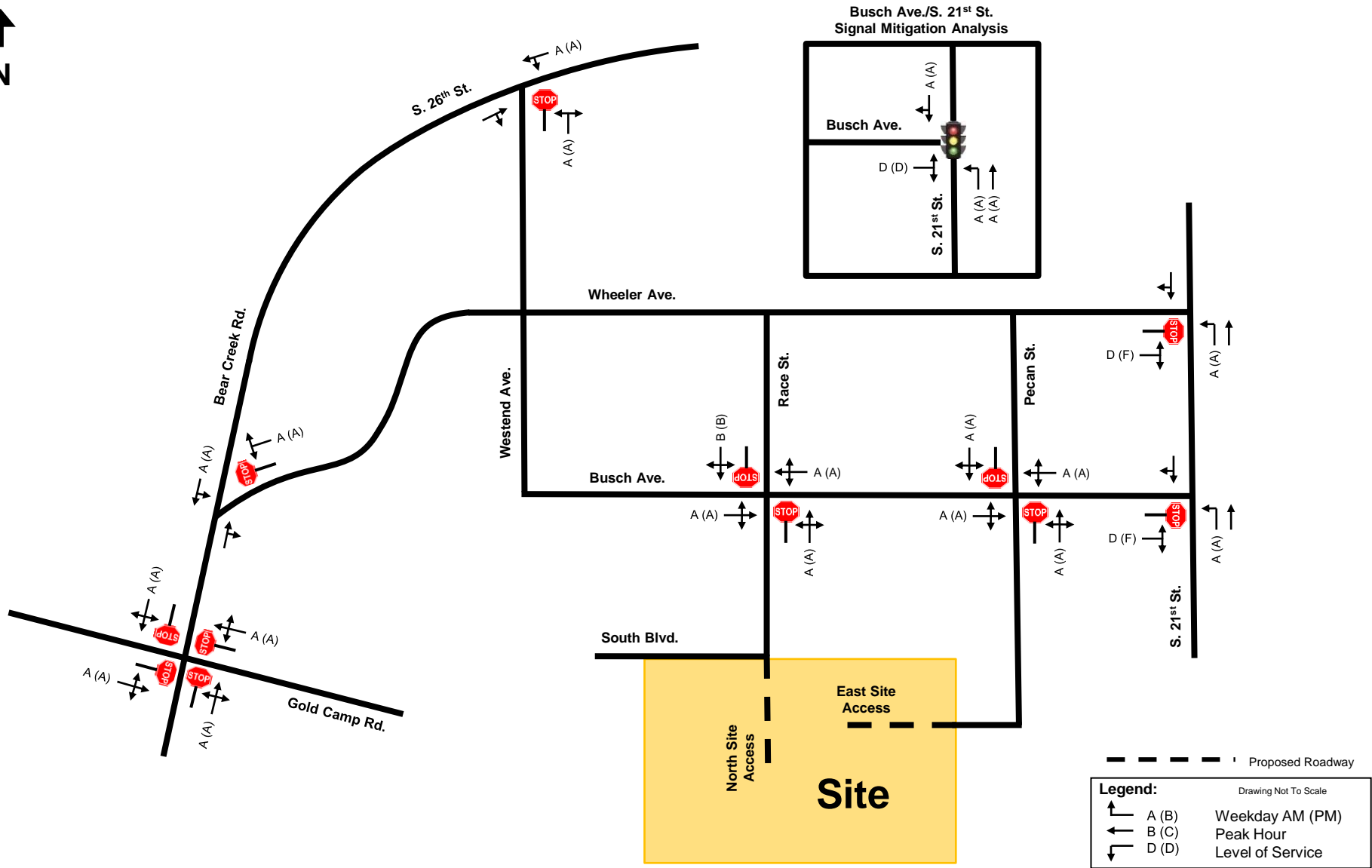




Legend:

- 5 (8) Weekday AM (PM)
- 64 (50) Peak Hour
- 8 (7) Traffic Volumes, vph
- 3200 Daily Traffic Volumes, vpd

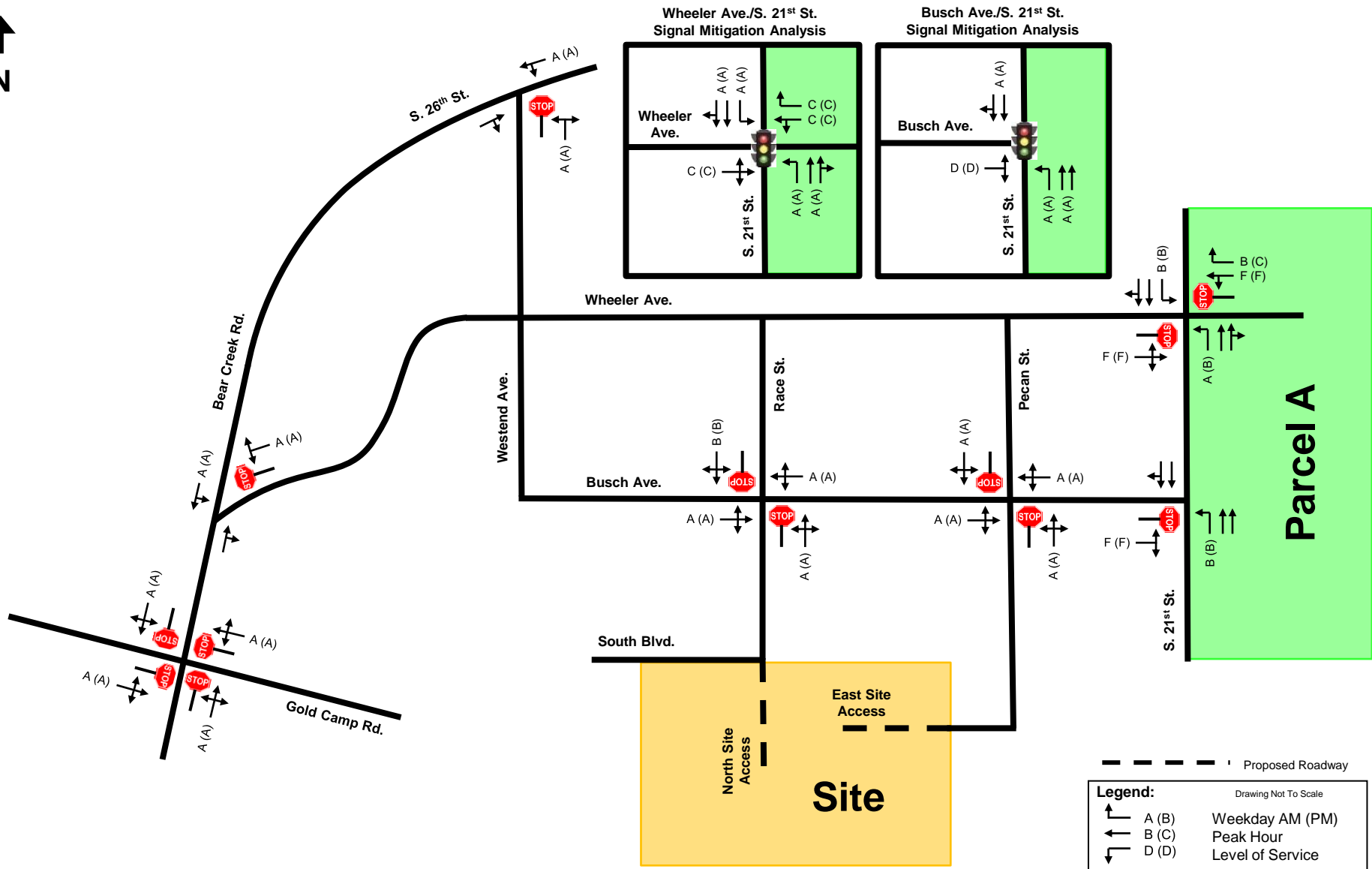




--- Proposed Roadway

Legend: Drawing Not To Scale

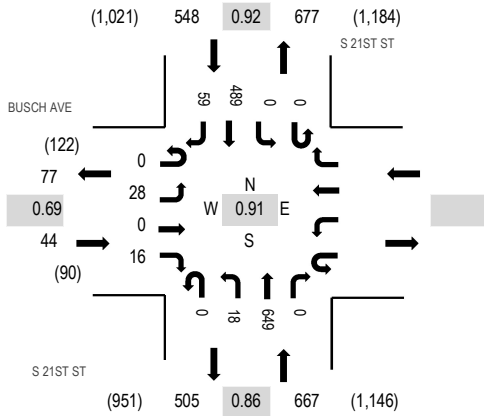
↔	A (B)	Weekday AM (PM)
←	B (C)	Peak Hour
↔	D (D)	Level of Service



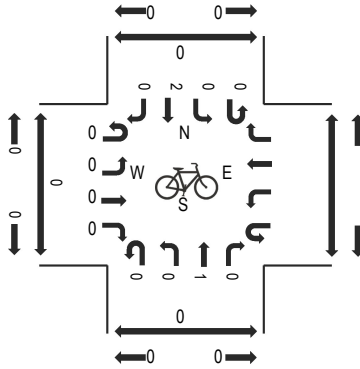
APPENDIX “A”

2022 (EXISTING)
TRAFFIC VOLUME COUNTS

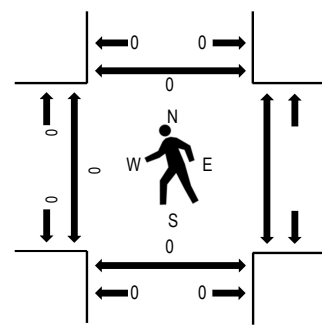
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

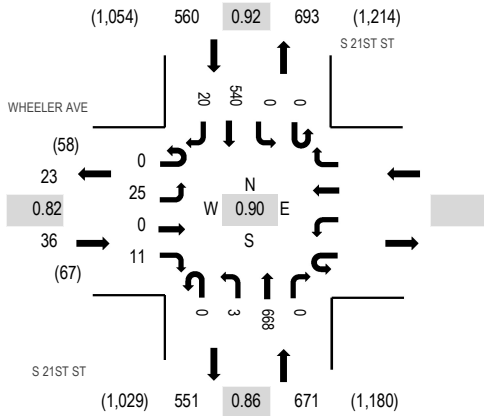


Note: Total study counts contained in parentheses.

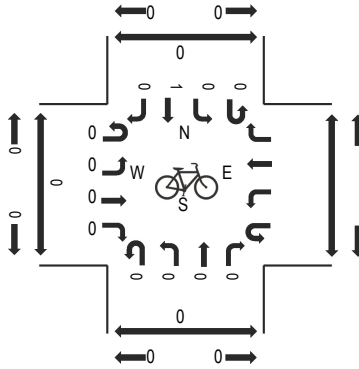
Traffic Counts - Motorized Vehicles

Interval Start Time	BUSCH AVE Eastbound				Westbound			S 21ST ST Northbound				S 21ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
7:00 AM	0	8	0	1				0	2	100	0	0	0	0	82	11	204	1,124	0	0	0	0
7:15 AM	0	12	0	2				0	1	133	0	0	0	92	5	245	1,207	1	0	0	0	0
7:30 AM	0	9	0	3				0	5	189	0	0	0	114	8	328	1,259	0	0	0	0	0
7:45 AM	0	5	0	3				0	4	184	0	0	0	136	15	347	1,161	0	0	0	0	0
8:00 AM	0	5	0	2				0	5	138	0	0	0	115	22	287	1,133	0	0	0	0	0
8:15 AM	0	9	0	8				0	4	138	0	0	0	124	14	297		0	0	0	0	0
8:30 AM	0	4	0	2				0	2	90	0	0	0	120	12	230		1	0	0	0	0
8:45 AM	0	13	0	4				0	4	147	0	0	0	143	8	319		0	0	0	0	0
Count Total	0	65	0	25				0	27	1,119	0	0	0	926	95	2,257		2	0	0	0	0
Peak Hour	0	28	0	16				0	18	649	0	0	0	489	59	1,259		0	0	0	0	0

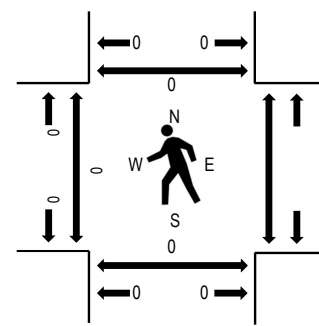
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



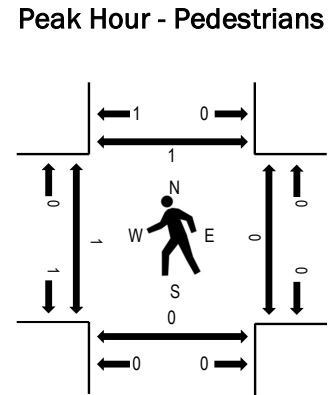
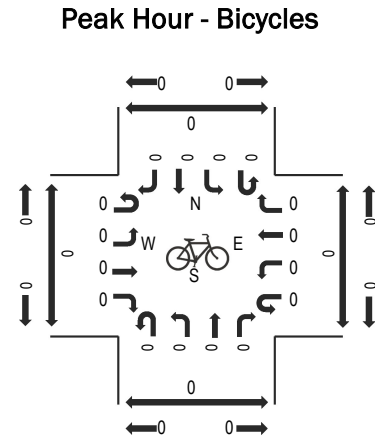
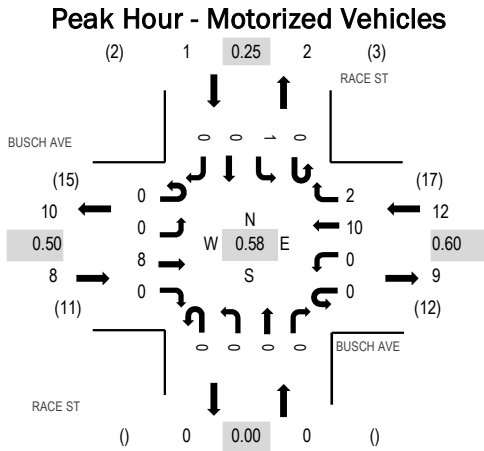
Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHEELER AVE Eastbound				Westbound			S 21ST ST Northbound				S 21ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South
7:00 AM	0	8	0	3					0	0	106	0	0	0	92	7	216	1,144	0	0	0
7:15 AM	0	2	0	3					0	1	145	0	0	0	93	2	246	1,223	0	0	0
7:30 AM	0	8	0	3					0	0	196	0	0	0	121	3	331	1,267	0	0	0
7:45 AM	0	4	0	3					0	2	189	0	0	0	150	3	351	1,185	0	0	0
8:00 AM	0	5	0	2					0	1	140	0	0	0	136	11	295	1,157	0	0	0
8:15 AM	0	8	0	3					0	0	143	0	0	0	133	3	290		0	0	0
8:30 AM	0	4	0	5					0	3	96	0	0	0	128	13	249		1	0	0
8:45 AM	0	4	0	2					0	2	156	0	0	0	152	7	323		0	0	0
Count Total	0	43	0	24					0	9	1,171	0	0	0	1,005	49	2,301		1	0	0
Peak Hour	0	25	0	11					0	3	668	0	0	0	540	20	1,267		0	0	0

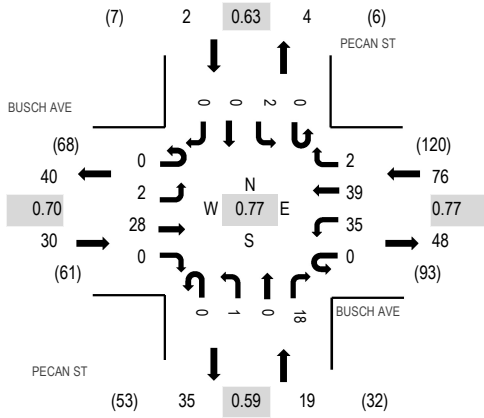


Note: Total study counts contained in parentheses.

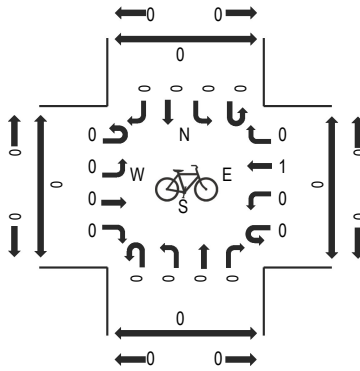
Traffic Counts - Motorized Vehicles

Interval Start Time	BUSCH AVE Eastbound				BUSCH AVE Westbound				RACE ST Northbound				RACE ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	21	1	0	0	1
7:15 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	19	0	0	0	0
7:30 AM	0	0	2	0	0	0	2	1	0	0	0	0	0	1	0	0	6	16	0	0	0	0
7:45 AM	0	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	9	14	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	1
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1		1	0	0	0
8:30 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	4		0	0	0	0
8:45 AM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4		0	0	0	0
Count Total	0	1	10	0	0	0	15	2	0	0	0	0	0	2	0	0	30		2	0	0	2
Peak Hour	0	0	8	0	0	0	10	2	0	0	0	0	0	1	0	0	21		1	0	0	1

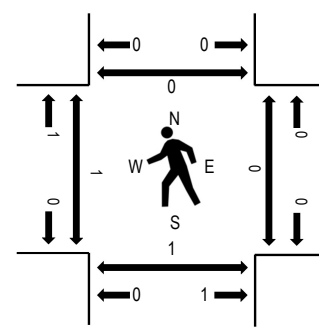
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

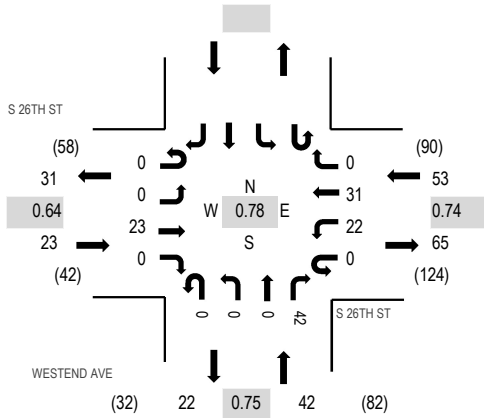


Note: Total study counts contained in parentheses.

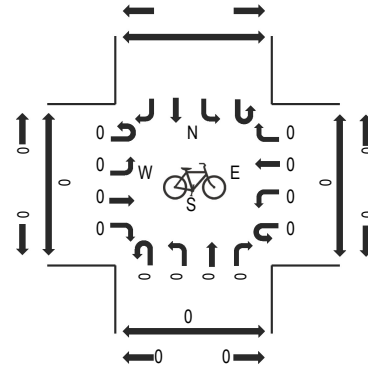
Traffic Counts - Motorized Vehicles

Interval Start Time	BUSCH AVE Eastbound				BUSCH AVE Westbound				PECAN ST Northbound				PECAN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	5	0	0	4	8	0	0	0	0	2	0	0	1	0	20	95	0	0	0	0
7:15 AM	0	0	11	0	0	3	3	0	0	0	0	3	0	0	1	0	21	107	0	0	0	0
7:30 AM	0	0	7	0	0	4	9	0	0	0	0	4	0	0	0	0	24	127	1	0	1	0
7:45 AM	0	1	7	0	0	13	4	1	0	0	0	4	0	0	0	0	30	125	0	0	0	0
8:00 AM	0	0	4	0	0	12	13	0	0	0	0	3	0	0	0	0	32	125	0	0	0	0
8:15 AM	0	1	10	0	0	6	13	1	0	1	0	7	0	2	0	0	41		0	0	0	0
8:30 AM	0	0	4	0	0	6	8	0	0	1	0	1	0	2	0	0	22		0	0	0	0
8:45 AM	0	0	11	0	0	3	7	2	0	1	0	5	0	1	0	0	30		0	0	0	0
Count Total	0	2	59	0	0	51	65	4	0	3	0	29	0	5	2	0	220		1	0	1	0
Peak Hour	0	2	28	0	0	35	39	2	0	1	0	18	0	2	0	0	127		1	0	1	0

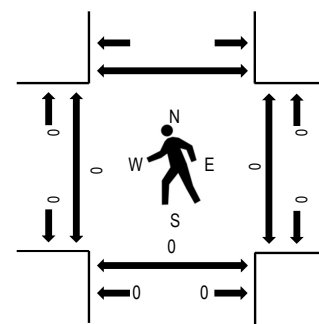
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

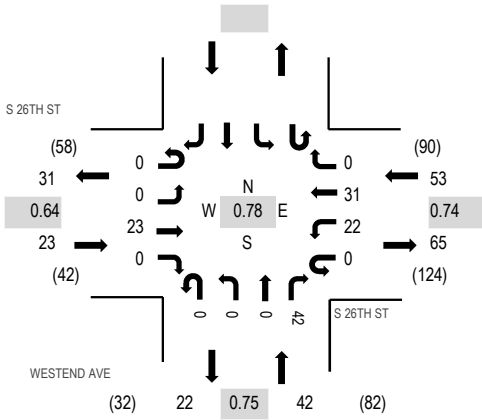


Note: Total study counts contained in parentheses.

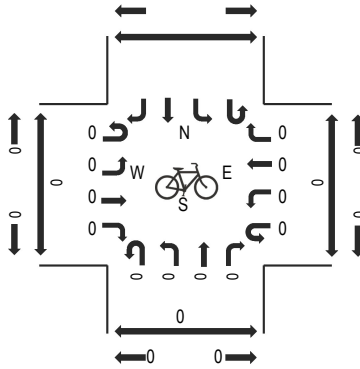
Traffic Counts - Motorized Vehicles

Interval Start Time	S 26TH ST Eastbound				S 26TH ST Westbound				WESTEND AVE Northbound				Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	3	0	0	2	6	0	0	0	0	7					18	116	1	0	0	
7:15 AM	0	0	4	0	0	4	3	0	0	0	0	14					25	114	0	0	0	
7:30 AM	0	0	9	0	0	8	10	0	0	0	0	11					38	118	0	0	0	
7:45 AM	0	0	5	0	0	7	7	0	0	0	0	16					35	107	0	0	0	
8:00 AM	0	0	3	0	0	1	5	0	0	0	0	7					16	98	0	0	0	
8:15 AM	0	0	6	0	0	6	9	0	0	0	0	8					29		0	0	0	
8:30 AM	0	0	6	0	0	3	7	0	0	0	0	11					27		0	0	0	
8:45 AM	0	0	6	0	0	1	11	0	0	0	0	8					26		0	0	0	
Count Total	0	0	42	0	0	32	58	0	0	0	0	82					214		1	0	0	
Peak Hour	0	0	23	0	0	22	31	0	0	0	0	42					118		0	0	0	

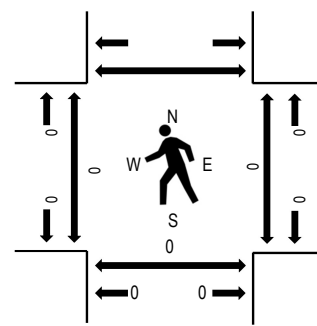
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



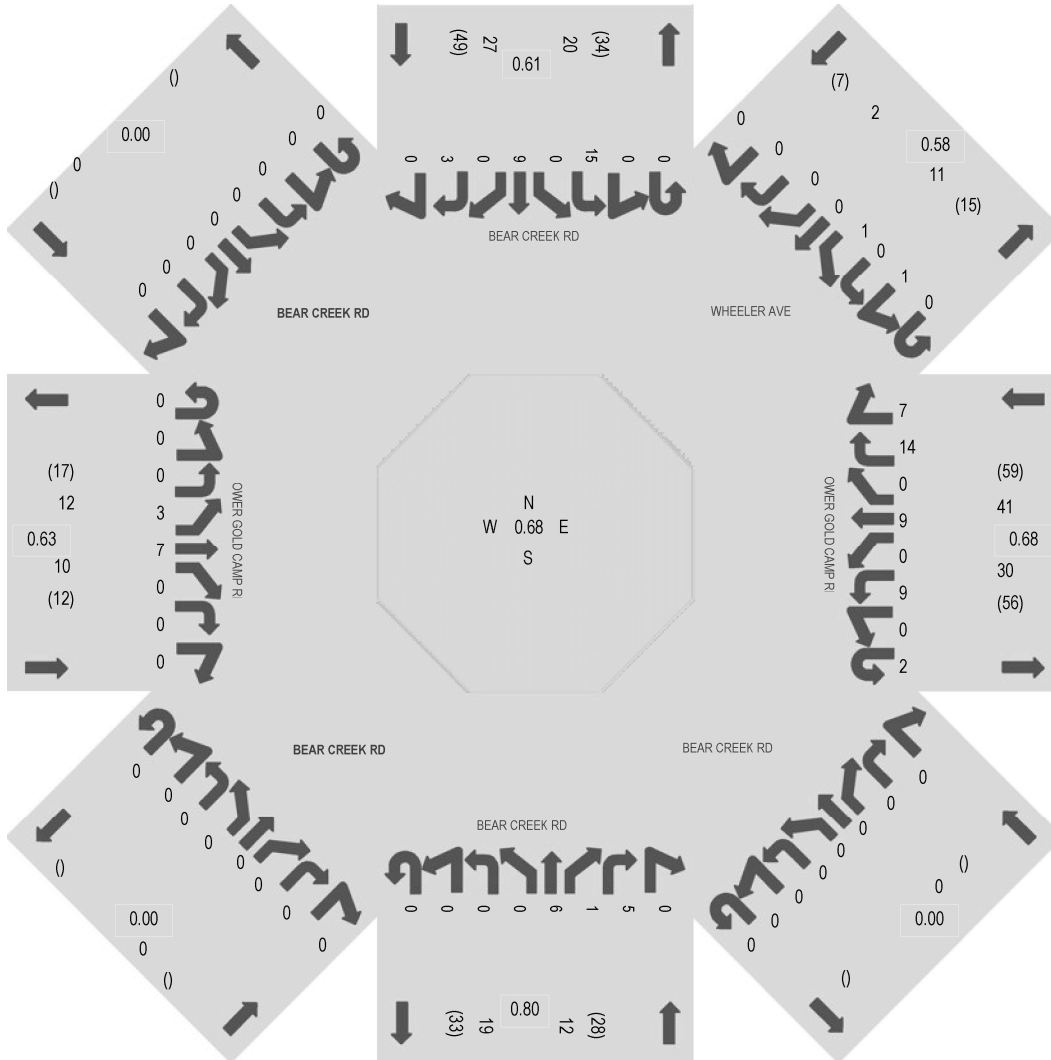
Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	S 26TH ST Eastbound				S 26TH ST Westbound				WESTEND AVE Northbound				Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	3	0	0	2	6	0	0	0	0	7					18	116	1	0	0	
7:15 AM	0	0	4	0	0	4	3	0	0	0	0	14					25	114	0	0	0	
7:30 AM	0	0	9	0	0	8	10	0	0	0	0	11					38	118	0	0	0	
7:45 AM	0	0	5	0	0	7	7	0	0	0	0	16					35	107	0	0	0	
8:00 AM	0	0	3	0	0	1	5	0	0	0	0	7					16	98	0	0	0	
8:15 AM	0	0	6	0	0	6	9	0	0	0	0	8					29		0	0	0	
8:30 AM	0	0	6	0	0	3	7	0	0	0	0	11					27		0	0	0	
8:45 AM	0	0	6	0	0	1	11	0	0	0	0	8					26		0	0	0	
Count Total	0	0	42	0	0	32	58	0	0	0	0	82					214		1	0	0	
Peak Hour	0	0	23	0	0	22	31	0	0	0	0	42					118		0	0	0	

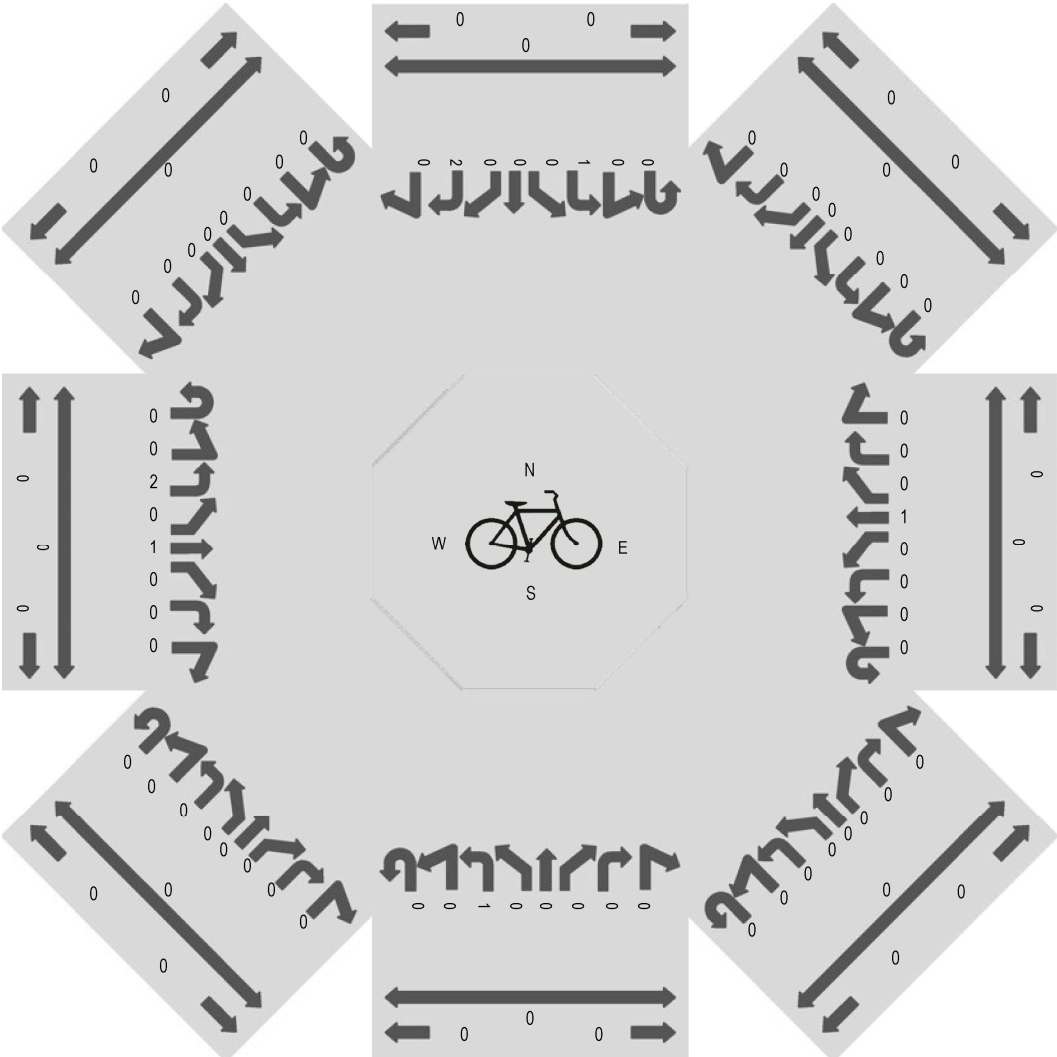
Location: 6 BEAR CREEK RD & LOWER GOLD CAMP RD AM
Date: Wednesday, September 14, 2022
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles

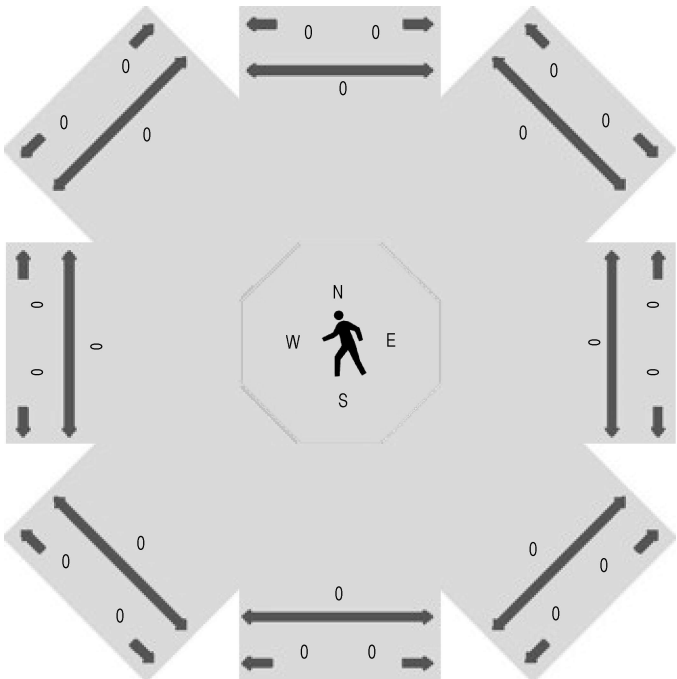


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians

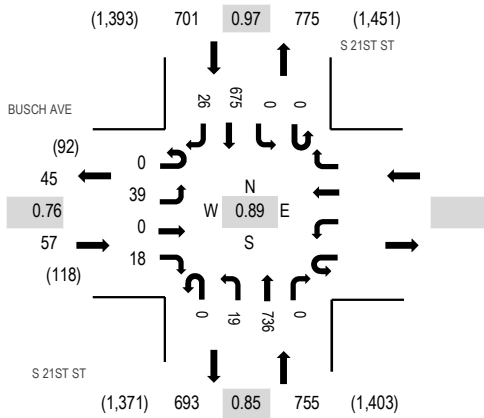


Traffic Counts - Motorized Vehicles

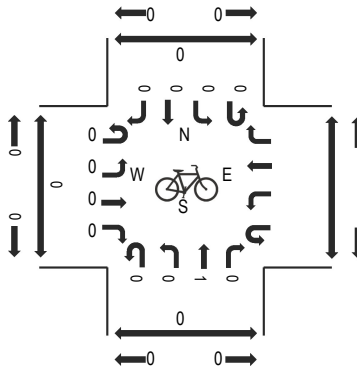
Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0			
7:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0			
7:30 AM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0			
7:45 AM	0	0	3	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	0	0	0			
8:00 AM	1	0	3	0	4	0	1	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0			
8:15 AM	0	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0			
8:30 AM	1	0	1	0	3	0	4	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0			
8:45 AM	0	0	5	0	1	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0			
Count Total	2	0	13	0	11	0	23	10	0	0	0	0	0	0	0	0	0	0	0	11	1	16	0	0	0	0	0	0	0			
Peak Hour	2	0	9	0	9	0	14	7	0	0	0	0	0	0	0	0	0	0	0	6	1	5	0	0	0	0	0	0	0			

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	0	0	0	0	0	0	11	63		
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0	0	0	0	13	70		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	1	0	1	0	0	0	0	15	75			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	5	0	0	0	1	0	0	0	0	24	82			
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	18	92			
8:15 AM	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	0	18				
8:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	2	0	0	0	0	0	0	22				
8:45 AM	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	1	0	0	0	0	0	0	34				
Count Total	0	0	0	3	9	0	0	0	0	0	0	0	0	0	0	0	0	1	23	0	19	0	6	0	0	6	0	1	0	0	155			
Peak Hour	0	0	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	9	0	3	0	0	1	0	1	0	0	92			

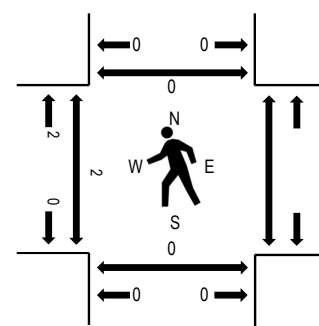
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

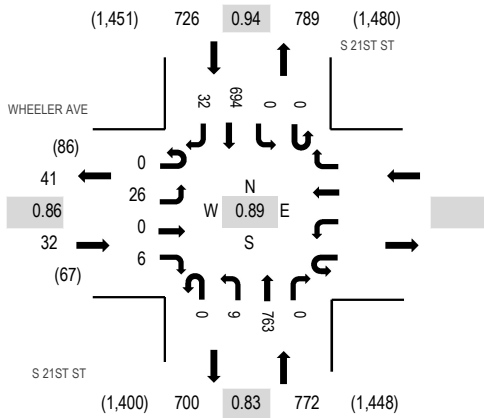


Note: Total study counts contained in parentheses.

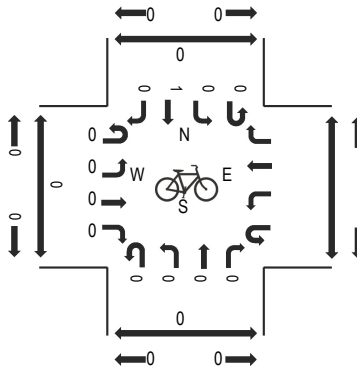
Traffic Counts - Motorized Vehicles

Interval Start Time	BUSCH AVE Eastbound				Westbound			S 21ST ST Northbound				S 21ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
4:00 PM	0	15	0	6					0	5	217	0	0	0	170	10	423	1,513	1	0	0	0
4:15 PM	0	8	0	5					0	3	180	0	0	0	167	8	371	1,470	0	0	0	0
4:30 PM	0	11	0	6					0	10	173	0	0	0	168	2	370	1,487	1	0	0	0
4:45 PM	0	5	0	1					0	1	166	0	0	0	170	6	349	1,472	0	0	0	0
5:00 PM	0	16	0	4					0	2	179	0	0	0	171	8	380	1,401	0	0	0	0
5:15 PM	0	12	0	4					0	6	179	0	0	0	180	7	388		2	0	0	0
5:30 PM	0	7	0	5					0	5	158	0	0	0	173	7	355		1	0	0	0
5:45 PM	0	8	0	5					0	2	117	0	0	0	136	10	278		0	0	0	0
Count Total	0	82	0	36					0	34	1,369	0	0	0	1,335	58	2,914		5	0	0	0
Peak Hour	0	39	0	18					0	19	736	0	0	0	675	26	1,513		2	0	0	0

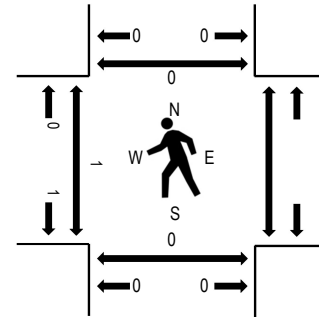
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

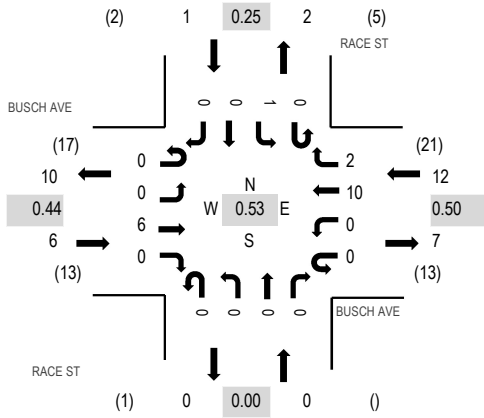


Note: Total study counts contained in parentheses.

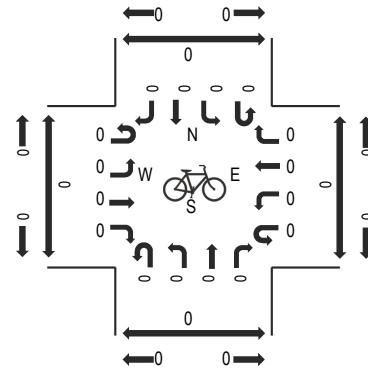
Traffic Counts - Motorized Vehicles

Interval Start Time	WHEELER AVE Eastbound				Westbound			S 21ST ST Northbound				S 21ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
4:00 PM	0	5	0	1					0	3	229	0	0	0	177	14	429	1,530	1	0	0	0
4:15 PM	0	9	0	0					0	3	182	0	0	0	176	8	378	1,491	0	0	0	0
4:30 PM	0	4	0	2					0	2	181	0	0	0	169	8	366	1,512	0	0	0	0
4:45 PM	0	8	0	3					0	1	171	0	0	0	172	2	357	1,509	0	0	0	0
5:00 PM	0	8	0	1					0	3	191	0	0	0	178	9	390	1,436	0	0	0	0
5:15 PM	0	8	0	2					0	5	188	0	0	0	190	6	399		0	0	0	0
5:30 PM	0	6	0	2					0	1	171	0	0	0	177	6	363		1	0	0	0
5:45 PM	0	6	0	2					0	4	113	0	0	0	148	11	284		0	0	0	0
Count Total	0	54	0	13					0	22	1,426	0	0	0	1,387	64	2,966		2	0	0	0
Peak Hour	0	26	0	6					0	9	763	0	0	0	694	32	1,530		1	0	0	0

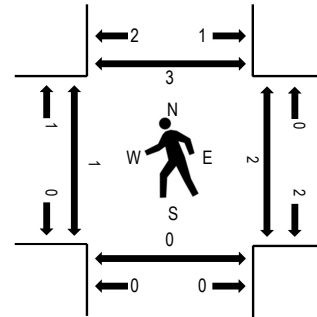
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

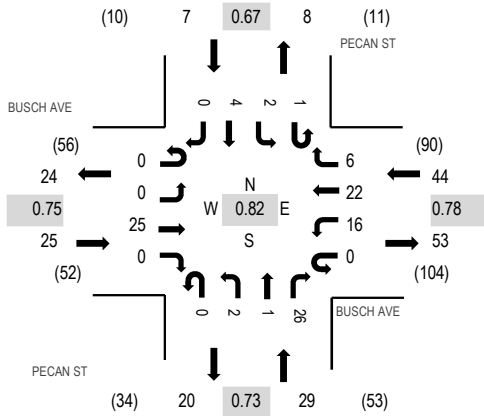


Note: Total study counts contained in parentheses.

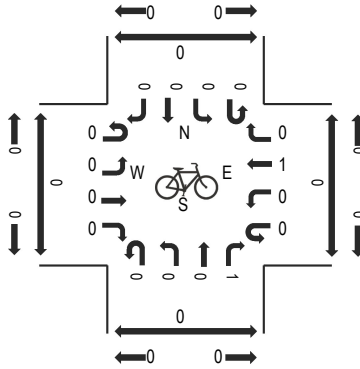
Traffic Counts - Motorized Vehicles

Interval Start Time	BUSCH AVE Eastbound				BUSCH AVE Westbound				RACE ST Northbound				RACE ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	3	0	0	0	5	1	0	0	0	0	0	0	0	0	9	19	1	0	0	0
4:15 PM	0	0	1	0	0	0	4	1	0	0	0	0	0	1	0	0	7	12	0	2	0	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10	0	0	0	2
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	13	0	0	0	1
5:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	17	0	0	0	0
5:15 PM	0	0	1	0	0	0	2	1	0	0	0	0	0	1	0	0	5		1	0	0	0
5:30 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5		2	0	0	2
5:45 PM	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0	5		0	0	0	0
Count Total	0	2	11	0	0	1	17	3	0	0	0	0	0	2	0	0	36		4	2	0	5
Peak Hour	0	0	6	0	0	0	10	2	0	0	0	0	0	1	0	0	19		1	2	0	3

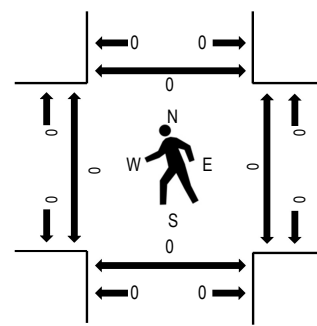
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

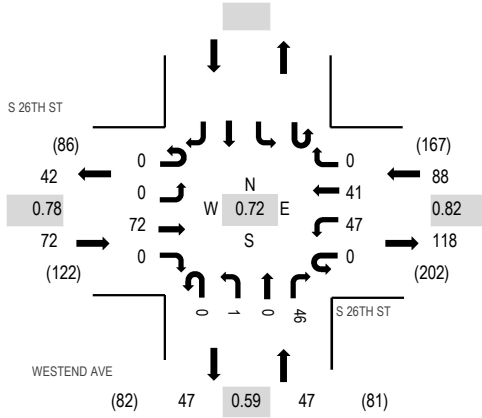


Note: Total study counts contained in parentheses.

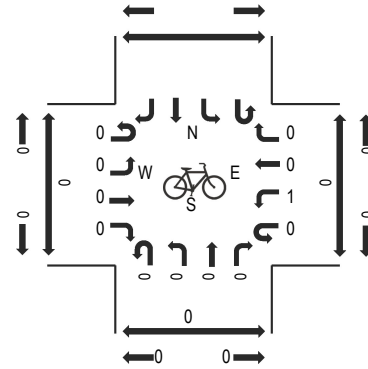
Traffic Counts - Motorized Vehicles

Interval Start Time	BUSCH AVE Eastbound				BUSCH AVE Westbound				PECAN ST Northbound				PECAN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	11	0	0	5	9	1	0	2	0	8	0	0	0	0	36	103	0	0	0	0
4:15 PM	0	0	6	0	0	2	8	1	0	0	0	7	0	0	0	0	24	97	1	0	0	0
4:30 PM	0	0	5	0	0	6	4	1	0	0	0	9	0	1	1	0	27	105	0	0	0	0
4:45 PM	0	0	3	0	0	1	7	2	0	0	0	3	0	0	0	0	16	97	0	0	0	0
5:00 PM	0	0	8	0	0	5	4	0	0	0	1	9	1	1	1	0	30	102	0	0	0	0
5:15 PM	0	0	9	0	0	4	7	3	0	2	0	5	0	0	2	0	32		0	0	0	0
5:30 PM	0	0	3	0	0	4	7	0	0	0	0	5	0	0	0	0	19		0	1	0	0
5:45 PM	0	0	7	0	0	2	6	1	0	0	0	2	0	2	1	0	21		0	1	0	0
Count Total	0	0	52	0	0	29	52	9	0	4	1	48	1	4	5	0	205		1	2	0	0
Peak Hour	0	0	25	0	0	16	22	6	0	2	1	26	1	2	4	0	105		0	0	0	0

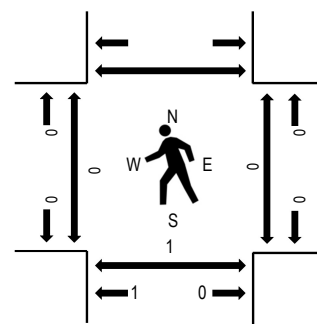
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians

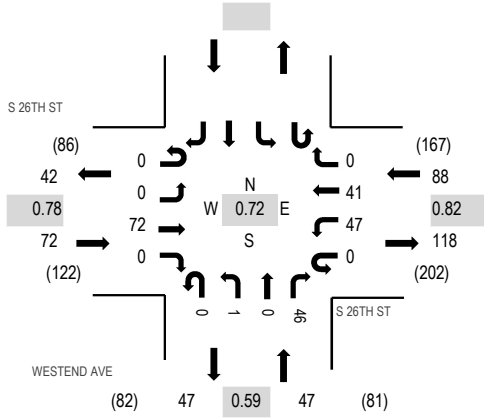


Note: Total study counts contained in parentheses.

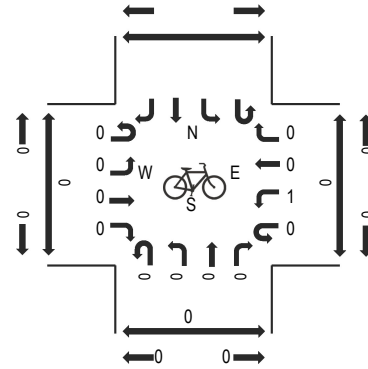
Traffic Counts - Motorized Vehicles

Interval Start Time	S 26TH ST Eastbound				S 26TH ST Westbound				WESTEND AVE Northbound				Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	12	0	0	11	12	0	0	0	0	12					47	182	0	0	0	
4:15 PM	0	0	14	0	0	10	9	0	0	0	0	12					45	207	0	0	0	
4:30 PM	0	0	18	0	0	13	4	0	0	1	0	8					44	198	0	0	1	
4:45 PM	0	0	17	0	0	14	9	0	0	0	0	6					46	198	0	0	0	
5:00 PM	0	0	23	0	0	10	19	0	0	0	0	20					72	188	0	0	0	
5:15 PM	0	0	9	0	0	7	12	0	0	0	0	8					36		0	0	0	
5:30 PM	0	0	13	0	0	8	16	0	0	0	0	7					44		0	0	0	
5:45 PM	0	0	16	0	0	9	4	0	0	0	0	7					36		0	0	0	
Count Total	0	0	122	0	0	82	85	0	0	1	0	80					370		0	0	1	
Peak Hour	0	0	72	0	0	47	41	0	0	1	0	46					207		0	0	1	

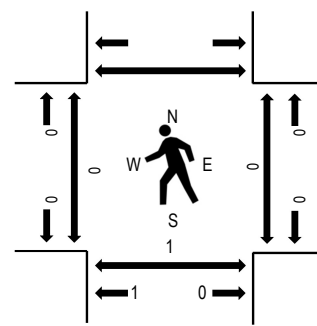
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



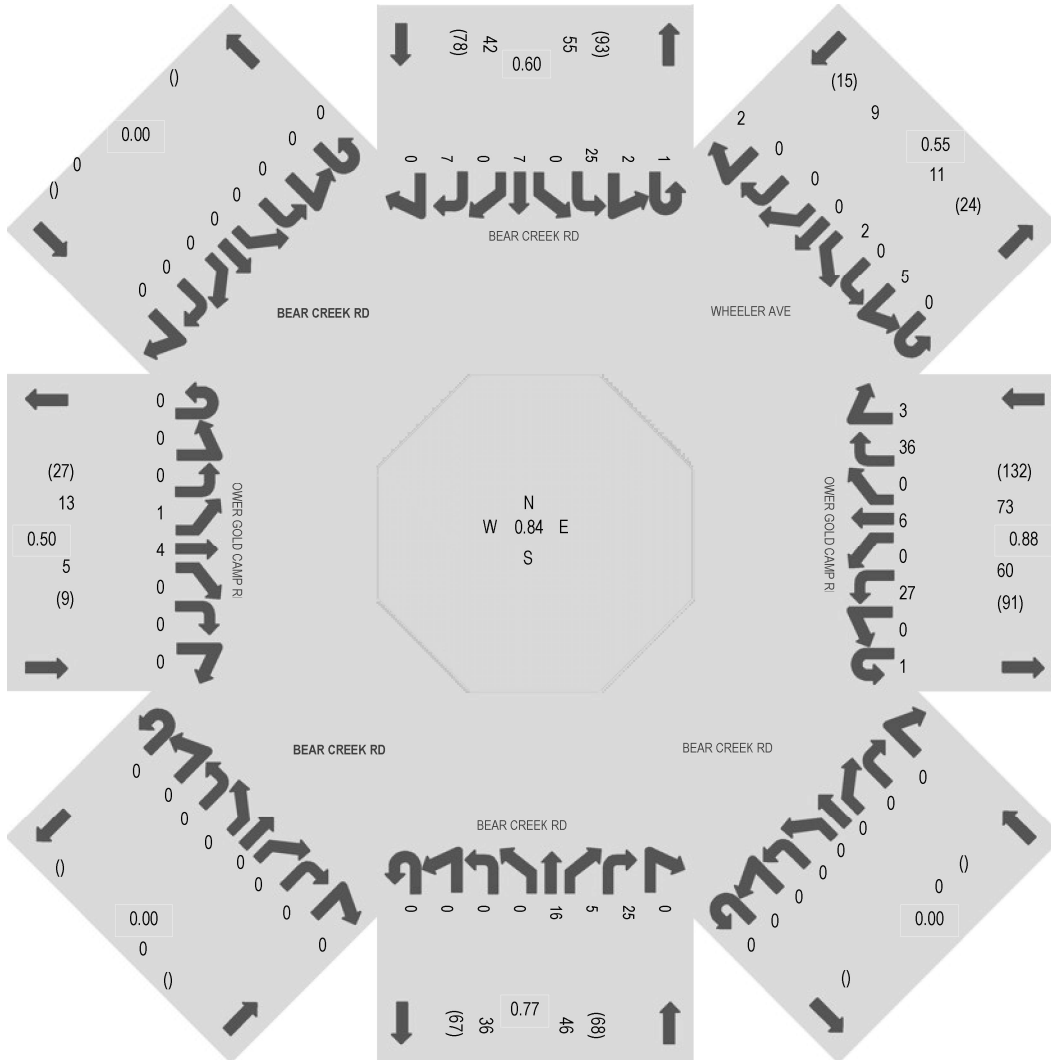
Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	S 26TH ST Eastbound				S 26TH ST Westbound				WESTEND AVE Northbound				Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	12	0	0	11	12	0	0	0	0	12					47	182	0	0	0	
4:15 PM	0	0	14	0	0	10	9	0	0	0	0	12					45	207	0	0	0	
4:30 PM	0	0	18	0	0	13	4	0	0	1	0	8					44	198	0	0	1	
4:45 PM	0	0	17	0	0	14	9	0	0	0	0	6					46	198	0	0	0	
5:00 PM	0	0	23	0	0	10	19	0	0	0	0	20					72	188	0	0	0	
5:15 PM	0	0	9	0	0	7	12	0	0	0	0	8					36		0	0	0	
5:30 PM	0	0	13	0	0	8	16	0	0	0	0	7					44		0	0	0	
5:45 PM	0	0	16	0	0	9	4	0	0	0	0	7					36		0	0	0	
Count Total	0	0	122	0	0	82	85	0	0	1	0	80					370		0	0	1	
Peak Hour	0	0	72	0	0	47	41	0	0	1	0	46					207		0	0	1	

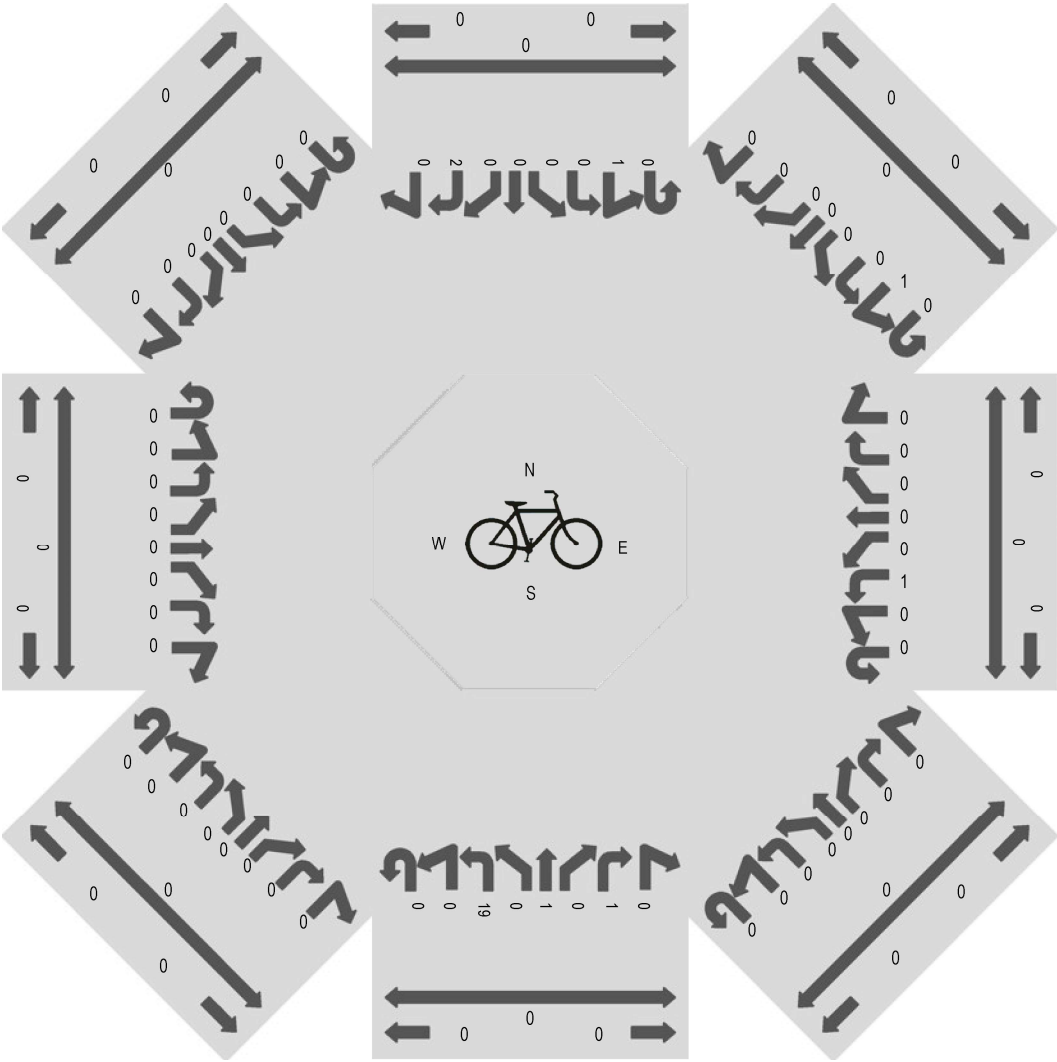
Location: 6 BEAR CREEK RD & LOWER GOLD CAMP RD PM
Date: Wednesday, September 14, 2022
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles

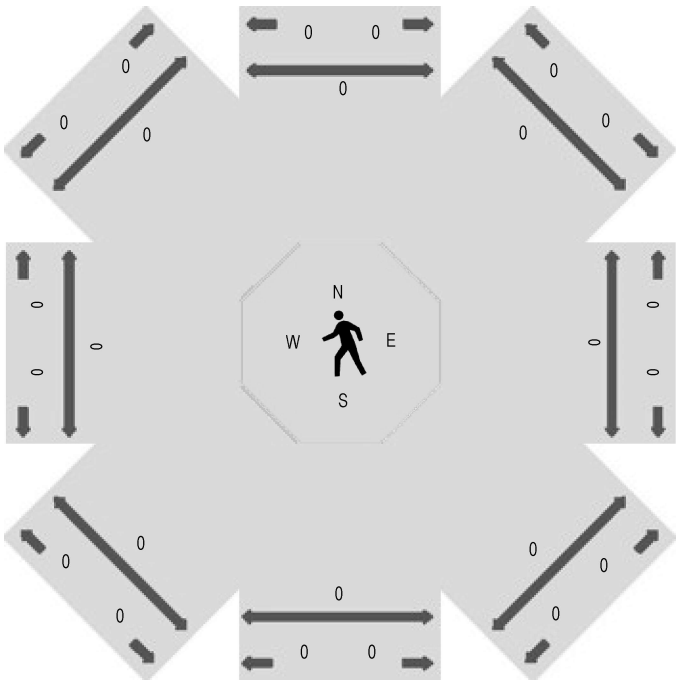


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians



Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
4:00 PM	0	0	6	0	4	0	10	1	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	6	0	0	0	10	1	0	0	0	0	0	0	0	0	0	0	0	2	2	6	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	8	0	4	0	12	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	9	0	2	0	10	0	0	0	0	0	0	0	0	0	0	0	0	5	3	7	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	4	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6	0	9	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	3	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	3	2	2	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	1	0	9	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	3	0	3	0	7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	41	0	14	0	66	10	0	0	0	0	0	0	0	0	0	0	1	0	24	10	33	0	0	0	0	0	0	0	0	0
Peak Hour	1	0	27	0	6	0	36	3	0	0	0	0	0	0	0	0	0	0	0	16	5	25	0	0	0	0	0	0	0	0	0	0

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	3	0	2	0	0	0	0	0	0	0	0	38	161	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	2	0	1	0	0	2	0	0	0	0	0	39	175	
4:30 PM	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	1	0	0	0	0	1	0	0	0	0	40	166		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	1	0	1	0	0	0	0	1	44	160		
5:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	13	0	2	0	5	0	0	2	0	1	0	0	1	52	141	
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0	0	30			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	1	0	0	2	0	1	0	2	0	34		
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	25			
Count Total	0	0	0	2	7	0	0	0	0	0	0	0	0	0	0	0	1	2	43	0	22	0	10	0	0	7	0	4	0	2	0	2	302	
Peak Hour	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	1	2	25	0	7	0	7	0	0	5	0	2	0	0	2	175		

All Traffic Data Services

www.alltrafficdata.net

Site Code: 7
 Station ID: 7
 WHEELER AVE EAST OF BEAR CREEK RD
 Latitude: 0' 0.0000 Undefined

Start Time	14-Sep-22 Wed	EB	WB	Total						
12:00 AM		0	0	0						
01:00		0	0	0						
02:00		2	0	2						
03:00		1	0	1						
04:00		0	0	0						
05:00		1	3	4						
06:00		2	3	5						
07:00		4	5	9						
08:00		11	2	13						
09:00		3	0	3						
10:00		3	3	6						
11:00		10	7	17						
12:00 PM		3	3	6						
01:00		10	7	17						
02:00		12	7	19						
03:00		16	9	25						
04:00		11	5	16						
05:00		13	10	23						
06:00		7	3	10						
07:00		7	2	9						
08:00		7	4	11						
09:00		2	6	8						
10:00		3	1	4						
11:00		1	2	3						
Total		129	82	211						
Percent		61.1%	38.9%							
AM Peak	-	08:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	11	7	-	-	-	-	-	-	17
PM Peak	-	15:00	17:00	-	-	-	-	-	-	15:00
Vol.	-	16	10	-	-	-	-	-	-	25
Grand Total		129	82							211
Percent		61.1%	38.9%							
ADT		ADT 211		AADT 211						

All Traffic Data Services

www.alltrafficdata.net

Site Code: 8
 Station ID: 8
 S 21ST ST SOUTH OF BUSCH AVE
 Latitude: 0' 0.0000 Undefined

Start Time	14-Sep-22 Wed	NB	SB	Total						
12:00 AM		20	16	36						
01:00		16	22	38						
02:00		13	11	24						
03:00		12	12	24						
04:00		30	19	49						
05:00		89	80	169						
06:00		268	183	451						
07:00		618	433	1051						
08:00		528	518	1046						
09:00		546	457	1003						
10:00		519	438	957						
11:00		564	489	1053						
12:00 PM		603	560	1163						
01:00		516	542	1058						
02:00		585	576	1161						
03:00		691	615	1306						
04:00		755	693	1448						
05:00		648	678	1326						
06:00		502	549	1051						
07:00		328	352	680						
08:00		156	234	390						
09:00		107	174	281						
10:00		81	97	178						
11:00		40	50	90						
Total		8235	7798	16033						
Percent		51.4%	48.6%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	11:00
Vol.	-	618	518	-	-	-	-	-	-	1053
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	755	693	-	-	-	-	-	-	1448
Grand Total		8235	7798							16033
Percent		51.4%	48.6%							
ADT		ADT 16,033	AADT 16,033							

All Traffic Data Services

www.alltrafficdata.net

Site Code: 9
 Station ID: 9
 S 21ST ST NORTH OF BUSCH AVE
 Latitude: 0' 0.0000 Undefined

Start Time	14-Sep-22 Wed	NB	SB							Total
12:00 AM		22	18							40
01:00		16	20							36
02:00		14	10							24
03:00		13	12							25
04:00		30	20							50
05:00		90	84							174
06:00		265	205							470
07:00		640	463							1103
08:00		544	558							1102
09:00		554	470							1024
10:00		535	452							987
11:00		587	497							1084
12:00 PM		615	579							1194
01:00		529	557							1086
02:00		590	596							1186
03:00		714	629							1343
04:00		775	701							1476
05:00		676	692							1368
06:00		512	551							1063
07:00		334	356							690
08:00		160	244							404
09:00		116	172							288
10:00		89	103							192
11:00		41	52							93
Total		8461	8041							16502
Percent		51.3%	48.7%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	07:00
Vol.	-	640	558	-	-	-	-	-	-	1103
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	775	701	-	-	-	-	-	-	1476
Grand Total		8461	8041							16502
Percent		51.3%	48.7%							
ADT		ADT 16,502	AADT 16,502							

All Traffic Data Services

www.alltrafficdata.net

Site Code: 10
Station ID: 10
S 21ST ST NORTH OF WHEELER AVE

Latitude: 0' 0.0000 Undefined

Start Time	14-Sep-22 Wed	NB	SB							Total
12:00 AM		22	18							40
01:00		16	22							38
02:00		16	11							27
03:00		14	12							26
04:00		35	20							55
05:00		99	87							186
06:00		288	215							503
07:00		658	471							1129
08:00		556	583							1139
09:00		567	485							1052
10:00		549	460							1009
11:00		595	519							1114
12:00 PM		620	571							1191
01:00		542	561							1103
02:00		604	616							1220
03:00		736	649							1385
04:00		789	726							1515
05:00		691	725							1416
06:00		521	579							1100
07:00		346	370							716
08:00		172	257							429
09:00		137	179							316
10:00		95	104							199
11:00		42	53							95
Total		8710	8293							17003
Percent		51.2%	48.8%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	658	583	-	-	-	-	-	-	1139
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	789	726	-	-	-	-	-	-	1515
Grand Total		8710	8293							17003
Percent		51.2%	48.8%							
ADT		ADT 17,003	AADT 17,003							

All Traffic Data Services

www.alltrafficdata.net

Site Code: 11
Station ID: 11
BUSCH AVE WEST OF S 21ST ST

Latitude: 0' 0.0000 Undefined

Start Time	14-Sep-22 Wed	NB	SB							Total
12:00 AM		5	5							10
01:00		5	3							8
02:00		3	1							4
03:00		3	2							5
04:00		2	3							5
05:00		4	7							11
06:00		7	32							39
07:00		43	51							94
08:00		47	71							118
09:00		44	49							93
10:00		41	39							80
11:00		60	45							105
12:00 PM		42	49							91
01:00		47	49							96
02:00		48	63							111
03:00		62	53							115
04:00		57	45							102
05:00		61	47							108
06:00		31	23							54
07:00		29	27							56
08:00		15	21							36
09:00		19	8							27
10:00		9	7							16
11:00		4	5							9
Total		688	705							1393
Percent		49.4%	50.6%							
AM Peak	-	11:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	60	71	-	-	-	-	-	-	118
PM Peak	-	15:00	14:00	-	-	-	-	-	-	15:00
Vol.	-	62	63	-	-	-	-	-	-	115
Grand Total		688	705							1393
Percent		49.4%	50.6%							
ADT		ADT 1,393	AADT 1,393							

All Traffic Data Services

www.alltrafficdata.net

Site Code: 12
 Station ID: 12
 WHEELER AVE WEST OF S 21ST ST

Latitude: 0' 0.0000 Undefined

Start Time	14-Sep-22 Wed	EB	WB	Total						
12:00 AM		0	0	0						
01:00		0	2	2						
02:00		2	0	2						
03:00		1	0	1						
04:00		3	0	3						
05:00		9	2	11						
06:00		26	15	41						
07:00		34	18	52						
08:00		33	40	73						
09:00		46	39	85						
10:00		40	30	70						
11:00		25	38	63						
12:00 PM		27	18	45						
01:00		31	23	54						
02:00		38	41	79						
03:00		36	35	71						
04:00		32	41	73						
05:00		35	45	80						
06:00		21	45	66						
07:00		24	25	49						
08:00		11	10	21						
09:00		24	13	37						
10:00		8	4	12						
11:00		1	1	2						
Total		507	485	992						
Percent		51.1%	48.9%							
AM Peak	-	09:00	08:00	-	-	-	-	-	-	09:00
Vol.	-	46	40	-	-	-	-	-	-	85
PM Peak	-	14:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	38	45	-	-	-	-	-	-	80
Grand Total		507	485							992
Percent		51.1%	48.9%							
ADT		ADT 992		AADT 992						

APPENDIX “B”

**INTERSECTION CAPACITY
ANALYSIS WORKSHEETS**

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.951				0.986	
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1717	0	1770	1863	1837	0
Flt Permitted	0.969		0.950			
Satd. Flow (perm)	1717	0	1770	1863	1837	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	16	18	649	489	59
Future Vol, veh/h	28	16	18	649	489	59
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	-	100	-	-	-
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	30	17	20	705	532	64

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1309	564	596	0	-	0
Stage 1	564	-	-	-	-	-
Stage 2	745	-	-	-	-	-
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	176	525	980	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	172	525	980	-	-	-
Mov Cap-2 Maneuver	172	-	-	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.9	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	980	-	228	-	-
HCM Lane V/C Ratio	0.02	-	0.21	-	-
HCM Control Delay (s)	8.7	-	24.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.995	
Flt Protected	0.967		0.950			
Satd. Flow (prot)	1726	0	1770	1863	1853	0
Flt Permitted	0.967		0.950			
Satd. Flow (perm)	1726	0	1770	1863	1853	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	374			409	493	
Travel Time (s)	8.5			9.3	11.2	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	11	3	668	540	20
Future Vol, veh/h	25	11	3	668	540	20
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	-	100	-	-	-
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	27	12	3	726	587	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1330	598	609	0	-	0
Stage 1	598	-	-	-	-	-
Stage 2	732	-	-	-	-	-
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	171	502	970	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	170	502	970	-	-	-
Mov Cap-2 Maneuver	170	-	-	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	970	-	213	-	-
HCM Lane V/C Ratio	0.003	-	0.184	-	-
HCM Control Delay (s)	8.7	-	25.7	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt	0.979											
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	507				2284				236		405	
Travel Time (s)	11.5				51.9				5.4		9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	8	0	0	10	2	0	0	0	1	0	0
Future Vol, veh/h	0	8	0	0	10	2	0	0	0	1	0	0
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	0	9	0	0	11	2	0	0	0	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	9	0	0	21	22	9	21	21	12
Stage 1	-	-	-	-	-	-	9	9	-	12	12	-
Stage 2	-	-	-	-	-	-	12	13	-	9	9	-
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	1606	-	-	1611	-	-	992	872	1073	992	873	1069
Stage 1	-	-	-	-	-	-	1012	888	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1012	888	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1611	-	-	992	872	1073	992	873	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	992	872	-	992	873	-
Stage 1	-	-	-	-	-	-	1012	888	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1012	888	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			0			8.6		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1606	-	-	1611	-	-	992
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.997			0.871				
Flt Protected		0.997			0.977			0.998			0.950	
Satd. Flow (prot)	0	1857	0	0	1814	0	0	1619	0	0	1770	0
Flt Permitted		0.997			0.977			0.998			0.950	
Satd. Flow (perm)	0	1857	0	0	1814	0	0	1619	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	28	0	35	39	2	1	0	18	2	0	0
Future Vol, veh/h	2	28	0	35	39	2	1	0	18	2	0	0
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	2	30	0	38	42	2	1	0	20	2	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	44	0	0	30	0	0	153	154	30	163	153	43
Stage 1	-	-	-	-	-	-	34	34	-	119	119	-
Stage 2	-	-	-	-	-	-	119	120	-	44	34	-
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	1564	-	-	1583	-	-	814	738	1044	802	739	1027
Stage 1	-	-	-	-	-	-	982	867	-	885	797	-
Stage 2	-	-	-	-	-	-	885	796	-	970	867	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1564	-	-	1583	-	-	798	719	1044	772	720	1027
Mov Cap-2 Maneuver	-	-	-	-	-	-	798	719	-	772	720	-
Stage 1	-	-	-	-	-	-	981	866	-	884	777	-
Stage 2	-	-	-	-	-	-	863	776	-	951	866	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			3.4			8.6			9.7		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1027	1564	-	-	1583	-	-	772
HCM Lane V/C Ratio	0.02	0.001	-	-	0.024	-	-	0.003
HCM Control Delay (s)	8.6	7.3	0	-	7.3	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.921					
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1716	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1716	0	1770	0
Link Speed (mph)	30		30	30		
Link Distance (ft)	507		233	424		
Travel Time (s)	11.5		5.3	9.6		

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	42	22	31	23	0
Future Vol, veh/h	0	42	22	31	23	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	46	24	34	25	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	41	41	-	0
Stage 1	41	41	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	970	851	-	-
Stage 1	981	861	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	970	0	-	-
Mov Cap-2 Maneuver	970	0	-	-
Stage 1	981	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.931			0.948				0.987
Flt Protected		0.987			0.987							0.973
Satd. Flow (prot)	0	1839	0	0	1712	0	0	1766	0	0	1789	0
Flt Permitted		0.987			0.987							0.973
Satd. Flow (perm)	0	1839	0	0	1712	0	0	1766	0	0	1789	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		298			556			370				144
Travel Time (s)		6.8			12.6			8.4				3.3

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	7	0	11	9	21	0	7	5	16	10	3
Future Vol, veh/h	3	7	0	11	9	21	0	7	5	16	10	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	8	0	12	10	23	0	8	5	17	11	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	6.9	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	30%	27%	55%
Vol Thru, %	58%	70%	22%	34%
Vol Right, %	42%	0%	51%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	10	41	29
LT Vol	0	3	11	16
Through Vol	7	7	9	10
RT Vol	5	0	21	3
Lane Flow Rate	13	11	45	32
Geometry Grp	1	1	1	1
Degree of Util (X)	0.014	0.012	0.047	0.036
Departure Headway (Hd)	3.805	4.106	3.767	4.09
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	940	871	951	876
Service Time	1.83	2.132	1.788	2.11
HCM Lane V/C Ratio	0.014	0.013	0.047	0.037
HCM Control Delay	6.9	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.1	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.952					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1773	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1773	0	0	1863
Link Speed (mph)	30		30		30	
Link Distance (ft)	440		144		394	
Travel Time (s)	10.0		3.3		9.0	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	2	0	20	11	0	27
Future Vol, veh/h	2	0	20	11	0	27
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	2	0	22	12	0	29

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	57	28	0	0	34
Stage 1	28	-	-	-	-
Stage 2	29	-	-	-	-
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	950	1047	-	-	1578
Stage 1	995	-	-	-	-
Stage 2	994	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	950	1047	-	-	1578
Mov Cap-2 Maneuver	950	-	-	-	-
Stage 1	995	-	-	-	-
Stage 2	994	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	950	1578
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	8.8	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.956				0.995	
Flt Protected	0.967		0.950			
Satd. Flow (prot)	1722	0	1770	1863	1853	0
Flt Permitted	0.967		0.950			
Satd. Flow (perm)	1722	0	1770	1863	1853	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	18	19	736	675	26
Future Vol, veh/h	39	18	19	736	675	26
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	-	100	-	-	-
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	42	20	21	800	734	28

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1590	748	762	0	-	0
Stage 1	748	-	-	-	-	-
Stage 2	842	-	-	-	-	-
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	118	412	850	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	115	412	850	-	-	-
Mov Cap-2 Maneuver	115	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	423	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.4	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	850	-	149	-	-
HCM Lane V/C Ratio	0.024	-	0.416	-	-
HCM Control Delay (s)	9.3	-	45.4	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.973				0.994	
Flt Protected	0.962		0.950			
Satd. Flow (prot)	1744	0	1770	1863	1852	0
Flt Permitted	0.962		0.950			
Satd. Flow (perm)	1744	0	1770	1863	1852	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	374			409	493	
Travel Time (s)	8.5			9.3	11.2	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	6	9	763	694	32
Future Vol, veh/h	26	6	9	763	694	32
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	-	100	-	-	-
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	28	7	10	829	754	35

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1621	772	789	0	-	0
Stage 1	772	-	-	-	-	-
Stage 2	849	-	-	-	-	-
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	113	400	831	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	112	400	831	-	-	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	451	-	-	-	-	-
Stage 2	419	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	42.9	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	831	-	129	-	-
HCM Lane V/C Ratio	0.012	-	0.27	-	-
HCM Control Delay (s)	9.4	-	42.9	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt	0.979											
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	507				2284				236		405	
Travel Time (s)	11.5				51.9				5.4		9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	6	0	0	10	2	0	0	0	1	0	0
Future Vol, veh/h	0	6	0	0	10	2	0	0	0	1	0	0
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	0	7	0	0	11	2	0	0	0	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	7	0	0	19	20	7	19	19	12
Stage 1	-	-	-	-	-	-	7	7	-	12	12	-
Stage 2	-	-	-	-	-	-	12	13	-	7	7	-
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	1606	-	-	1614	-	-	995	874	1075	995	875	1069
Stage 1	-	-	-	-	-	-	1015	890	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1015	890	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1614	-	-	995	874	1075	995	875	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	995	874	-	995	875	-
Stage 1	-	-	-	-	-	-	1015	890	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1015	890	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1606	-	-	1614	-	-	995
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.980			0.878				
Flt Protected					0.983			0.997			0.979	
Satd. Flow (prot)	0	1863	0	0	1794	0	0	1631	0	0	1824	0
Flt Permitted					0.983			0.997			0.979	
Satd. Flow (perm)	0	1863	0	0	1794	0	0	1631	0	0	1824	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	25	0	16	22	6	2	1	26	3	4	0
Future Vol, veh/h	0	25	0	16	22	6	2	1	26	3	4	0
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	0	27	0	17	24	7	2	1	28	3	4	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	31	0	0	27	0	0	91	92	27	104	89	28
Stage 1	-	-	-	-	-	-	27	27	-	62	62	-
Stage 2	-	-	-	-	-	-	64	65	-	42	27	-
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	1582	-	-	1587	-	-	893	798	1048	876	801	1047
Stage 1	-	-	-	-	-	-	990	873	-	949	843	-
Stage 2	-	-	-	-	-	-	947	841	-	972	873	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1582	-	-	1587	-	-	881	789	1048	844	792	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	881	789	-	844	792	-
Stage 1	-	-	-	-	-	-	990	873	-	949	834	-
Stage 2	-	-	-	-	-	-	932	832	-	945	873	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.7	8.6	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1023	1582	-	-	1587	-	-	813
HCM Lane V/C Ratio	0.031	-	-	-	0.011	-	-	0.009
HCM Control Delay (s)	8.6	0	-	-	7.3	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.937			
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1861	1745	0	1770	0
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1861	1745	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	3.2					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	46	47	41	72	0
Future Vol, veh/h	1	46	47	41	72	0
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	1	50	51	45	78	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	74	74	-	0
Stage 1	74	74	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	930	816	-	-
Stage 1	949	833	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	930	0	-	-
Mov Cap-2 Maneuver	930	0	-	-
Stage 1	949	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s	9.1	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	930	-	-
HCM Lane V/C Ratio	0.055	-	-
HCM Control Delay (s)	9.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.928			0.927				0.979
Flt Protected		0.990			0.981							0.968
Satd. Flow (prot)	0	1844	0	0	1696	0	0	1727	0	0	1765	0
Flt Permitted		0.990			0.981							0.968
Satd. Flow (perm)	0	1844	0	0	1696	0	0	1727	0	0	1765	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			144	
Travel Time (s)		6.8			12.6			8.4			3.3	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	0	28	6	39	0	21	25	31	9	7
Future Vol, veh/h	1	4	0	28	6	39	0	21	25	31	9	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	4	0	30	7	42	0	23	27	34	10	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.3	7.1	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	20%	38%	66%
Vol Thru, %	46%	80%	8%	19%
Vol Right, %	54%	0%	53%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	5	73	47
LT Vol	0	1	28	31
Through Vol	21	4	6	9
RT Vol	25	0	39	7
Lane Flow Rate	50	5	79	51
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.006	0.085	0.059
Departure Headway (Hd)	3.795	4.209	3.867	4.163
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	939	844	921	858
Service Time	1.837	2.267	1.912	2.201
HCM Lane V/C Ratio	0.053	0.006	0.086	0.059
HCM Control Delay	7.1	7.3	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.3	0.2



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.973		0.980			
Flt Protected	0.962					0.998
Satd. Flow (prot)	1744	0	1825	0	0	1859
Flt Permitted	0.962					0.998
Satd. Flow (perm)	1744	0	1825	0	0	1859
Link Speed (mph)	30		30			30
Link Distance (ft)	440		144			394
Travel Time (s)	10.0		3.3			9.0

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	52	9	2	40
Future Vol, veh/h	7	2	52	9	2	40
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	8	2	57	10	2	43

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	109	62	0	0	67
Stage 1	62	-	-	-	-
Stage 2	47	-	-	-	-
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	888	1003	-	-	1535
Stage 1	961	-	-	-	-
Stage 2	975	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	887	1003	-	-	1535
Mov Cap-2 Maneuver	887	-	-	-	-
Stage 1	961	-	-	-	-
Stage 2	974	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	910	1535
HCM Lane V/C Ratio	-	-	0.011	0.001
HCM Control Delay (s)	-	-	9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.953				0.986	
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1718	0	1770	1863	1837	0
Flt Permitted	0.968		0.950			
Satd. Flow (perm)	1718	0	1770	1863	1837	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	16	18	665	501	60
Future Vol, veh/h	29	16	18	665	501	60
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	-	100	-	-	-
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	32	17	20	723	545	65

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1341	578	610	0	-	0
Stage 1	578	-	-	-	-	-
Stage 2	763	-	-	-	-	-
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	168	516	969	-	-	-
Stage 1	561	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	516	969	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.4	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	969	-	217	-	-
HCM Lane V/C Ratio	0.02	-	0.225	-	-
HCM Control Delay (s)	8.8	-	26.4	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Lanes and Geometrics
 2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959				0.995	
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1726	0	1770	1863	1853	0
Flt Permitted	0.966		0.950			
Satd. Flow (perm)	1726	0	1770	1863	1853	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	374			409	493	
Travel Time (s)	8.5			9.3	11.2	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	11	3	684	553	20
Future Vol, veh/h	26	11	3	684	553	20
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	-	100	-	-	-
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	28	12	3	743	601	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1361	612	623	0	-	0
Stage 1	612	-	-	-	-	-
Stage 2	749	-	-	-	-	-
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	163	493	958	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	163	493	958	-	-	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	539	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	958	-	203	-	-
HCM Lane V/C Ratio	0.003	-	0.198	-	-
HCM Control Delay (s)	8.8	-	27.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt	0.979											
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Flt Permitted	0.950											
Satd. Flow (perm)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	507				2284				236		405	
Travel Time (s)	11.5				51.9				5.4		9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	8	0	0	10	2	0	0	0	1	0	0
Future Vol, veh/h	0	8	0	0	10	2	0	0	0	1	0	0
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	0	9	0	0	11	2	0	0	0	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	9	0	0	21	22	9	21	21	12
Stage 1	-	-	-	-	-	-	9	9	-	12	12	-
Stage 2	-	-	-	-	-	-	12	13	-	9	9	-
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	1606	-	-	1611	-	-	992	872	1073	992	873	1069
Stage 1	-	-	-	-	-	-	1012	888	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1012	888	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1611	-	-	992	872	1073	992	873	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	992	872	-	992	873	-
Stage 1	-	-	-	-	-	-	1012	888	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1012	888	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			0			8.6		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1606	-	-	1611	-	-	992
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.997			0.871				
Flt Protected		0.997			0.977			0.998			0.950	
Satd. Flow (prot)	0	1857	0	0	1814	0	0	1619	0	0	1770	0
Flt Permitted		0.997			0.977			0.998			0.950	
Satd. Flow (perm)	0	1857	0	0	1814	0	0	1619	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	29	0	36	40	2	1	0	18	2	0	0
Future Vol, veh/h	2	29	0	36	40	2	1	0	18	2	0	0
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	2	32	0	39	43	2	1	0	20	2	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	45	0	0	32	0	0	158	159	32	168	158	44
Stage 1	-	-	-	-	-	-	36	36	-	122	122	-
Stage 2	-	-	-	-	-	-	122	123	-	46	36	-
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	1563	-	-	1580	-	-	808	733	1042	796	734	1026
Stage 1	-	-	-	-	-	-	980	865	-	882	795	-
Stage 2	-	-	-	-	-	-	882	794	-	968	865	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1563	-	-	1580	-	-	792	714	1042	766	715	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	792	714	-	766	715	-
Stage 1	-	-	-	-	-	-	979	864	-	881	775	-
Stage 2	-	-	-	-	-	-	860	774	-	949	864	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			3.4			8.6			9.7		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1025	1563	-	-	1580	-	-	766
HCM Lane V/C Ratio	0.02	0.001	-	-	0.025	-	-	0.003
HCM Control Delay (s)	8.6	7.3	0	-	7.3	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.921					
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1716	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1716	0	1770	0
Link Speed (mph)	30		30	30		
Link Distance (ft)	507		233	424		
Travel Time (s)	11.5		5.3	9.6		

Intersection Summary

Area Type: Other

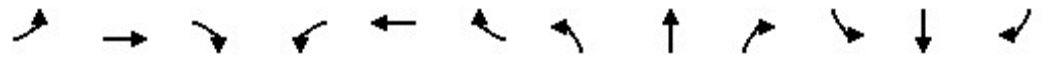
Intersection						
Int Delay, s/veh	0					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	43	23	32	24	0
Future Vol, veh/h	0	43	23	32	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	25	35	26	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	43	43	-	0
Stage 1	43	43	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	968	849	-	-
Stage 1	979	859	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	968	0	-	-
Mov Cap-2 Maneuver	968	0	-	-
Stage 1	979	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.930			0.948				0.987
Flt Protected		0.987			0.987						0.973	
Satd. Flow (prot)	0	1839	0	0	1710	0	0	1766	0	0	1789	0
Flt Permitted		0.987			0.987						0.973	
Satd. Flow (perm)	0	1839	0	0	1710	0	0	1766	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			151	
Travel Time (s)		6.8			12.6			8.4			3.4	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	7	0	11	9	22	0	7	5	16	10	3
Future Vol, veh/h	3	7	0	11	9	22	0	7	5	16	10	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	8	0	12	10	24	0	8	5	17	11	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	6.9	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	30%	26%	55%
Vol Thru, %	58%	70%	21%	34%
Vol Right, %	42%	0%	52%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	10	42	29
LT Vol	0	3	11	16
Through Vol	7	7	9	10
RT Vol	5	0	22	3
Lane Flow Rate	13	11	46	32
Geometry Grp	1	1	1	1
Degree of Util (X)	0.014	0.012	0.048	0.036
Departure Headway (Hd)	3.807	4.107	3.759	4.092
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	940	871	953	876
Service Time	1.832	2.133	1.78	2.112
HCM Lane V/C Ratio	0.014	0.013	0.048	0.037
HCM Control Delay	6.9	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.2	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.952			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1773	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1773	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	469		151			494
Travel Time (s)	10.7		3.4			11.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	2	0	20	11	0	28
Future Vol, veh/h	2	0	20	11	0	28
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	2	0	22	12	0	30

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	58	28	0	0	34
Stage 1	28	-	-	-	-
Stage 2	30	-	-	-	-
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	949	1047	-	-	1578
Stage 1	995	-	-	-	-
Stage 2	993	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	949	1047	-	-	1578
Mov Cap-2 Maneuver	949	-	-	-	-
Stage 1	995	-	-	-	-
Stage 2	993	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	949	1578
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	8.8	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957				0.995	
Flt Protected	0.967		0.950			
Satd. Flow (prot)	1724	0	1770	1863	1853	0
Flt Permitted	0.967		0.950			
Satd. Flow (perm)	1724	0	1770	1863	1853	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	18	19	754	691	27
Future Vol, veh/h	40	18	19	754	691	27
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	-	100	-	-	-
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	43	20	21	820	751	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1628	766	780	0	-	0
Stage 1	766	-	-	-	-	-
Stage 2	862	-	-	-	-	-
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	112	403	837	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	109	403	837	-	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	414	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	49.7	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	837	-	141	-	-
HCM Lane V/C Ratio	0.025	-	0.447	-	-
HCM Control Delay (s)	9.4	-	49.7	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	2	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.974				0.994	
Flt Protected	0.961		0.950			
Satd. Flow (prot)	1744	0	1770	1863	1852	0
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	1744	0	1770	1863	1852	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	374			409	493	
Travel Time (s)	8.5			9.3	11.2	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	6	9	781	711	33
Future Vol, veh/h	27	6	9	781	711	33
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	-	100	-	-	-
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	29	7	10	849	773	36

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1660	791	809	0	-	0
Stage 1	791	-	-	-	-	-
Stage 2	869	-	-	-	-	-
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	107	390	817	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	106	390	817	-	-	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	410	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	46.4	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	817	-	122	-	-
HCM Lane V/C Ratio	0.012	-	0.294	-	-
HCM Control Delay (s)	9.5	-	46.4	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt	0.979											
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Flt Permitted	0.950											
Satd. Flow (perm)	0	1863	0	0	1824	0	0	1863	0	0	1770	0
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	507				2284				236		405	
Travel Time (s)	11.5				51.9				5.4		9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	6	0	0	10	2	0	0	0	1	0	0
Future Vol, veh/h	0	6	0	0	10	2	0	0	0	1	0	0
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	0	7	0	0	11	2	0	0	0	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	7	0	0	19	20	7	19	19	12
Stage 1	-	-	-	-	-	-	7	7	-	12	12	-
Stage 2	-	-	-	-	-	-	12	13	-	7	7	-
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	1606	-	-	1614	-	-	995	874	1075	995	875	1069
Stage 1	-	-	-	-	-	-	1015	890	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1015	890	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1614	-	-	995	874	1075	995	875	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	995	874	-	995	875	-
Stage 1	-	-	-	-	-	-	1015	890	-	1009	886	-
Stage 2	-	-	-	-	-	-	1009	885	-	1015	890	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			0			8.6		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1606	-	-	1614	-	-	995
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.981			0.878				
Flt Protected					0.983			0.997			0.979	
Satd. Flow (prot)	0	1863	0	0	1796	0	0	1631	0	0	1824	0
Flt Permitted					0.983			0.997			0.979	
Satd. Flow (perm)	0	1863	0	0	1796	0	0	1631	0	0	1824	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

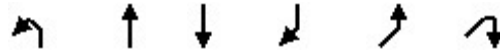
Area Type: Other

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	26	0	16	23	6	2	1	27	3	4	0
Future Vol, veh/h	0	26	0	16	23	6	2	1	27	3	4	0
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	0	28	0	17	25	7	2	1	29	3	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	28	0	0	93	94	28	106	91	29
Stage 1	-	-	-	-	-	-	28	28	-	63	63	-
Stage 2	-	-	-	-	-	-	65	66	-	43	28	-
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	1580	-	-	1585	-	-	891	796	1047	873	799	1046
Stage 1	-	-	-	-	-	-	989	872	-	948	842	-
Stage 2	-	-	-	-	-	-	946	840	-	971	872	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1580	-	-	1585	-	-	879	787	1047	841	790	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	879	787	-	841	790	-
Stage 1	-	-	-	-	-	-	989	872	-	948	833	-
Stage 2	-	-	-	-	-	-	931	831	-	943	872	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.6			8.6			9.5		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1023	1580	-	-	1585	-	-	811
HCM Lane V/C Ratio	0.032	-	-	-	0.011	-	-	0.009
HCM Control Delay (s)	8.6	0	-	-	7.3	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.937				
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1861	1745	0	1770	0
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1861	1745	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	3.2					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	47	48	42	74	0
Future Vol, veh/h	1	47	48	42	74	0
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	1	51	52	46	80	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	75	75	-	0
Stage 1	75	75	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	928	815	-	-
Stage 1	948	833	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	928	0	-	-
Mov Cap-2 Maneuver	928	0	-	-
Stage 1	948	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s	9.1	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	928	-	-
HCM Lane V/C Ratio	0.056	-	-
HCM Control Delay (s)	9.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.929			0.927				0.980
Flt Protected		0.990			0.981							0.968
Satd. Flow (prot)	0	1844	0	0	1698	0	0	1727	0	0	1767	0
Flt Permitted		0.990			0.981							0.968
Satd. Flow (perm)	0	1844	0	0	1698	0	0	1727	0	0	1767	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			151	
Travel Time (s)		6.8			12.6			8.4			3.4	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	0	29	6	40	0	22	26	32	9	7
Future Vol, veh/h	1	4	0	29	6	40	0	22	26	32	9	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	4	0	32	7	43	0	24	28	35	10	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.3	7.1	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	20%	39%	67%
Vol Thru, %	46%	80%	8%	19%
Vol Right, %	54%	0%	53%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	5	75	48
LT Vol	0	1	29	32
Through Vol	22	4	6	9
RT Vol	26	0	40	7
Lane Flow Rate	52	5	82	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.006	0.088	0.06
Departure Headway (Hd)	3.799	4.216	3.874	4.17
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	937	842	920	856
Service Time	1.845	2.275	1.919	2.212
HCM Lane V/C Ratio	0.055	0.006	0.089	0.061
HCM Control Delay	7.1	7.3	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.3	0.2

Lanes and Geometrics
 7: Bear Creek Rd. & Wheeler



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.973		0.980			
Flt Protected	0.962					0.998
Satd. Flow (prot)	1744	0	1825	0	0	1859
Flt Permitted	0.962					0.998
Satd. Flow (perm)	1744	0	1825	0	0	1859
Link Speed (mph)	30		30			30
Link Distance (ft)	469		151			494
Travel Time (s)	10.7		3.4			11.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	7	2	53	9	2	41
Future Vol, veh/h	7	2	53	9	2	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	2	58	10	2	45

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	112	63	0	0	68
Stage 1	63	-	-	-	-
Stage 2	49	-	-	-	-
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	885	1002	-	-	1533
Stage 1	960	-	-	-	-
Stage 2	973	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	884	1002	-	-	1533
Mov Cap-2 Maneuver	884	-	-	-	-
Stage 1	960	-	-	-	-
Stage 2	972	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	908	1533
HCM Lane V/C Ratio	-	-	0.011	0.001
HCM Control Delay (s)	-	-	9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.951				0.987	
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1717	0	1770	3539	3493	0
Flt Permitted	0.969		0.950			
Satd. Flow (perm)	1717	0	1770	3539	3493	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT		T	TT	TT	
Traffic Vol, veh/h	34	19	22	953	764	71
Future Vol, veh/h	34	19	22	953	764	71
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	-	100	-	-	-
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	37	21	24	1036	830	77

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1435	454	907	0	-	0
Stage 1	869	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	125	553	746	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	553	746	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.2	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	746	-	168	-	-
HCM Lane V/C Ratio	0.032	-	0.343	-	-
HCM Control Delay (s)	10	-	37.2	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.4	-	-

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.975				0.850		0.998				0.996
Flt Protected		0.979			0.978		0.950			0.950		
Satd. Flow (prot)	0	1778	0	0	1822	1583	1770	3532	0	1770	3525	0
Flt Permitted		0.979			0.978		0.950			0.950		
Satd. Flow (perm)	0	1778	0	0	1822	1583	1770	3532	0	1770	3525	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		374			253			409				493
Travel Time (s)		8.5			5.8			9.3				11.2

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	43.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	30	27	13	27	33	107	4	966	10	56	798	24
Future Vol, veh/h	30	27	13	27	33	107	4	966	10	56	798	24
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	100	-	-	100	-	-
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	33	29	14	29	36	116	4	1050	11	61	867	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1553	2071	447	1634	2079	531	893	0	0	1061	0	0
Stage 1	1002	1002	-	1064	1064	-	-	-	-	-	-	-
Stage 2	551	1069	-	570	1015	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	77	53	559	67	53	493	755	-	-	652	-	-
Stage 1	260	318	-	238	298	-	-	-	-	-	-	-
Stage 2	486	296	-	474	314	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 21	48	559	31	48	493	755	-	-	652	-	-
Mov Cap-2 Maneuver	~ 21	48	-	31	48	-	-	-	-	-	-	-
Stage 1	259	288	-	237	297	-	-	-	-	-	-	-
Stage 2	325	295	-	376	284	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	784.8	216.2	0	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	755	-	-	35	38	493	652	-	-
HCM Lane V/C Ratio	0.006	-	-	2.174	1.716	0.236	0.093	-	-
HCM Control Delay (s)	9.8	-	-	784.8	575.8	14.5	11.1	-	-
HCM Lane LOS	A	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	8.5	6.9	0.9	0.3	-	-

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

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt	0.982											
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Flt Permitted	0.950											
Satd. Flow (perm)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	507				2284				236		405	
Travel Time (s)	11.5				51.9				5.4		9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	10	0	0	12	2	0	0	0	1	0	0
Future Vol, veh/h	0	10	0	0	12	2	0	0	0	1	0	0
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	0	11	0	0	13	2	0	0	0	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	11	0	0	25	26	11	25	25	14
Stage 1	-	-	-	-	-	-	11	11	-	14	14	-
Stage 2	-	-	-	-	-	-	14	15	-	11	11	-
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	-	-	1608	-	-	986	867	1070	986	868	1066
Stage 1	-	-	-	-	-	-	1010	886	-	1006	884	-
Stage 2	-	-	-	-	-	-	1006	883	-	1010	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1603	-	-	1608	-	-	986	867	1070	986	868	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	986	867	-	986	868	-
Stage 1	-	-	-	-	-	-	1010	886	-	1006	884	-
Stage 2	-	-	-	-	-	-	1006	883	-	1010	886	-

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

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1603	-	-	1608	-	-	986
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.997			0.870				
Flt Protected		0.997			0.977			0.998			0.950	
Satd. Flow (prot)	0	1857	0	0	1814	0	0	1617	0	0	1770	0
Flt Permitted		0.997			0.977			0.998			0.950	
Satd. Flow (perm)	0	1857	0	0	1814	0	0	1617	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	34	0	42	47	2	1	0	22	2	0	0
Future Vol, veh/h	2	34	0	42	47	2	1	0	22	2	0	0
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	2	37	0	46	51	2	1	0	24	2	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	53	0	0	37	0	0	185	186	37	197	185	52
Stage 1	-	-	-	-	-	-	41	41	-	144	144	-
Stage 2	-	-	-	-	-	-	144	145	-	53	41	-
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	1553	-	-	1574	-	-	776	708	1035	762	709	1016
Stage 1	-	-	-	-	-	-	974	861	-	859	778	-
Stage 2	-	-	-	-	-	-	859	777	-	960	861	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1553	-	-	1574	-	-	757	686	1035	727	687	1016
Mov Cap-2 Maneuver	-	-	-	-	-	-	757	686	-	727	687	-
Stage 1	-	-	-	-	-	-	973	860	-	858	755	-
Stage 2	-	-	-	-	-	-	833	754	-	937	860	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			3.4			8.6			10		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1019	1553	-	-	1574	-	-	727
HCM Lane V/C Ratio	0.025	0.001	-	-	0.029	-	-	0.003
HCM Control Delay (s)	8.6	7.3	0	-	7.4	0	-	10
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.921					
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1716	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1716	0	1770	0
Link Speed (mph)	30		30	30		
Link Distance (ft)	507		233	424		
Travel Time (s)	11.5		5.3	9.6		

Intersection Summary

Area Type: Other

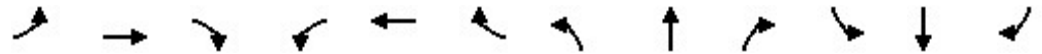
Intersection						
Int Delay, s/veh	0					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	50	26	37	28	0
Future Vol, veh/h	0	50	26	37	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	28	40	30	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	48	48	-	0
Stage 1	48	48	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	962	844	-	-
Stage 1	974	855	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	962	0	-	-
Mov Cap-2 Maneuver	962	0	-	-
Stage 1	974	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.931			0.941				0.986
Flt Protected		0.985			0.987							0.973
Satd. Flow (prot)	0	1835	0	0	1712	0	0	1753	0	0	1787	0
Flt Permitted		0.985			0.987							0.973
Satd. Flow (perm)	0	1835	0	0	1712	0	0	1753	0	0	1787	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		298			556			370				146
Travel Time (s)		6.8			12.6			8.4				3.3

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	8	0	13	11	25	0	8	6	19	12	4
Future Vol, veh/h	4	8	0	13	11	25	0	8	6	19	12	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	9	0	14	12	27	0	9	7	21	13	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	6.9	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	33%	27%	54%
Vol Thru, %	57%	67%	22%	34%
Vol Right, %	43%	0%	51%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	12	49	35
LT Vol	0	4	13	19
Through Vol	8	8	11	12
RT Vol	6	0	25	4
Lane Flow Rate	15	13	53	38
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.015	0.056	0.043
Departure Headway (Hd)	3.821	4.135	3.785	4.101
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	935	865	946	873
Service Time	1.852	2.164	1.809	2.126
HCM Lane V/C Ratio	0.016	0.015	0.056	0.044
HCM Control Delay	6.9	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.2	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.953			
Flt Protected	0.950					0.950
Satd. Flow (prot)	1770	0	1775	0	0	1770
Flt Permitted	0.950					0.950
Satd. Flow (perm)	1770	0	1775	0	0	1770
Link Speed (mph)	30		30			30
Link Distance (ft)	481		146			536
Travel Time (s)	10.9		3.3			12.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	2	0	24	13	32	0
Future Vol, veh/h	2	0	24	13	32	0
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	2	0	26	14	35	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	103	33	0	0	40	0
Stage 1	33	-	-	-	-	-
Stage 2	70	-	-	-	-	-
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	895	1041	-	-	1570	-
Stage 1	989	-	-	-	-	-
Stage 2	953	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	875	1041	-	-	1570	-
Mov Cap-2 Maneuver	875	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	932	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	875	1570
HCM Lane V/C Ratio	-	-	0.002	0.022
HCM Control Delay (s)	-	-	9.1	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.957				0.996	
Flt Protected	0.967		0.950			
Satd. Flow (prot)	1724	0	1770	3539	3525	0
Flt Permitted	0.967		0.950			
Satd. Flow (perm)	1724	0	1770	3539	3525	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑↑	
Traffic Vol, veh/h	47	22	23	1144	1019	31
Future Vol, veh/h	47	22	23	1144	1019	31
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	-	100	-	-	-
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	51	24	25	1243	1108	34

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1797	571	1142	0	-	0
Stage 1	1125	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	71	464	608	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	68	464	608	-	-	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	126.4	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	608	-	93	-	-
HCM Lane V/C Ratio	0.041	-	0.806	-	-
HCM Control Delay (s)	11.2	-	126.4	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.3	-	-

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕	↗	↖	↕↔		↖	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.988				0.850		0.996			0.995	
Flt Protected		0.982			0.983		0.950		0.950			
Satd. Flow (prot)	0	1807	0	0	1831	1583	1770	3525	0	1770	3522	0
Flt Permitted		0.982			0.983		0.950		0.950			
Satd. Flow (perm)	0	1807	0	0	1831	1583	1770	3525	0	1770	3522	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		374			253			409			493	
Travel Time (s)		8.5			5.8			9.3			11.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	31	47	7	17	32	80	11	1143	34	141	1025	38
Future Vol, veh/h	31	47	7	17	32	80	11	1143	34	141	1025	38
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	100	-	-	100	-	-
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	34	51	8	18	35	87	12	1242	37	153	1114	41

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2104	2744	578	2174	2746	640	1155	0	0	1279	0	0
Stage 1	1441	1441	-	1285	1285	-	-	-	-	-	-	-
Stage 2	663	1303	-	889	1461	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 29	~ 20	459	26	~ 20	418	601	-	-	539	-	-
Stage 1	139	196	-	174	233	-	-	-	-	-	-	-
Stage 2	417	229	-	304	192	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 14	459	-	~ 14	418	601	-	-	539	-	-
Mov Cap-2 Maneuver	-	~ 14	-	-	~ 14	-	-	-	-	-	-	-
Stage 1	136	140	-	171	228	-	-	-	-	-	-	-
Stage 2	274	224	-	136	137	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.1	1.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	601	-	-	-	-	-	418	539	-
HCM Lane V/C Ratio	0.02	-	-	-	-	-	0.208	0.284	-
HCM Control Delay (s)	11.1	-	-	-	-	-	15.9	14.3	-
HCM Lane LOS	B	-	-	-	-	-	C	B	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-	0.8	1.2	-

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

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt	0.982											
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Flt Permitted	0.950											
Satd. Flow (perm)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	507				2284				236		405	
Travel Time (s)	11.5				51.9				5.4		9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	7	0	0	12	2	0	0	0	1	0	0
Future Vol, veh/h	0	7	0	0	12	2	0	0	0	1	0	0
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	0	8	0	0	13	2	0	0	0	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	8	0	0	22	23	8	22	22	14
Stage 1	-	-	-	-	-	-	8	8	-	14	14	-
Stage 2	-	-	-	-	-	-	14	15	-	8	8	-
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	-	-	1612	-	-	990	870	1074	990	872	1066
Stage 1	-	-	-	-	-	-	1013	889	-	1006	884	-
Stage 2	-	-	-	-	-	-	1006	883	-	1013	889	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1603	-	-	1612	-	-	990	870	1074	990	872	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	990	870	-	990	872	-
Stage 1	-	-	-	-	-	-	1013	889	-	1006	884	-
Stage 2	-	-	-	-	-	-	1006	883	-	1013	889	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			0			8.6		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1603	-	-	1612	-	-	990
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.981			0.876				
Flt Protected					0.982			0.997			0.978	
Satd. Flow (prot)	0	1863	0	0	1794	0	0	1627	0	0	1822	0
Flt Permitted					0.982			0.997			0.978	
Satd. Flow (perm)	0	1863	0	0	1794	0	0	1627	0	0	1822	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	30	0	19	26	7	2	1	31	4	5	0
Future Vol, veh/h	0	30	0	19	26	7	2	1	31	4	5	0
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	0	33	0	21	28	8	2	1	34	4	5	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	36	0	0	33	0	0	110	111	33	125	107	32
Stage 1	-	-	-	-	-	-	33	33	-	74	74	-
Stage 2	-	-	-	-	-	-	77	78	-	51	33	-
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	1575	-	-	1579	-	-	868	779	1041	849	783	1042
Stage 1	-	-	-	-	-	-	983	868	-	935	833	-
Stage 2	-	-	-	-	-	-	932	830	-	962	868	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1575	-	-	1579	-	-	854	768	1041	812	772	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	854	768	-	812	772	-
Stage 1	-	-	-	-	-	-	983	868	-	935	821	-
Stage 2	-	-	-	-	-	-	913	818	-	930	868	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.7			8.7			9.6		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1017	1575	-	-	1579	-	-	789
HCM Lane V/C Ratio	0.036	-	-	-	0.013	-	-	0.012
HCM Control Delay (s)	8.7	0	-	-	7.3	0	-	9.6
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.937				
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1861	1745	0	1770	0
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1861	1745	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

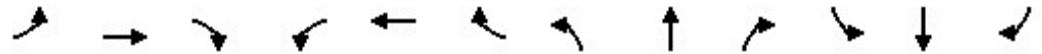
Intersection						
Int Delay, s/veh	3.2					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	55	56	49	86	0
Future Vol, veh/h	1	55	56	49	86	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	1	60	61	53	93	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	88	88	-	0
Stage 1	88	88	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	913	802	-	-
Stage 1	935	822	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	913	0	-	-
Mov Cap-2 Maneuver	913	0	-	-
Stage 1	935	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	913	-	-
HCM Lane V/C Ratio	0.067	-	-
HCM Control Delay (s)	9.2	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.928			0.926				0.980
Flt Protected		0.992			0.981							0.968
Satd. Flow (prot)	0	1848	0	0	1696	0	0	1725	0	0	1767	0
Flt Permitted		0.992			0.981							0.968
Satd. Flow (perm)	0	1848	0	0	1696	0	0	1725	0	0	1767	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			146	
Travel Time (s)		6.8			12.6			8.4			3.3	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	5	0	34	7	47	0	25	30	37	11	8
Future Vol, veh/h	1	5	0	34	7	47	0	25	30	37	11	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	5	0	37	8	51	0	27	33	40	12	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	7.2	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	17%	39%	66%
Vol Thru, %	45%	83%	8%	20%
Vol Right, %	55%	0%	53%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	6	88	56
LT Vol	0	1	34	37
Through Vol	25	5	7	11
RT Vol	30	0	47	8
Lane Flow Rate	60	7	96	61
Geometry Grp	1	1	1	1
Degree of Util (X)	0.064	0.008	0.104	0.071
Departure Headway (Hd)	3.831	4.25	3.903	4.205
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	927	833	911	847
Service Time	1.888	2.322	1.959	2.256
HCM Lane V/C Ratio	0.065	0.008	0.105	0.072
HCM Control Delay	7.2	7.4	7.4	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.3	0.2



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975		0.979			
FIt Protected	0.961					0.998
Satd. Flow (prot)	1745	0	1824	0	0	1859
FIt Permitted	0.961					0.998
Satd. Flow (perm)	1745	0	1824	0	0	1859
Link Speed (mph)	30		30			30
Link Distance (ft)	481		146			536
Travel Time (s)	10.9		3.3			12.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	2	62	11	2	48
Future Vol, veh/h	8	2	62	11	2	48
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	2	67	12	2	52

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	129	73	0	0	79
Stage 1	73	-	-	-	-
Stage 2	56	-	-	-	-
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	865	989	-	-	1519
Stage 1	950	-	-	-	-
Stage 2	967	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	864	989	-	-	1519
Mov Cap-2 Maneuver	864	-	-	-	-
Stage 1	950	-	-	-	-
Stage 2	966	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	886	1519
HCM Lane V/C Ratio	-	-	0.012	0.001
HCM Control Delay (s)	-	-	9.1	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.945				0.983	
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1709	0	1770	1863	1831	0
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1709	0	1770	1863	1831	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	36	27	665	501	70
Future Vol, veh/h	52	36	27	665	501	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	-	100	-	-	-
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	57	39	29	723	545	76

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1364	583	621	0	-	0
Stage 1	583	-	-	-	-	-
Stage 2	781	-	-	-	-	-
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	163	512	960	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	158	512	960	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.4	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	960	-	220	-	-
HCM Lane V/C Ratio	0.031	-	0.435	-	-
HCM Control Delay (s)	8.9	-	33.4	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	2	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.966				0.995	
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1735	0	1770	1863	1853	0
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1735	0	1770	1863	1853	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	374			409	493	
Travel Time (s)	8.5			9.3	11.2	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	11	3	707	563	23
Future Vol, veh/h	32	11	3	707	563	23
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	-	100	-	-	-
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	35	12	3	768	612	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1399	625	637	0	-	0
Stage 1	625	-	-	-	-	-
Stage 2	774	-	-	-	-	-
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	155	485	947	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	155	485	947	-	-	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	455	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	947	-	188	-	-
HCM Lane V/C Ratio	0.003	-	0.249	-	-
HCM Control Delay (s)	8.8	-	30.4	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.988			0.919				
Flt Protected					0.980						0.992	
Satd. Flow (prot)	0	1863	0	0	1804	0	0	1712	0	0	1848	0
Flt Permitted					0.980						0.992	
Satd. Flow (perm)	0	1863	0	0	1804	0	0	1712	0	0	1848	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		507			2284			236			405	
Travel Time (s)		11.5			51.9			5.4			9.2	

Intersection Summary

Area Type: Other

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	0	8	0	8	10	2	0	11	17	1	5	0
Future Vol, veh/h	0	8	0	8	10	2	0	11	17	1	5	0
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	0	9	0	9	11	2	0	12	18	1	5	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	9	0	0	42	40	9	54	39	12
Stage 1	-	-	-	-	-	-	9	9	-	30	30	-
Stage 2	-	-	-	-	-	-	33	31	-	24	9	-
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	1606	-	-	1611	-	-	961	852	1073	944	853	1069
Stage 1	-	-	-	-	-	-	1012	888	-	987	870	-
Stage 2	-	-	-	-	-	-	983	869	-	994	888	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1611	-	-	952	847	1073	914	848	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	952	847	-	914	848	-
Stage 1	-	-	-	-	-	-	1012	888	-	987	865	-
Stage 2	-	-	-	-	-	-	971	864	-	964	888	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.9			8.8			9.2		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	971	1606	-	-	1611	-	-	858
HCM Lane V/C Ratio	0.031	-	-	-	0.005	-	-	0.008
HCM Control Delay (s)	8.8	0	-	-	7.2	0	-	9.2
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.997			0.875				
Flt Protected		0.998			0.976			0.999			0.968	
Satd. Flow (prot)	0	1859	0	0	1813	0	0	1628	0	0	1803	0
Flt Permitted		0.998			0.976			0.999			0.968	
Satd. Flow (perm)	0	1859	0	0	1813	0	0	1628	0	0	1803	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	46	0	47	48	2	1	3	44	2	1	0
Future Vol, veh/h	2	46	0	47	48	2	1	3	44	2	1	0
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	2	50	0	51	52	2	1	3	48	2	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	50	0	0	210	210	50	235	209	53
Stage 1	-	-	-	-	-	-	54	54	-	155	155	-
Stage 2	-	-	-	-	-	-	156	156	-	80	54	-
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	1551	-	-	1557	-	-	747	687	1018	720	688	1014
Stage 1	-	-	-	-	-	-	958	850	-	847	769	-
Stage 2	-	-	-	-	-	-	846	769	-	929	850	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1551	-	-	1557	-	-	726	663	1018	665	664	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	726	663	-	665	664	-
Stage 1	-	-	-	-	-	-	957	849	-	846	743	-
Stage 2	-	-	-	-	-	-	816	743	-	881	849	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			3.6			8.9			10.4		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	977	1551	-	-	1557	-	-	665
HCM Lane V/C Ratio	0.053	0.001	-	-	0.033	-	-	0.005
HCM Control Delay (s)	8.9	7.3	0	-	7.4	0	-	10.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.925			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1723	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1723	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	49	26	32	24	0
Future Vol, veh/h	0	49	26	32	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	28	35	26	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	46	46	-	0
Stage 1	46	46	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	964	846	-	-
Stage 1	976	857	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	964	0	-	-
Mov Cap-2 Maneuver	964	0	-	-
Stage 1	976	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.930			0.948				0.973
Flt Protected		0.984			0.987						0.976	
Satd. Flow (prot)	0	1833	0	0	1710	0	0	1766	0	0	1769	0
Flt Permitted		0.984			0.987						0.976	
Satd. Flow (perm)	0	1833	0	0	1710	0	0	1766	0	0	1769	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			151	
Travel Time (s)		6.8			12.6			8.4			3.4	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	7	0	11	9	22	0	7	5	16	10	6
Future Vol, veh/h	4	7	0	11	9	22	0	7	5	16	10	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	0	12	10	24	0	8	5	17	11	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	6.9	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	36%	26%	50%
Vol Thru, %	58%	64%	21%	31%
Vol Right, %	42%	0%	52%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	11	42	32
LT Vol	0	4	11	16
Through Vol	7	7	9	10
RT Vol	5	0	22	6
Lane Flow Rate	13	12	46	35
Geometry Grp	1	1	1	1
Degree of Util (X)	0.014	0.014	0.048	0.039
Departure Headway (Hd)	3.812	4.126	3.765	4.033
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	938	867	951	888
Service Time	1.838	2.151	1.787	2.055
HCM Lane V/C Ratio	0.014	0.014	0.048	0.039
HCM Control Delay	6.9	7.2	7	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.2	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.950			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1770	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1770	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	469		151			494
Travel Time (s)	10.7		3.4			11.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	5	0	20	12	0	28
Future Vol, veh/h	5	0	20	12	0	28
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	5	0	22	13	0	30

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	59	29	0	0	35
Stage 1	29	-	-	-	-
Stage 2	30	-	-	-	-
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	948	1046	-	-	1576
Stage 1	994	-	-	-	-
Stage 2	993	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	948	1046	-	-	1576
Mov Cap-2 Maneuver	948	-	-	-	-
Stage 1	994	-	-	-	-
Stage 2	993	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	948	1576
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	8.8	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.950				0.991	
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1715	0	1770	1863	1846	0
Flt Permitted	0.969		0.950			
Satd. Flow (perm)	1715	0	1770	1863	1846	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	33	38	754	691	49
Future Vol, veh/h	57	33	38	754	691	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	-	100	-	-	-
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	62	36	41	820	751	53

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1680	778	804	0	-	0
Stage 1	778	-	-	-	-	-
Stage 2	902	-	-	-	-	-
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	104	396	820	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	396	820	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	79.1	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	820	-	137	-	-
HCM Lane V/C Ratio	0.05	-	0.714	-	-
HCM Control Delay (s)	9.6	-	79.1	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	4.1	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977				0.993	
Flt Protected	0.960		0.950			
Satd. Flow (prot)	1747	0	1770	1863	1850	0
Flt Permitted	0.960		0.950			
Satd. Flow (perm)	1747	0	1770	1863	1850	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	374			409	493	
Travel Time (s)	8.5			9.3	11.2	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	6	9	798	733	39
Future Vol, veh/h	31	6	9	798	733	39
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	-	100	-	-	-
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	34	7	10	867	797	42

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1705	818	839	0	-	0
Stage 1	818	-	-	-	-	-
Stage 2	887	-	-	-	-	-
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	101	376	796	-	-	-
Stage 1	434	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	100	376	796	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	52.9	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	796	-	114	-	-
HCM Lane V/C Ratio	0.012	-	0.353	-	-
HCM Control Delay (s)	9.6	-	52.9	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.991			0.918				
Flt Protected					0.972						0.996	
Satd. Flow (prot)	0	1863	0	0	1794	0	0	1710	0	0	1855	0
Flt Permitted					0.972						0.996	
Satd. Flow (perm)	0	1863	0	0	1794	0	0	1710	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		507			2284			236			405	
Travel Time (s)		11.5			51.9			5.4			9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	6	0	17	10	2	0	8	13	1	11	0
Future Vol, veh/h	0	6	0	17	10	2	0	8	13	1	11	0
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	0	7	0	18	11	2	0	9	14	1	12	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	7	0	0	61	56	7	67	55	12
Stage 1	-	-	-	-	-	-	7	7	-	48	48	-
Stage 2	-	-	-	-	-	-	54	49	-	19	7	-
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	1606	-	-	1614	-	-	934	835	1075	926	836	1069
Stage 1	-	-	-	-	-	-	1015	890	-	965	855	-
Stage 2	-	-	-	-	-	-	958	854	-	1000	890	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1614	-	-	916	826	1075	899	827	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	916	826	-	899	827	-
Stage 1	-	-	-	-	-	-	1015	890	-	965	846	-
Stage 2	-	-	-	-	-	-	934	845	-	977	890	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.3			8.8			9.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	964	1606	-	-	1614	-	-	833
HCM Lane V/C Ratio	0.024	-	-	-	0.011	-	-	0.016
HCM Control Delay (s)	8.8	0	-	-	7.3	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.990			0.877				
Flt Protected					0.977			0.998			0.987	
Satd. Flow (prot)	0	1863	0	0	1802	0	0	1630	0	0	1839	0
Flt Permitted					0.977			0.998			0.987	
Satd. Flow (perm)	0	1863	0	0	1802	0	0	1630	0	0	1839	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

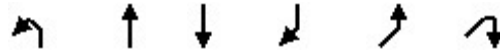
Area Type: Other

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	39	0	41	40	6	2	3	46	3	7	0
Future Vol, veh/h	0	39	0	41	40	6	2	3	46	3	7	0
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	0	42	0	45	43	7	2	3	50	3	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	42	0	0	183	182	42	206	179	47
Stage 1	-	-	-	-	-	-	42	42	-	137	137	-
Stage 2	-	-	-	-	-	-	141	140	-	69	42	-
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	1557	-	-	1567	-	-	778	712	1029	752	715	1022
Stage 1	-	-	-	-	-	-	972	860	-	866	783	-
Stage 2	-	-	-	-	-	-	862	781	-	941	860	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1557	-	-	1567	-	-	754	691	1029	696	694	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	754	691	-	696	694	-
Stage 1	-	-	-	-	-	-	972	860	-	866	760	-
Stage 2	-	-	-	-	-	-	828	758	-	892	860	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.5			8.9			10.3		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	987	1557	-	-	1567	-	-	695
HCM Lane V/C Ratio	0.056	-	-	-	0.028	-	-	0.016
HCM Control Delay (s)	8.9	0	-	-	7.4	0	-	10.3
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.941			
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1861	1753	0	1770	0
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1861	1753	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

















Intersection						
Int Delay, s/veh	3.2					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	51	54	42	74	0
Future Vol, veh/h	1	51	54	42	74	0
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	1	55	59	46	80	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	82	82	-	0
Stage 1	82	82	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	920	808	-	-
Stage 1	941	827	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	920	0	-	-
Mov Cap-2 Maneuver	920	0	-	-
Stage 1	941	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	920	-	-
HCM Lane V/C Ratio	0.061	-	-
HCM Control Delay (s)	9.2	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.929			0.927				0.975
Flt Protected		0.976			0.981							0.969
Satd. Flow (prot)	0	1818	0	0	1698	0	0	1727	0	0	1760	0
Flt Permitted		0.976			0.981							0.969
Satd. Flow (perm)	0	1818	0	0	1698	0	0	1727	0	0	1760	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			151	
Travel Time (s)		6.8			12.6			8.4			3.4	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	4	0	29	6	40	0	22	26	32	9	9
Future Vol, veh/h	4	4	0	29	6	40	0	22	26	32	9	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	0	32	7	43	0	24	28	35	10	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.3	7.1	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	50%	39%	64%
Vol Thru, %	46%	50%	8%	18%
Vol Right, %	54%	0%	53%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	8	75	50
LT Vol	0	4	29	32
Through Vol	22	4	6	9
RT Vol	26	0	40	9
Lane Flow Rate	52	9	82	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.01	0.088	0.063
Departure Headway (Hd)	3.807	4.28	3.881	4.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	934	829	917	859
Service Time	1.855	2.341	1.929	2.194
HCM Lane V/C Ratio	0.056	0.011	0.089	0.063
HCM Control Delay	7.1	7.4	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.3	0.2

Lanes and Geometrics
7: Bear Creek Rd. & Wheeler



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977		0.975			
Flt Protected	0.960					0.998
Satd. Flow (prot)	1747	0	1816	0	0	1859
Flt Permitted	0.960					0.998
Satd. Flow (perm)	1747	0	1816	0	0	1859
Link Speed (mph)	30		30			30
Link Distance (ft)	469		151			494
Travel Time (s)	10.7		3.4			11.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	9	2	53	12	2	41
Future Vol, veh/h	9	2	53	12	2	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	2	58	13	2	45

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	114	65	0	0	71
Stage 1	65	-	-	-	-
Stage 2	49	-	-	-	-
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	999	-	-	1529
Stage 1	958	-	-	-	-
Stage 2	973	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	881	999	-	-	1529
Mov Cap-2 Maneuver	881	-	-	-	-
Stage 1	958	-	-	-	-
Stage 2	972	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	900	1529
HCM Lane V/C Ratio	-	-	0.013	0.001
HCM Control Delay (s)	-	-	9.1	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.945				0.986	
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1709	0	1770	3539	3490	0
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1709	0	1770	3539	3490	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

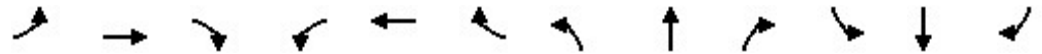
Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	39	31	953	764	81
Future Vol, veh/h	57	39	31	953	764	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
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	62	42	34	1036	830	88

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1460	459	918	0	-	0
Stage 1	874	-	-	-	-	-
Stage 2	586	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	120	549	739	-	-	-
Stage 1	369	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	114	549	739	-	-	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	352	-	-	-	-	-
Stage 2	519	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	56.3	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	739	-	168	-	-
HCM Lane V/C Ratio	0.046	-	0.621	-	-
HCM Control Delay (s)	10.1	-	56.3	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.4	-	-

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.977				0.850		0.998				0.995
Flt Protected		0.977			0.978		0.950			0.950		
Satd. Flow (prot)	0	1778	0	0	1822	1583	1770	3532	0	1770	3522	0
Flt Permitted		0.977			0.978		0.950			0.950		
Satd. Flow (perm)	0	1778	0	0	1822	1583	1770	3532	0	1770	3522	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		374			253			409				493
Travel Time (s)		8.5			5.8			9.3				11.2

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	59.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	36	27	13	27	33	107	4	989	10	56	808	27
Future Vol, veh/h	36	27	13	27	33	107	4	989	10	56	808	27
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	100	-	-	100	-	-
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	39	29	14	29	36	116	4	1075	11	61	878	29

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1579	2109	454	1665	2118	543	907	0	0	1086	0	0
Stage 1	1015	1015	-	1089	1089	-	-	-	-	-	-	-
Stage 2	564	1094	-	576	1029	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	74	51	553	63	50	484	746	-	-	638	-	-
Stage 1	255	314	-	230	290	-	-	-	-	-	-	-
Stage 2	478	288	-	470	309	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 18	46	553	~ 28	45	484	746	-	-	638	-	-
Mov Cap-2 Maneuver	~ 18	46	-	~ 28	45	-	-	-	-	-	-	-
Stage 1	254	284	-	229	289	-	-	-	-	-	-	-
Stage 2	316	287	-	371	279	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$	1121.4	244.5	0	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	746	-	-	29	35	484	638	-	-
HCM Lane V/C Ratio	0.006	-	-	2.849	1.863	0.24	0.095	-	-
HCM Control Delay (s)	9.9	-	-	\$ 1121.4	\$ 654.2	14.8	11.2	-	-
HCM Lane LOS	A	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	9.8	7.2	0.9	0.3	-	-

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

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.989			0.919				
Flt Protected					0.982						0.992	
Satd. Flow (prot)	0	1863	0	0	1809	0	0	1712	0	0	1848	0
Flt Permitted					0.982						0.992	
Satd. Flow (perm)	0	1863	0	0	1809	0	0	1712	0	0	1848	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		507			2284			236			405	
Travel Time (s)		11.5			51.9			5.4			9.2	

Intersection Summary

Area Type: Other

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	0	10	0	8	12	2	0	11	17	1	5	0
Future Vol, veh/h	0	10	0	8	12	2	0	11	17	1	5	0
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	0	11	0	9	13	2	0	12	18	1	5	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	11	0	0	46	44	11	58	43	14
Stage 1	-	-	-	-	-	-	11	11	-	32	32	-
Stage 2	-	-	-	-	-	-	35	33	-	26	11	-
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	-	-	1608	-	-	955	848	1070	939	849	1066
Stage 1	-	-	-	-	-	-	1010	886	-	984	868	-
Stage 2	-	-	-	-	-	-	981	868	-	992	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1603	-	-	1608	-	-	946	843	1070	909	844	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	946	843	-	909	844	-
Stage 1	-	-	-	-	-	-	1010	886	-	984	863	-
Stage 2	-	-	-	-	-	-	969	863	-	962	886	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.6			8.8			9.2		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	968	1603	-	-	1608	-	-	854
HCM Lane V/C Ratio	0.031	-	-	-	0.005	-	-	0.008
HCM Control Delay (s)	8.8	0	-	-	7.3	0	-	9.2
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.998			0.875				
Flt Protected		0.998			0.976			0.999			0.968	
Satd. Flow (prot)	0	1859	0	0	1814	0	0	1628	0	0	1803	0
Flt Permitted		0.998			0.976			0.999			0.968	
Satd. Flow (perm)	0	1859	0	0	1814	0	0	1628	0	0	1803	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	51	0	53	55	2	1	3	48	2	1	0
Future Vol, veh/h	2	51	0	53	55	2	1	3	48	2	1	0
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	2	55	0	58	60	2	1	3	52	2	1	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	62	0	0	55	0	0	237	237	55	264	236	61
Stage 1	-	-	-	-	-	-	59	59	-	177	177	-
Stage 2	-	-	-	-	-	-	178	178	-	87	59	-
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	1541	-	-	1550	-	-	717	664	1012	689	665	1004
Stage 1	-	-	-	-	-	-	953	846	-	825	753	-
Stage 2	-	-	-	-	-	-	824	752	-	921	846	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1541	-	-	1550	-	-	694	637	1012	631	638	1004
Mov Cap-2 Maneuver	-	-	-	-	-	-	694	637	-	631	638	-
Stage 1	-	-	-	-	-	-	952	845	-	824	724	-
Stage 2	-	-	-	-	-	-	791	723	-	869	845	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.3		3.6		8.9		10.7	
HCM LOS					A		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	970	1541	-	-	1550	-	-	633
HCM Lane V/C Ratio	0.058	0.001	-	-	0.037	-	-	0.005
HCM Control Delay (s)	8.9	7.3	0	-	7.4	0	-	10.7
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.925			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1723	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1723	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		4	1		3	
Traffic Vol, veh/h	0	56	29	37	28	0
Future Vol, veh/h	0	56	29	37	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	32	40	30	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	52	52	-	0
Stage 1	52	52	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	957	839	-	-
Stage 1	970	852	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	957	0	-	-
Mov Cap-2 Maneuver	957	0	-	-
Stage 1	970	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.931			0.941				0.974
Flt Protected		0.982			0.987							0.976
Satd. Flow (prot)	0	1829	0	0	1712	0	0	1753	0	0	1771	0
Flt Permitted		0.982			0.987							0.976
Satd. Flow (perm)	0	1829	0	0	1712	0	0	1753	0	0	1771	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		298			556			370				146
Travel Time (s)		6.8			12.6			8.4				3.3

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	8	0	13	11	25	0	8	6	19	12	7
Future Vol, veh/h	5	8	0	13	11	25	0	8	6	19	12	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	9	0	14	12	27	0	9	7	21	13	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	6.9	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	38%	27%	50%
Vol Thru, %	57%	62%	22%	32%
Vol Right, %	43%	0%	51%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	13	49	38
LT Vol	0	5	13	19
Through Vol	8	8	11	12
RT Vol	6	0	25	7
Lane Flow Rate	15	14	53	41
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.016	0.056	0.047
Departure Headway (Hd)	3.826	4.151	3.791	4.053
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	933	861	944	884
Service Time	1.858	2.182	1.817	2.078
HCM Lane V/C Ratio	0.016	0.016	0.056	0.046
HCM Control Delay	6.9	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0.2	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.951			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1771	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1771	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	481		146			536
Travel Time (s)	10.9		3.3			12.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	24	14	0	32
Future Vol, veh/h	5	0	24	14	0	32
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	5	0	26	15	0	35

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	69	34	0	0	41	0
Stage 1	34	-	-	-	-	-
Stage 2	35	-	-	-	-	-
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	936	1039	-	-	1568	-
Stage 1	988	-	-	-	-	-
Stage 2	987	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	936	1039	-	-	1568	-
Mov Cap-2 Maneuver	936	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	987	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	936	1568
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	8.9	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.951				0.993	
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1717	0	1770	3539	3514	0
Flt Permitted	0.969		0.950			
Satd. Flow (perm)	1717	0	1770	3539	3514	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	11.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	64	37	42	1144	1019	53
Future Vol, veh/h	64	37	42	1144	1019	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
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	70	40	46	1243	1108	58

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1851	583	1166	0	-	0
Stage 1	1137	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 66	456	595	-	-	-
Stage 1	268	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 61	456	595	-	-	-
Mov Cap-2 Maneuver	~ 61	-	-	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	446	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	256.8	0.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	595	-	89	-	-
HCM Lane V/C Ratio	0.077	-	1.234	-	-
HCM Control Delay (s)	11.6	-	256.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	7.8	-	-

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

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
03/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.989				0.850		0.996			0.994	
Flt Protected		0.981			0.983		0.950		0.950			
Satd. Flow (prot)	0	1807	0	0	1831	1583	1770	3525	0	1770	3518	0
Flt Permitted		0.981			0.983		0.950		0.950			
Satd. Flow (perm)	0	1807	0	0	1831	1583	1770	3525	0	1770	3518	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		374			253			409			493	
Travel Time (s)		8.5			5.8			9.3			11.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	35	47	7	17	32	80	11	1160	34	141	1047	44
Future Vol, veh/h	35	47	7	17	32	80	11	1160	34	141	1047	44
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	100	-	-	100	-	-
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	38	51	8	18	35	87	12	1261	37	153	1138	48

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2140	2790	593	2205	2796	649	1186	0	0	1298	0	0
Stage 1	1468	1468	-	1304	1304	-	-	-	-	-	-	-
Stage 2	672	1322	-	901	1492	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 28	~ 18	449	25	~ 18	412	585	-	-	530	-	-
Stage 1	134	190	-	169	229	-	-	-	-	-	-	-
Stage 2	412	224	-	299	185	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 13	449	-	~ 13	412	585	-	-	530	-	-
Mov Cap-2 Maneuver	-	~ 13	-	-	~ 13	-	-	-	-	-	-	-
Stage 1	131	135	-	165	224	-	-	-	-	-	-	-
Stage 2	269	219	-	130	132	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s						0.1		1.7
HCM LOS								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	585	-	-	-	-	-	412	530	-
HCM Lane V/C Ratio	0.02	-	-	-	-	-	0.211	0.289	-
HCM Control Delay (s)	11.3	-	-	-	-	-	16.1	14.5	-
HCM Lane LOS	B	-	-	-	-	-	C	B	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-	0.8	1.2	-

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

Lanes and Geometrics
3: Race St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.992			0.918				
Flt Protected					0.973						0.996	
Satd. Flow (prot)	0	1863	0	0	1798	0	0	1710	0	0	1855	0
Flt Permitted					0.973						0.996	
Satd. Flow (perm)	0	1863	0	0	1798	0	0	1710	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		507			2284			236			405	
Travel Time (s)		11.5			51.9			5.4			9.2	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	7	0	17	12	2	0	8	13	1	11	0
Future Vol, veh/h	0	7	0	17	12	2	0	8	13	1	11	0
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	0	8	0	18	13	2	0	9	14	1	12	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	8	0	0	64	59	8	70	58	14
Stage 1	-	-	-	-	-	-	8	8	-	50	50	-
Stage 2	-	-	-	-	-	-	56	51	-	20	8	-
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	-	-	1612	-	-	930	832	1074	922	833	1066
Stage 1	-	-	-	-	-	-	1013	889	-	963	853	-
Stage 2	-	-	-	-	-	-	956	852	-	999	889	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1603	-	-	1612	-	-	912	823	1074	895	824	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	912	823	-	895	824	-
Stage 1	-	-	-	-	-	-	1013	889	-	963	844	-
Stage 2	-	-	-	-	-	-	932	843	-	976	889	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4			8.8			9.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	962	1603	-	-	1612	-	-	829
HCM Lane V/C Ratio	0.024	-	-	-	0.011	-	-	0.016
HCM Control Delay (s)	8.8	0	-	-	7.3	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Lanes and Geometrics
4: Pecan St. & Busch Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.990			0.876				
Flt Protected					0.977			0.998			0.985	
Satd. Flow (prot)	0	1863	0	0	1802	0	0	1629	0	0	1835	0
Flt Permitted					0.977			0.998			0.985	
Satd. Flow (perm)	0	1863	0	0	1802	0	0	1629	0	0	1835	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2284			383			431			208	
Travel Time (s)		51.9			8.7			9.8			4.7	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	43	0	44	43	7	2	3	50	4	8	0
Future Vol, veh/h	0	43	0	44	43	7	2	3	50	4	8	0
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	0	47	0	48	47	8	2	3	54	4	9	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	55	0	0	47	0	0	199	198	47	223	194	51
Stage 1	-	-	-	-	-	-	47	47	-	147	147	-
Stage 2	-	-	-	-	-	-	152	151	-	76	47	-
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	1550	-	-	1560	-	-	760	698	1022	733	701	1017
Stage 1	-	-	-	-	-	-	967	856	-	856	775	-
Stage 2	-	-	-	-	-	-	850	772	-	933	856	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1550	-	-	1560	-	-	734	676	1022	674	679	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	734	676	-	674	679	-
Stage 1	-	-	-	-	-	-	967	856	-	856	750	-
Stage 2	-	-	-	-	-	-	813	747	-	880	856	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.5	8.9	10.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	981	1550	-	-	1560	-	-	677
HCM Lane V/C Ratio	0.061	-	-	-	0.031	-	-	0.019
HCM Control Delay (s)	8.9	0	-	-	7.4	0	-	10.4
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.940			
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1861	1751	0	1770	0
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1861	1751	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		507	233		424	
Travel Time (s)		11.5	5.3		9.6	

Intersection Summary

Area Type: Other

















Intersection						
Int Delay, s/veh	3.3					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	59	62	49	86	0
Future Vol, veh/h	1	59	62	49	86	0
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	1	64	67	53	93	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	94	94	-	0
Stage 1	94	94	-	-
Stage 2	0	0	-	-
Critical Hdwy	6.42	6.52	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-
Pot Cap-1 Maneuver	906	796	-	-
Stage 1	930	817	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	906	0	-	-
Mov Cap-2 Maneuver	906	0	-	-
Stage 1	930	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s	9.3	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBLn1	SBT	SBR
Capacity (veh/h)	906	-	-
HCM Lane V/C Ratio	0.072	-	-
HCM Control Delay (s)	9.3	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Lanes and Geometrics
6: Bear Creek Rd. & Gold Camp Rd.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		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
Ped Bike Factor												
Frt					0.928			0.926				0.976
Flt Protected		0.978			0.981						0.969	
Satd. Flow (prot)	0	1822	0	0	1696	0	0	1725	0	0	1762	0
Flt Permitted		0.978			0.981						0.969	
Satd. Flow (perm)	0	1822	0	0	1696	0	0	1725	0	0	1762	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			556			370			146	
Travel Time (s)		6.8			12.6			8.4			3.3	

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	4	5	0	34	7	47	0	25	30	37	11	10
Future Vol, veh/h	4	5	0	34	7	47	0	25	30	37	11	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	5	0	37	8	51	0	27	33	40	12	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	7.2	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	44%	39%	64%
Vol Thru, %	45%	56%	8%	19%
Vol Right, %	55%	0%	53%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	9	88	58
LT Vol	0	4	34	37
Through Vol	25	5	7	11
RT Vol	30	0	47	10
Lane Flow Rate	60	10	96	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.064	0.012	0.104	0.073
Departure Headway (Hd)	3.839	4.31	3.91	4.188
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	925	822	909	850
Service Time	1.897	2.382	1.966	2.241
HCM Lane V/C Ratio	0.065	0.012	0.106	0.074
HCM Control Delay	7.2	7.4	7.4	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.3	0.2



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.979		0.975			
Flt Protected	0.959					0.998
Satd. Flow (prot)	1749	0	1816	0	0	1859
Flt Permitted	0.959					0.998
Satd. Flow (perm)	1749	0	1816	0	0	1859
Link Speed (mph)	30		30			30
Link Distance (ft)	481		146			536
Travel Time (s)	10.9		3.3			12.2

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	10	2	62	14	2	48
Future Vol, veh/h	10	2	62	14	2	48
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	11	2	67	15	2	52

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	131	75	0	0	82
Stage 1	75	-	-	-	-
Stage 2	56	-	-	-	-
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	863	986	-	-	1515
Stage 1	948	-	-	-	-
Stage 2	967	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	862	986	-	-	1515
Mov Cap-2 Maneuver	862	-	-	-	-
Stage 1	948	-	-	-	-
Stage 2	966	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	880	1515
HCM Lane V/C Ratio	-	-	0.015	0.001
HCM Control Delay (s)	-	-	9.2	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

APPENDIX “C”

**TRAFFIC SIGNAL
WARRANT ANALYSIS**

Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Busch Ave. & S. 21st St.
 County: El Paso
 City: Colorado Springs

Major Street: S. 21st St.
 Critical Approach Speed: 40 mph
 Lanes: 1 lane

Minor Street: Busch Ave.
 Critical Approach Speed: 30 mph
 Lanes: 1 lane

% Right Turns Included	In built-up area of isolated community of < 10,000 population? No
From North (SB) 100%	Total number of approaches at intersection? 3
From East (WB) 100%	If it is a "T" intersection, inflate minor threshold to 150%? No
From South (NB) 100%	Manually set volume level? No
From West (EB) 100%	

Analysis based on EXISTING volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
9/14/2022	Wednesday	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:
 Name: Brett Zmenkowski
 Agency: Harris Kocher Smith
 Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	0	3

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

Time Period	6:00 AM		Enter Start Time (Military Time) (HH:MM)		Total
	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	473	7	480
2	7:00	8:00	1081	43	1124
3	8:00	9:00	1086	47	1133
4	9:00	10:00	1016	44	1060
5	10:00	11:00	971	41	1012
6	11:00	12:00	1061	60	1121
7	12:00	13:00	1182	42	1224
8	13:00	14:00	1073	47	1120
9	14:00	15:00	1181	48	1229
10	15:00	16:00	1320	62	1382
11	16:00	17:00	1456	57	1513
12	17:00	18:00	1340	61	1401
13	18:00	19:00	1053	31	1084
14	19:00	20:00	684	29	713
15	20:00	21:00	400	15	415
16	21:00	22:00	279	19	298

Warrant 2: Four-Hour Volume

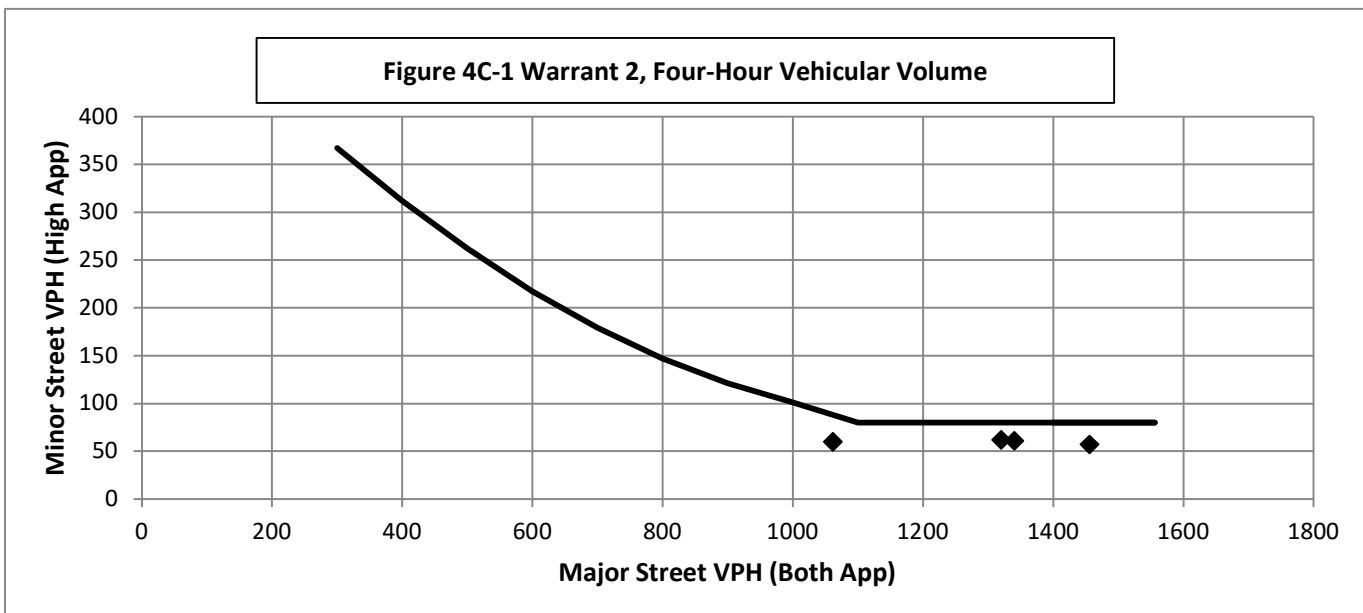
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	15:00	17:00	16:00	11:00
Major Road Vol.	1320	1340	1456	1061
Minor Road Vol.	62	61	57	60



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

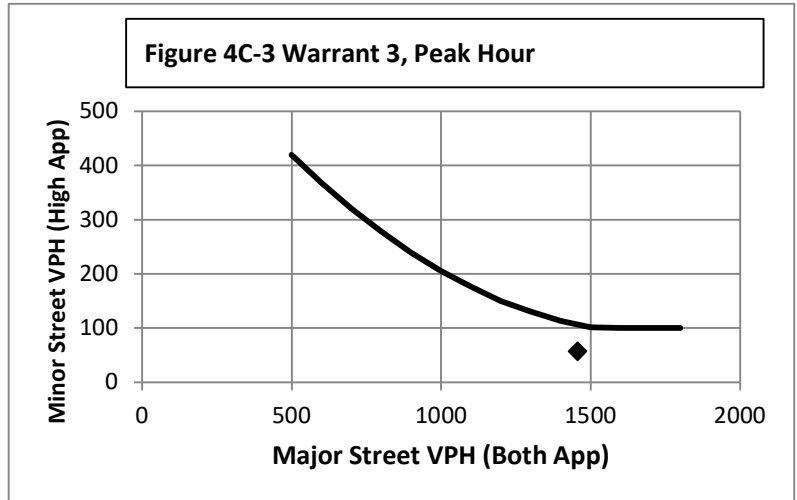
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1456	57



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

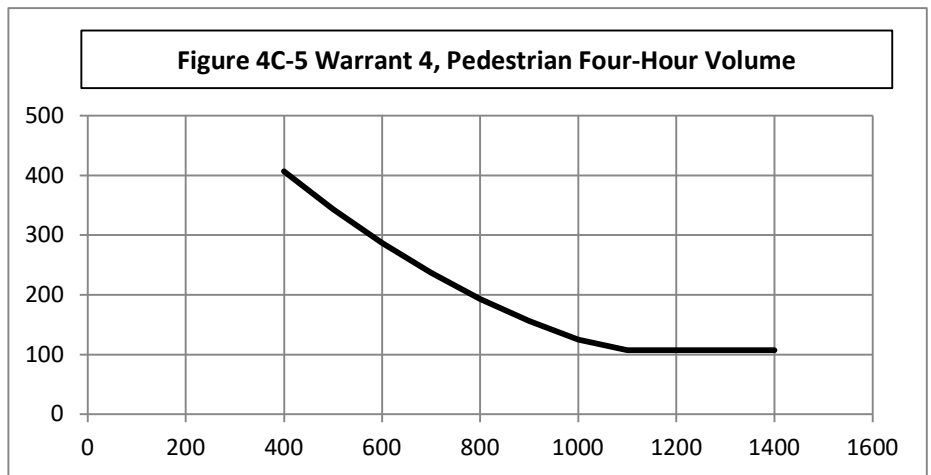
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

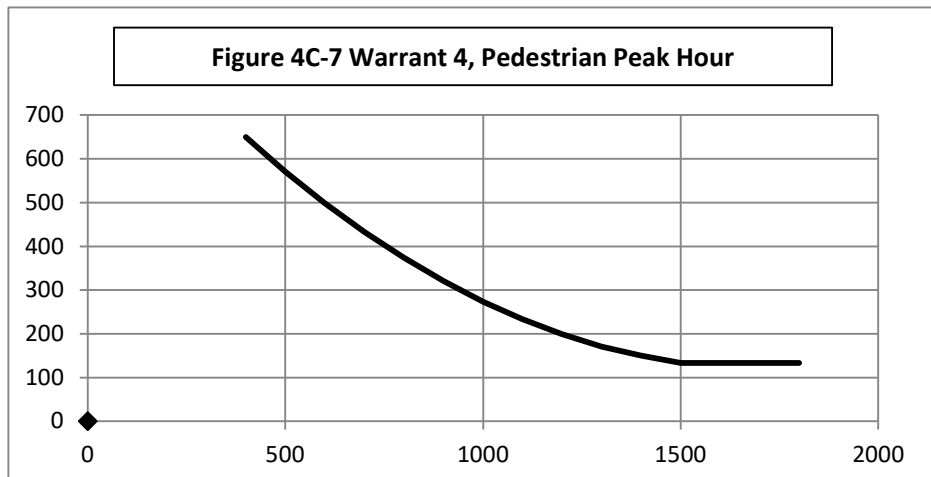
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Busch Ave. & S. 21st St.
 County: El Paso
 City: Colorado Springs

Major Street: S. 21st St.
 Critical Approach Speed: 40 mph
 Lanes: 1 lane

Minor Street: Busch Ave.
 Critical Approach Speed: 30 mph
 Lanes: 1 lane

% Right Turns Included	In built-up area of isolated community of < 10,000 population? No
From North (SB) 100%	Total number of approaches at intersection? 3
From East (WB) 100%	If it is a "T" intersection, inflate minor threshold to 150%? No
From South (NB) 100%	Manually set volume level? No
From West (EB) 100%	

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2025	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:
 Name: Brett Zmenkowski
 Agency: Harris Kocher Smith
 Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	0	3

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

Time Period	6:00 AM		Enter Start Time (Military Time) (HH:MM)		Total
	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	484	7	491
2	7:00	8:00	1107	44	1151
3	8:00	9:00	1112	48	1160
4	9:00	10:00	1040	45	1085
5	10:00	11:00	994	42	1036
6	11:00	12:00	1086	61	1147
7	12:00	13:00	1210	43	1253
8	13:00	14:00	1099	48	1147
9	14:00	15:00	1209	49	1258
10	15:00	16:00	1352	63	1415
11	16:00	17:00	1491	58	1549
12	17:00	18:00	1372	62	1434
13	18:00	19:00	1078	32	1110
14	19:00	20:00	700	30	730
15	20:00	21:00	410	15	425
16	21:00	22:00	286	19	305

Warrant 2: Four-Hour Volume

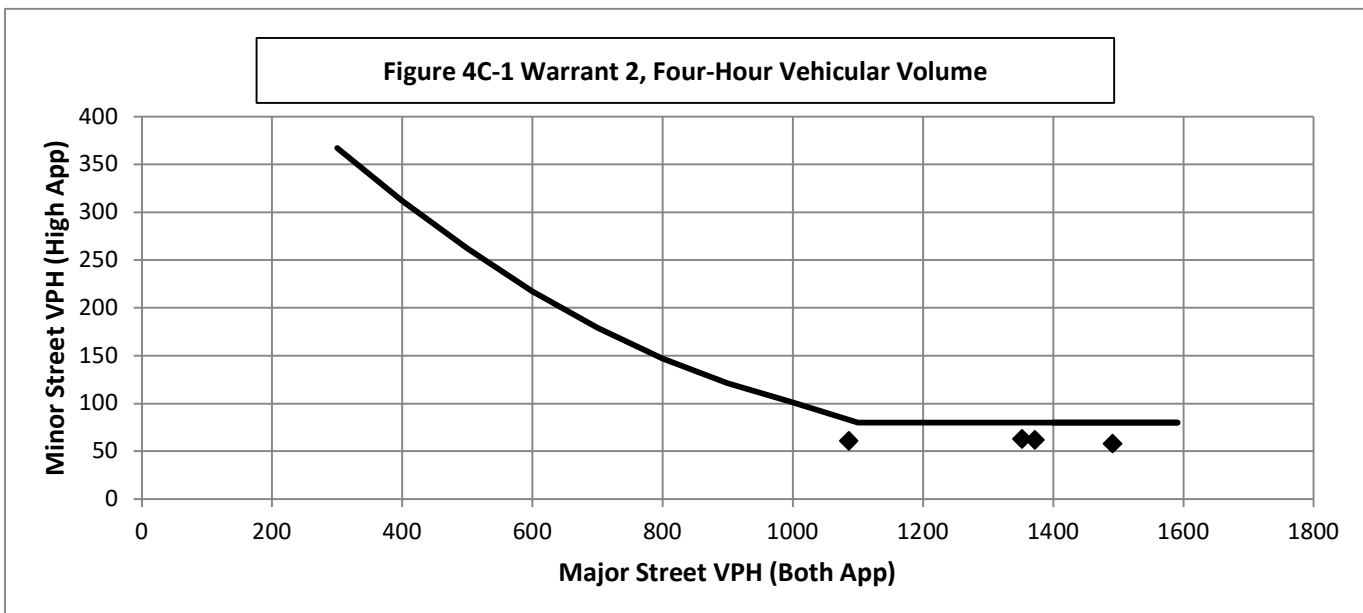
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	15:00	17:00	16:00	11:00
Major Road Vol.	1352	1372	1491	1086
Minor Road Vol.	63	62	58	61



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

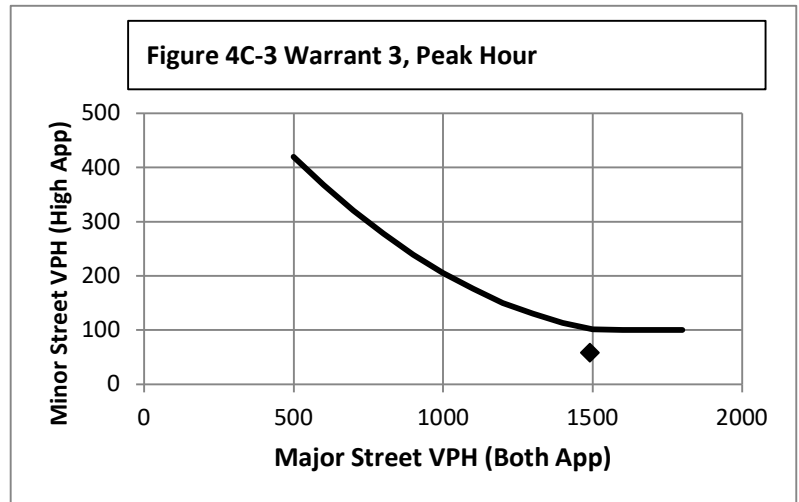
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1491	58



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

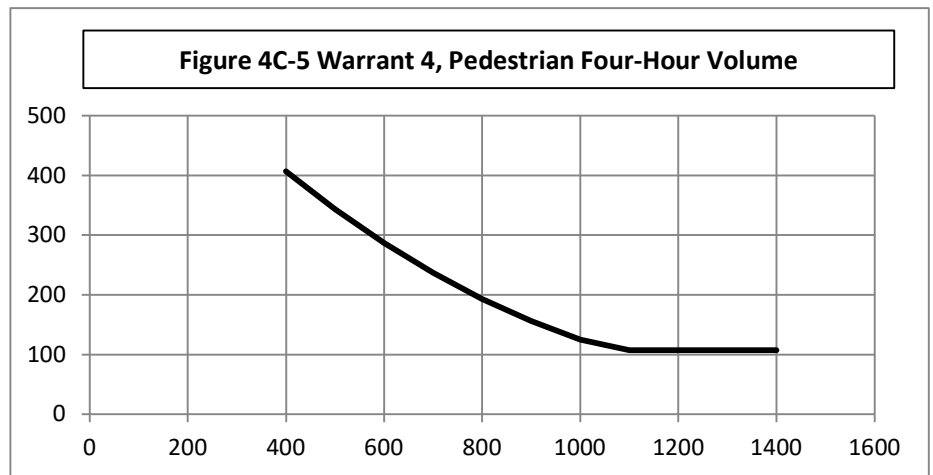
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

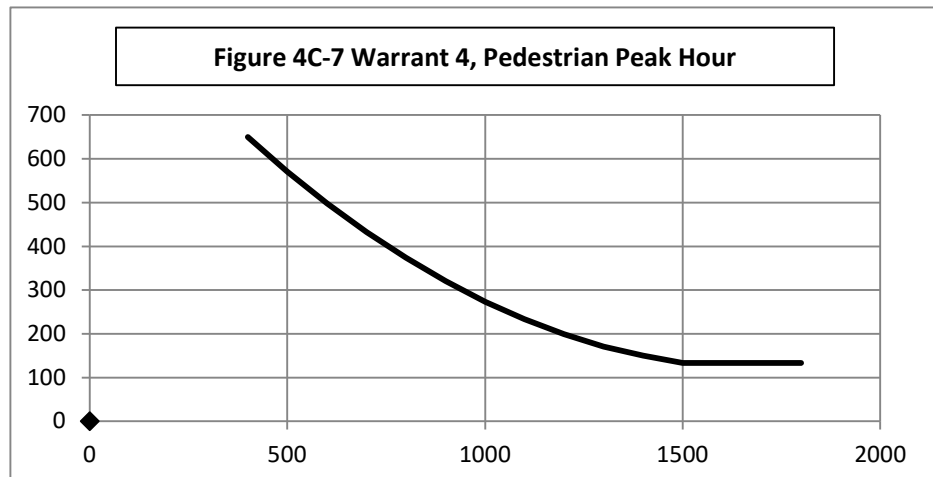
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Busch Ave. & S. 21st St.
 County: El Paso
 City: Colorado Springs

Major Street: S. 21st St.
 Critical Approach Speed: 40 mph
 Lanes: 2 or more lanes

Minor Street: Busch Ave.
 Critical Approach Speed: 30 mph
 Lanes: 1 lane

% Right Turns Included	In built-up area of isolated community of < 10,000 population? No
From North (SB) 100%	Total number of approaches at intersection? 3
From East (WB) 100%	If it is a "T" intersection, inflate minor threshold to 150%? No
From South (NB) 100%	Manually set volume level? No
From West (EB) 100%	

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2045	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:
 Name: Brett Zmenkowski
 Agency: Harris Kocher Smith
 Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	0	4

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

Warrant Satisfied? No

Manually Set To:

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	774	8	782
2	7:00	8:00	1769	52	1821
3	8:00	9:00	1777	56	1833
4	9:00	10:00	1662	53	1715
5	10:00	11:00	1589	49	1638
6	11:00	12:00	1736	72	1808
7	12:00	13:00	1934	50	1984
8	13:00	14:00	1756	56	1812
9	14:00	15:00	1932	58	1990
10	15:00	16:00	2160	74	2234
11	16:00	17:00	2382	68	2450
12	17:00	18:00	2193	73	2266
13	18:00	19:00	1723	37	1760
14	19:00	20:00	1119	35	1154
15	20:00	21:00	654	18	672
16	21:00	22:00	457	23	480

Warrant 2: Four-Hour Volume

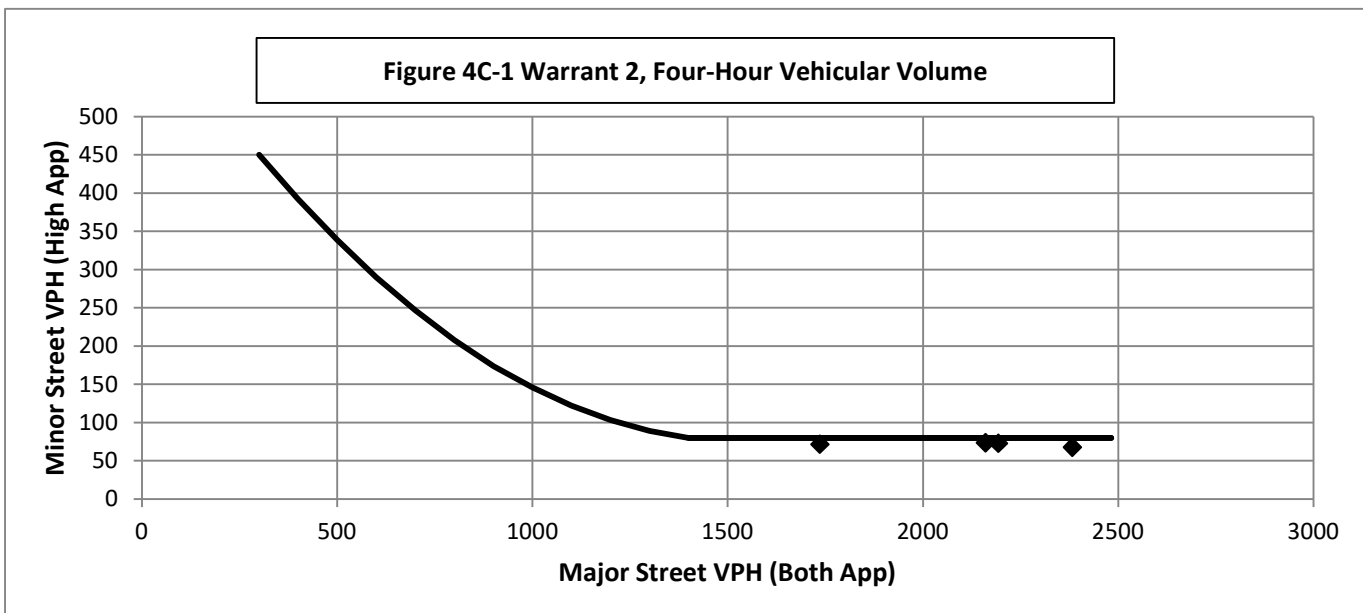
100%

Hour Start	15:00	17:00	11:00	16:00
Major Road Vol.	2160	2193	1736	2382
Minor Road Vol.	74	73	72	68

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

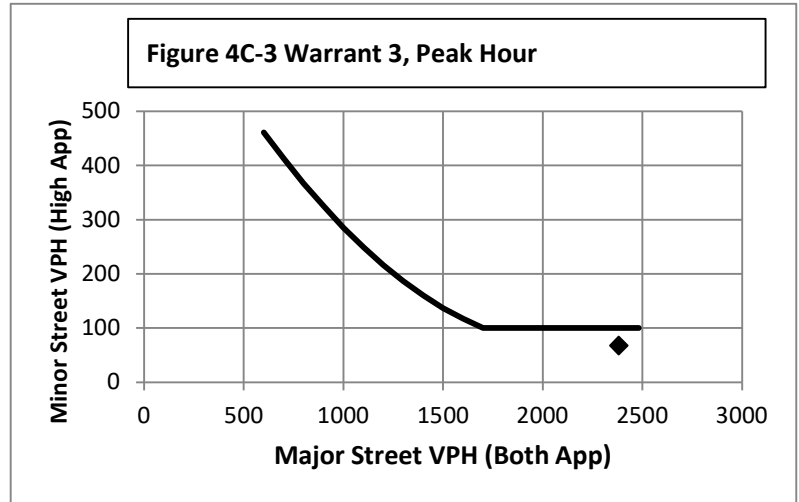
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	2382	68



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

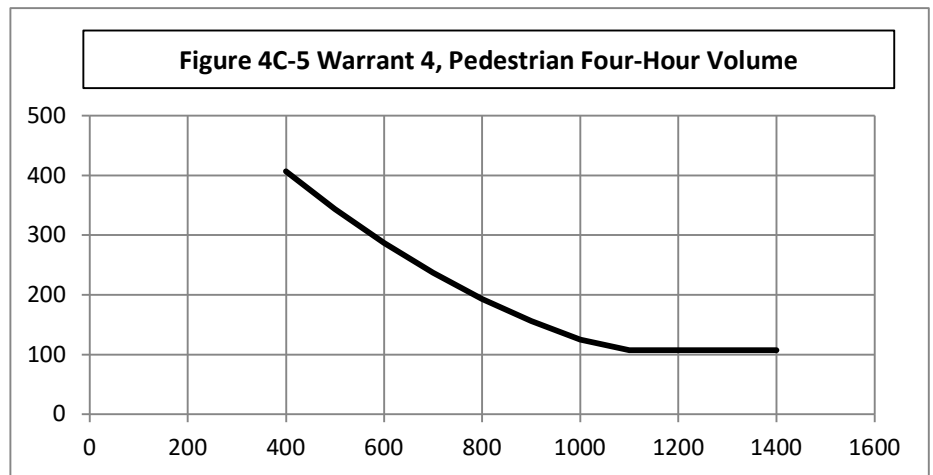
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

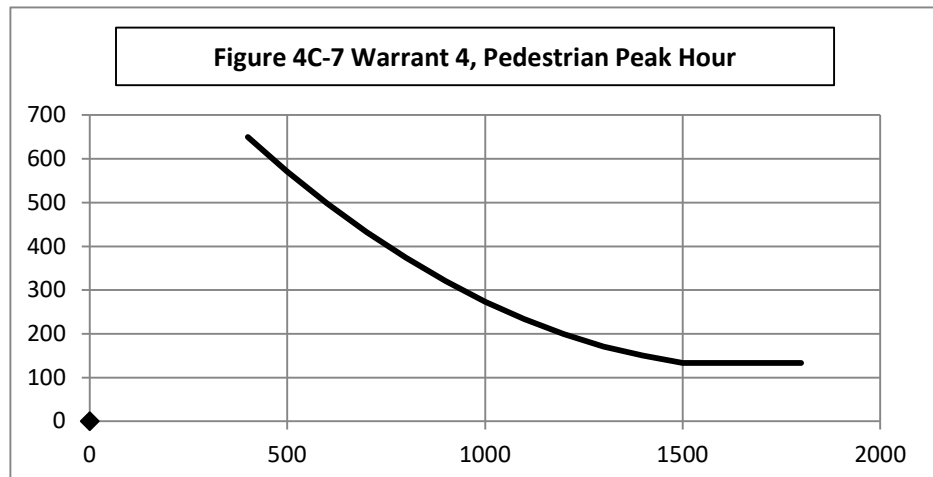
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Busch Ave. & S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Busch Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 1 lane

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2025	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	Yes
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	8	12

Satisfied? Yes

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	497	20	517
2	7:00	8:00	1136	73	1209
3	8:00	9:00	1141	77	1218
4	9:00	10:00	1068	72	1140
5	10:00	11:00	1020	68	1088
6	11:00	12:00	1115	90	1205
7	12:00	13:00	1242	75	1317
8	13:00	14:00	1128	77	1205
9	14:00	15:00	1241	81	1322
10	15:00	16:00	1387	99	1486
11	16:00	17:00	1530	98	1628
12	17:00	18:00	1408	99	1507
13	18:00	19:00	1107	60	1167
14	19:00	20:00	719	48	767
15	20:00	21:00	420	26	446
16	21:00	22:00	293	27	320

Warrant 2: Four-Hour Volume

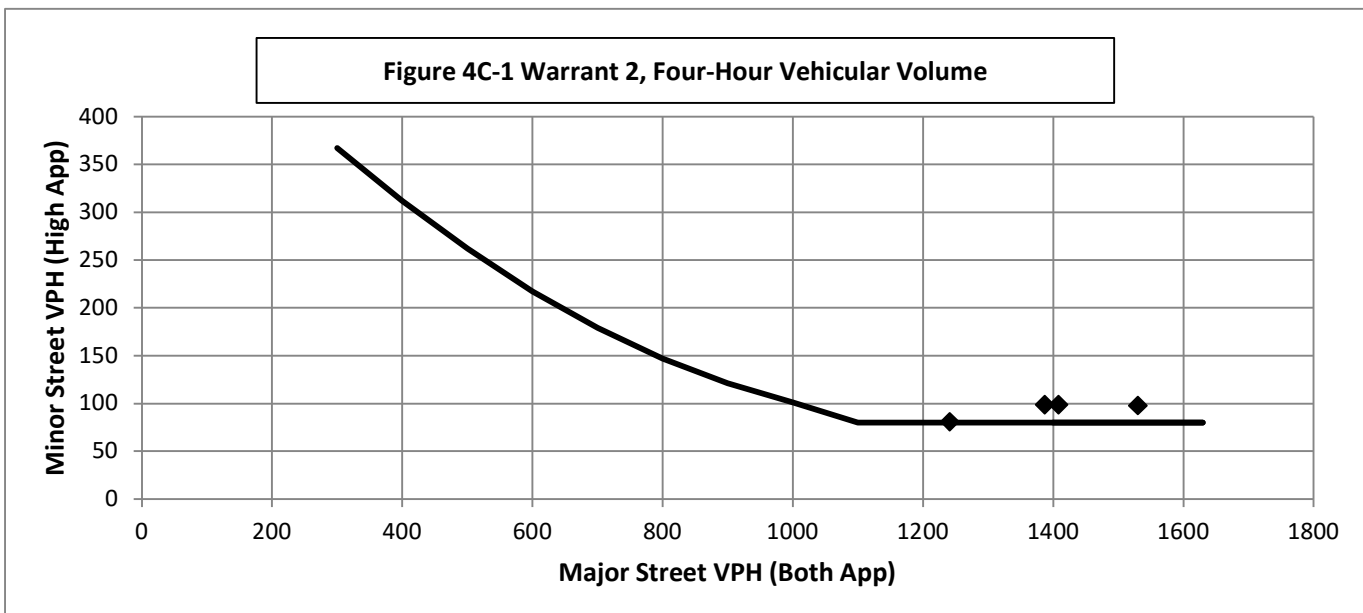
100%

Hour Start	16:00	17:00	15:00	14:00
Major Road Vol.	1530	1408	1387	1241
Minor Road Vol.	98	99	99	81

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

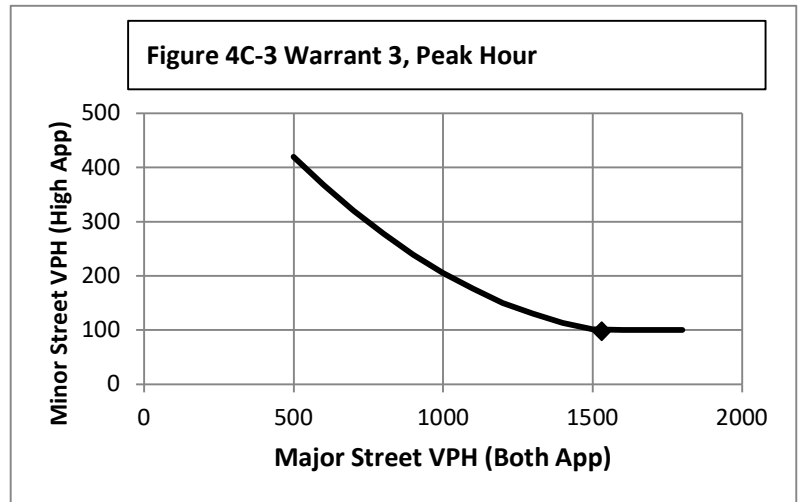
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1530	98



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

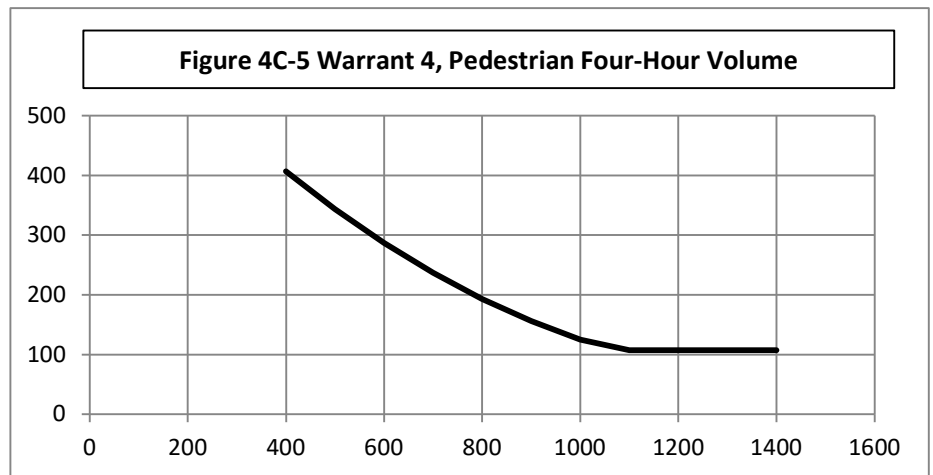
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

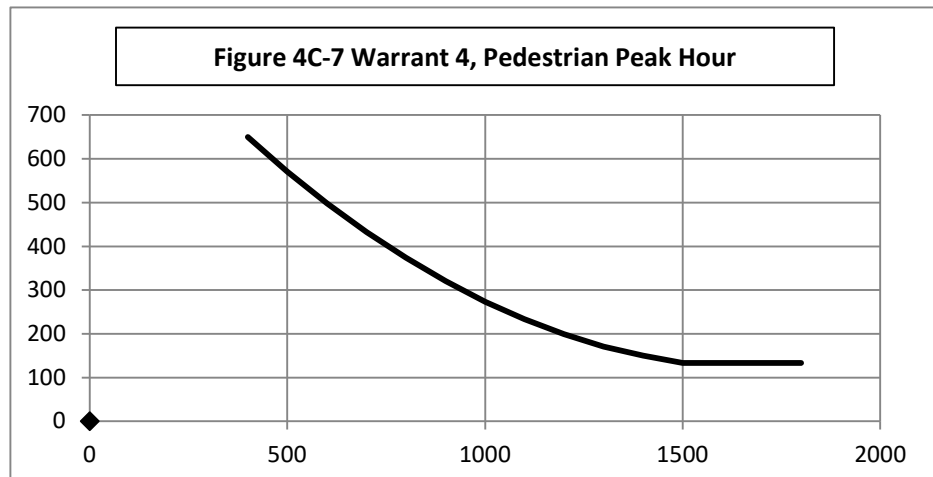
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Busch Ave. & S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Busch Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 2 or more lanes

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2045	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	Yes
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	11	12

Satisfied? Yes

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	787	21	808
2	7:00	8:00	1798	81	1879
3	8:00	9:00	1806	86	1892
4	9:00	10:00	1690	80	1770
5	10:00	11:00	1615	75	1690
6	11:00	12:00	1765	101	1866
7	12:00	13:00	1966	82	2048
8	13:00	14:00	1785	85	1870
9	14:00	15:00	1964	89	2053
10	15:00	16:00	2195	110	2305
11	16:00	17:00	2422	108	2530
12	17:00	18:00	2229	109	2338
13	18:00	19:00	1751	66	1817
14	19:00	20:00	1138	53	1191
15	20:00	21:00	665	29	694
16	21:00	22:00	464	30	494

Warrant 2: Four-Hour Volume

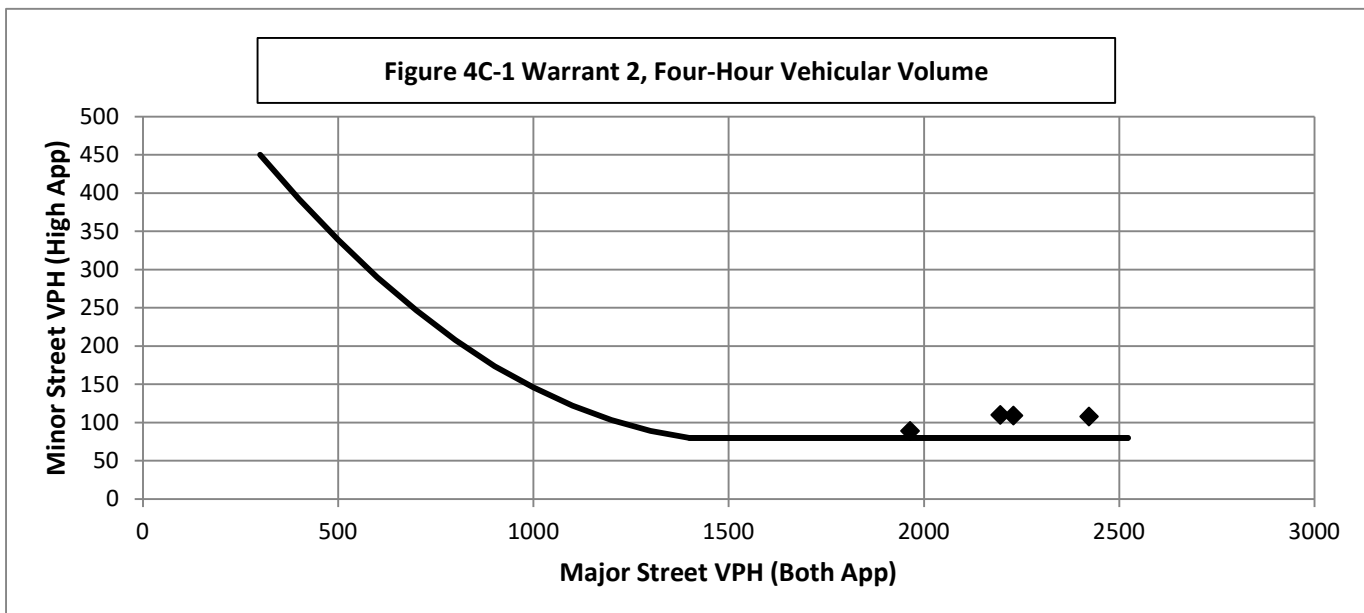
100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	16:00	17:00	15:00	14:00
Major Road Vol.	2422	2229	2195	1964
Minor Road Vol.	108	109	110	89



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

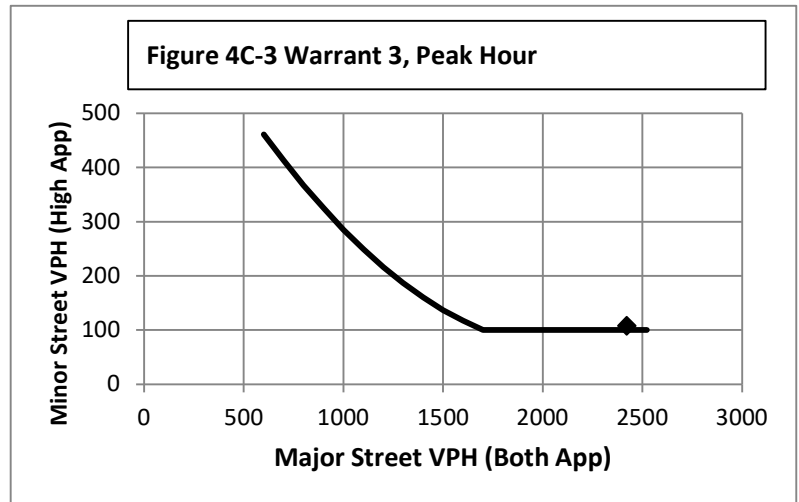
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	2422	108



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

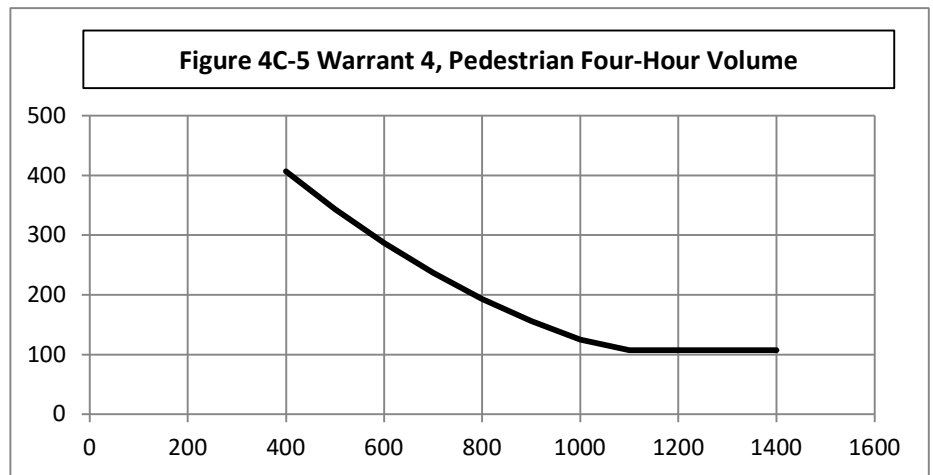
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

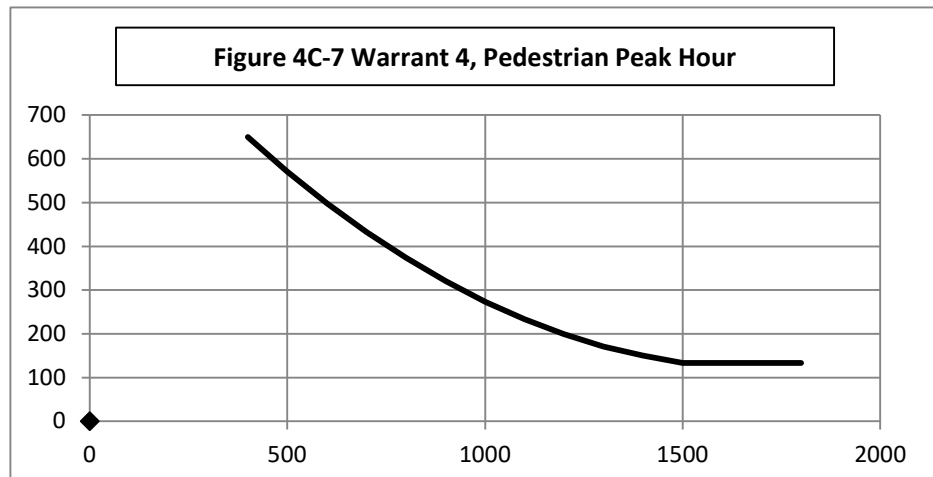
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Wheeler Ave/S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Wheeler Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 1 lane

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on EXISTING volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
9/14/2022	Wednesday	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	0	0

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	480	26	506
2	7:00	8:00	1111	34	1145
3	8:00	9:00	1127	33	1160
4	9:00	10:00	1039	46	1085
5	10:00	11:00	995	40	1035
6	11:00	12:00	1106	25	1131
7	12:00	13:00	1186	27	1213
8	13:00	14:00	1090	31	1121
9	14:00	15:00	1206	38	1244
10	15:00	16:00	1363	36	1399
11	16:00	17:00	1501	32	1533
12	17:00	18:00	1401	35	1436
13	18:00	19:00	1091	21	1112
14	19:00	20:00	704	24	728
15	20:00	21:00	417	11	428
16	21:00	22:00	295	24	319

Warrant 2: Four-Hour Volume

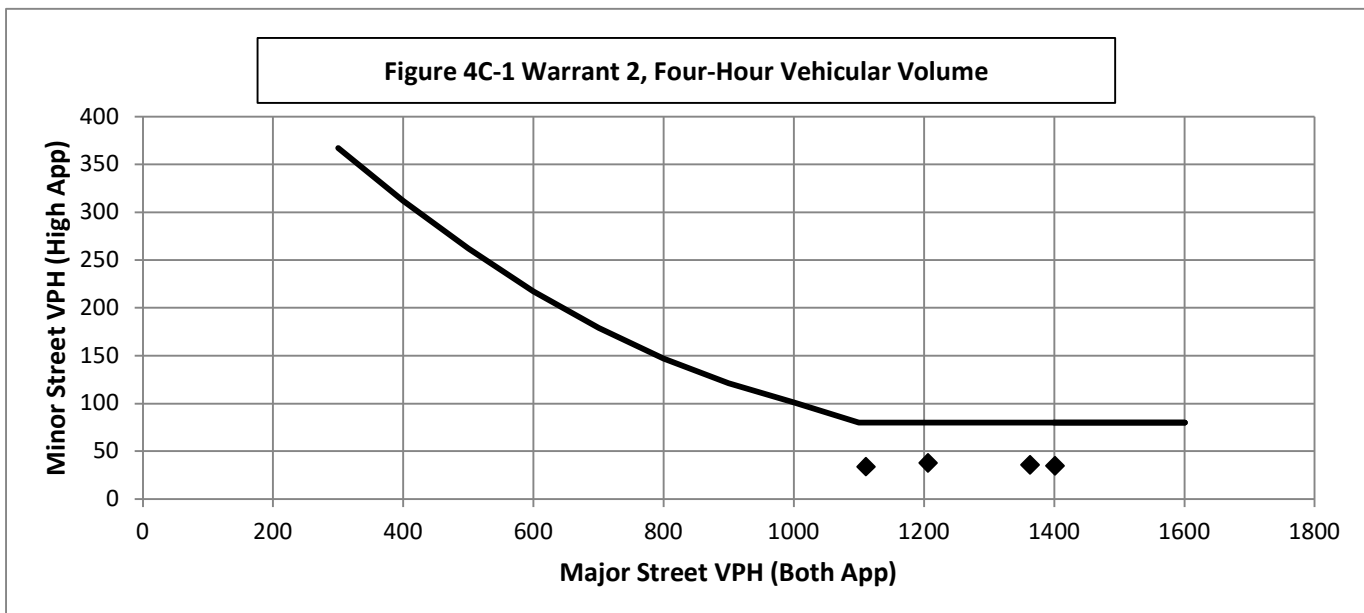
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	14:00	15:00	17:00	7:00
Major Road Vol.	1206	1363	1401	1111
Minor Road Vol.	38	36	35	34



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

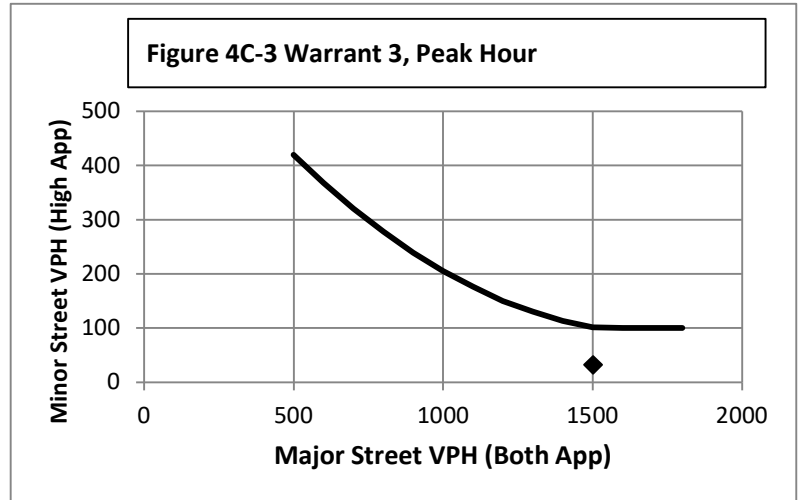
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1501	32



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

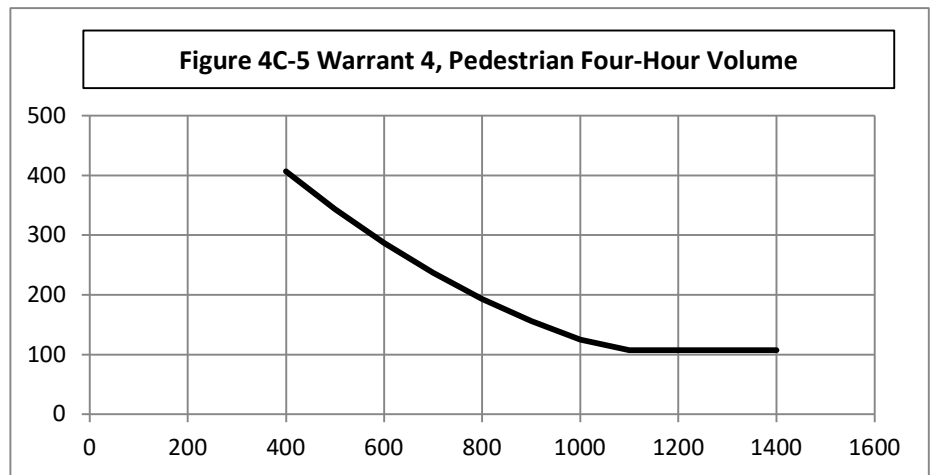
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

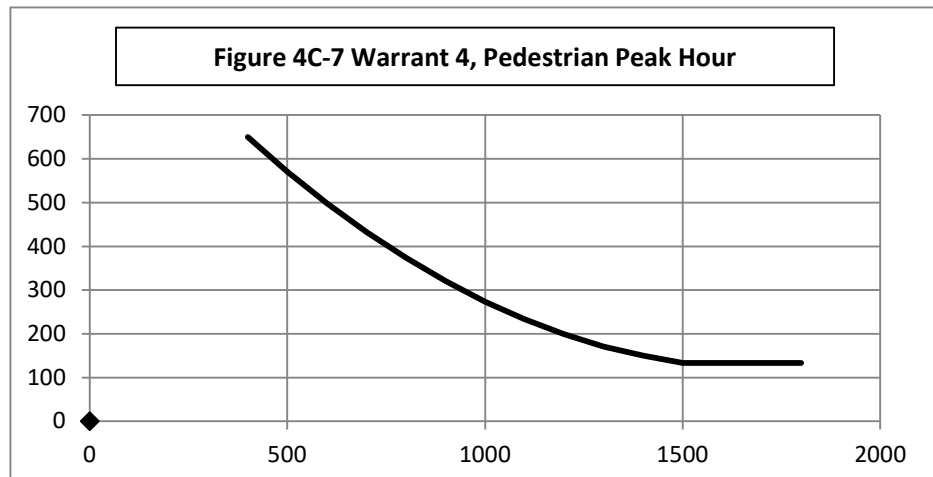
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Wheeler Ave/S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Wheeler Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 1 lane

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2025	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	0	0

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

Time Period	6:00 AM		Enter Start Time (Military Time) (HH:MM)		Total
	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	492	27	519
2	7:00	8:00	1138	35	1173
3	8:00	9:00	1154	34	1188
4	9:00	10:00	1064	47	1111
5	10:00	11:00	1019	41	1060
6	11:00	12:00	1133	26	1159
7	12:00	13:00	1214	28	1242
8	13:00	14:00	1116	32	1148
9	14:00	15:00	1235	39	1274
10	15:00	16:00	1396	37	1433
11	16:00	17:00	1537	33	1570
12	17:00	18:00	1435	36	1471
13	18:00	19:00	1117	22	1139
14	19:00	20:00	721	25	746
15	20:00	21:00	427	11	438
16	21:00	22:00	302	25	327

Warrant 2: Four-Hour Volume

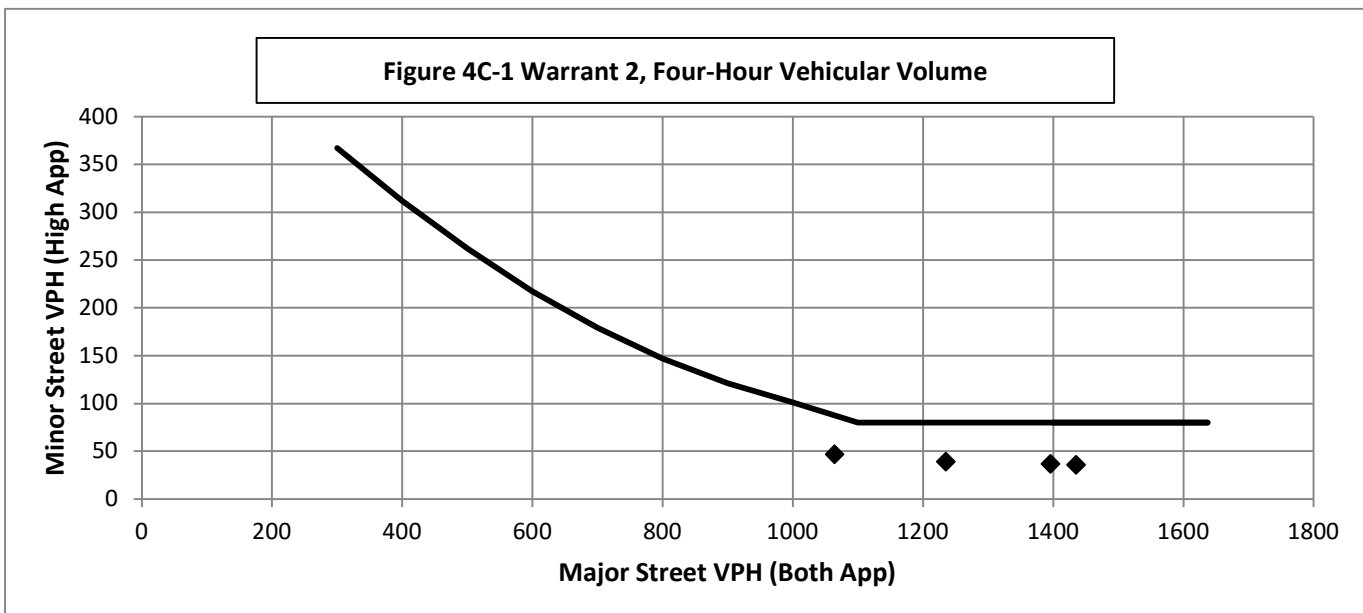
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	14:00	15:00	9:00	17:00
Major Road Vol.	1235	1396	1064	1435
Minor Road Vol.	39	37	47	36



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

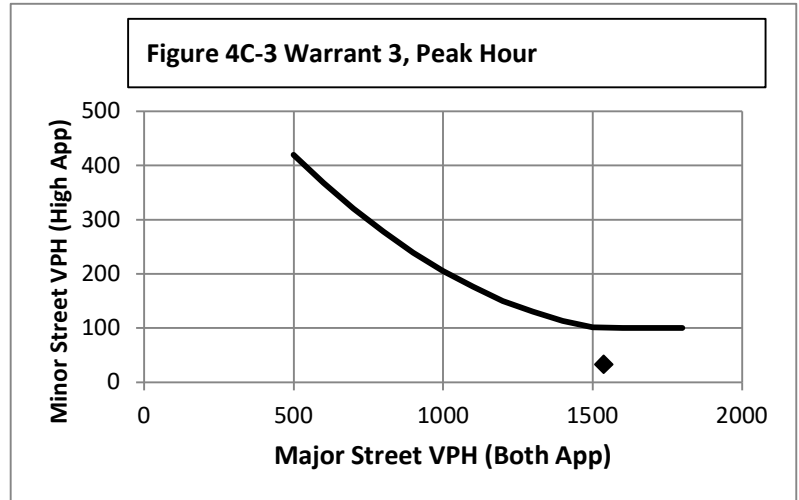
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1537	33



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

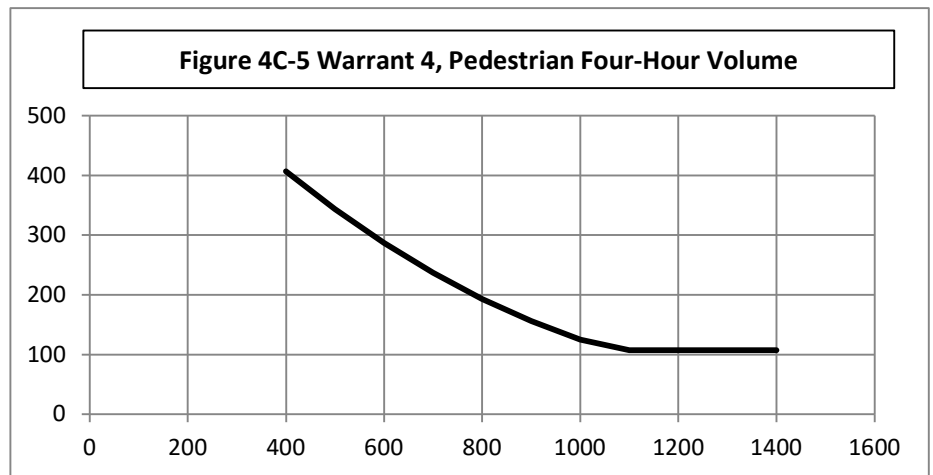
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

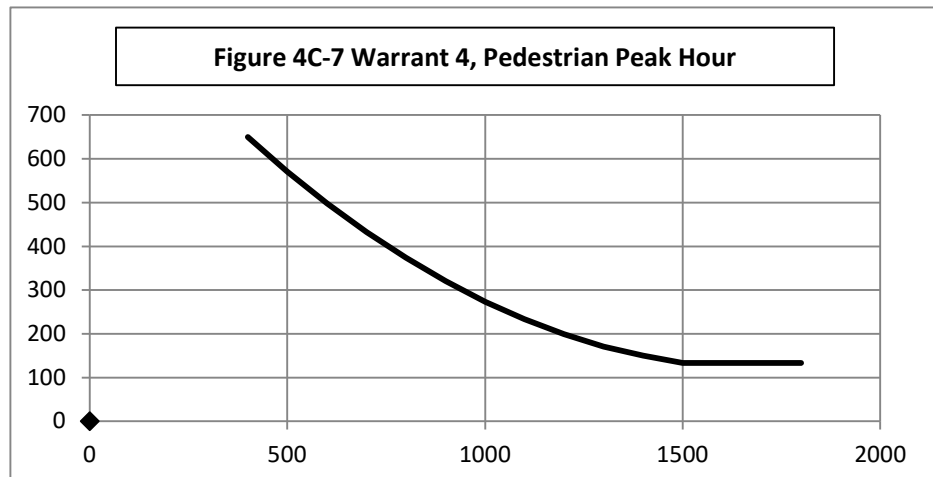
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Wheeler Ave/S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Wheeler Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 2 or more lanes

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2045	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	Yes
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	12	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	13	14

Satisfied? Yes

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? Yes

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	813	85	898
2	7:00	8:00	1882	196	2078
3	8:00	9:00	1910	199	2109
4	9:00	10:00	1760	183	1943
5	10:00	11:00	1686	176	1862
6	11:00	12:00	1874	195	2069
7	12:00	13:00	2010	209	2219
8	13:00	14:00	1847	192	2039
9	14:00	15:00	2043	213	2256
10	15:00	16:00	2309	241	2550
11	16:00	17:00	2543	265	2808
12	17:00	18:00	2374	247	2621
13	18:00	19:00	1849	193	2042
14	19:00	20:00	1193	124	1317
15	20:00	21:00	707	74	781
16	21:00	22:00	500	52	552

Warrant 2: Four-Hour Volume

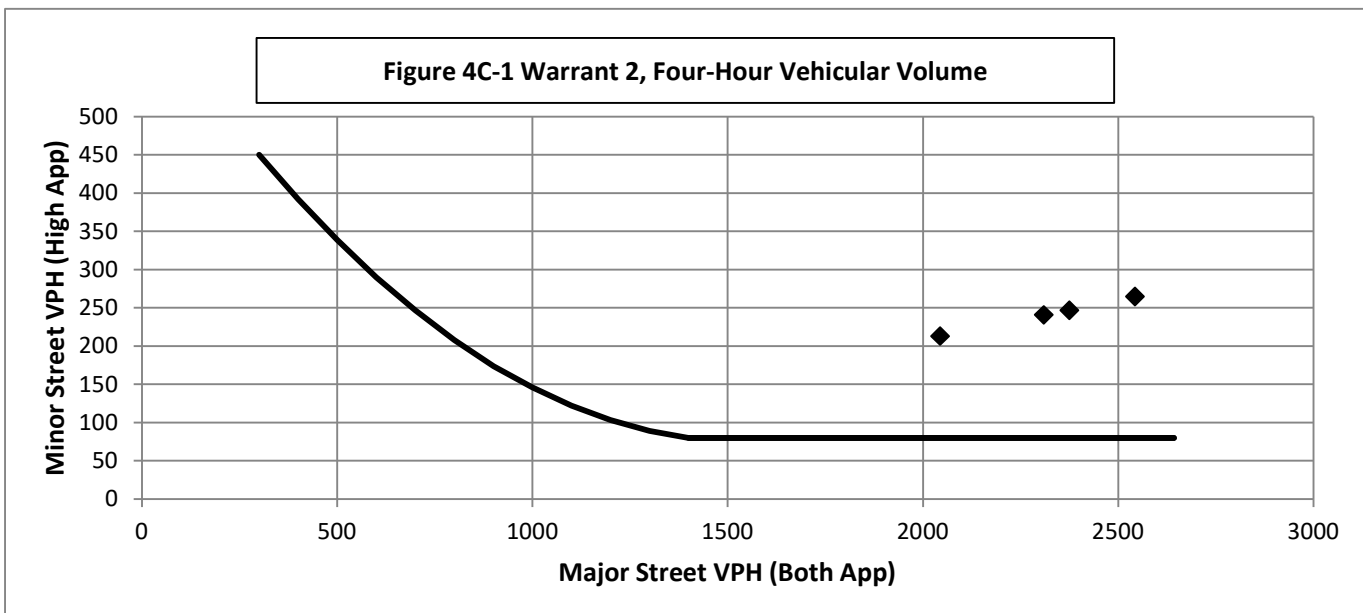
100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	16:00	17:00	15:00	14:00
Major Road Vol.	2543	2374	2309	2043
Minor Road Vol.	265	247	241	213



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

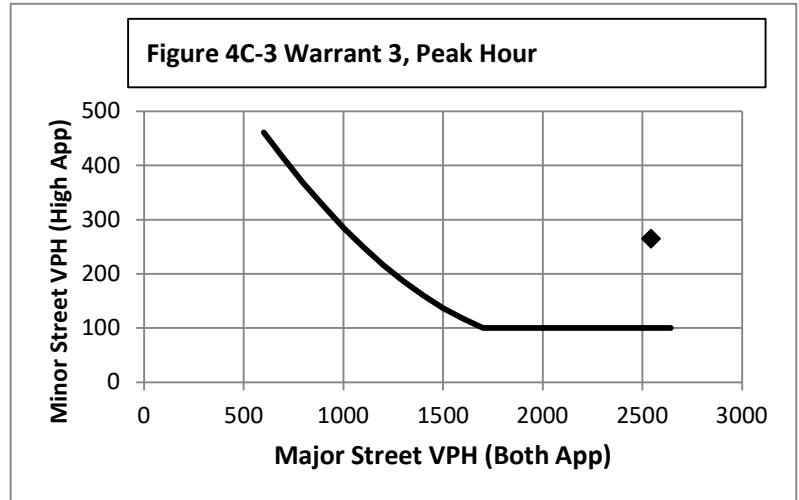
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	2543	265



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

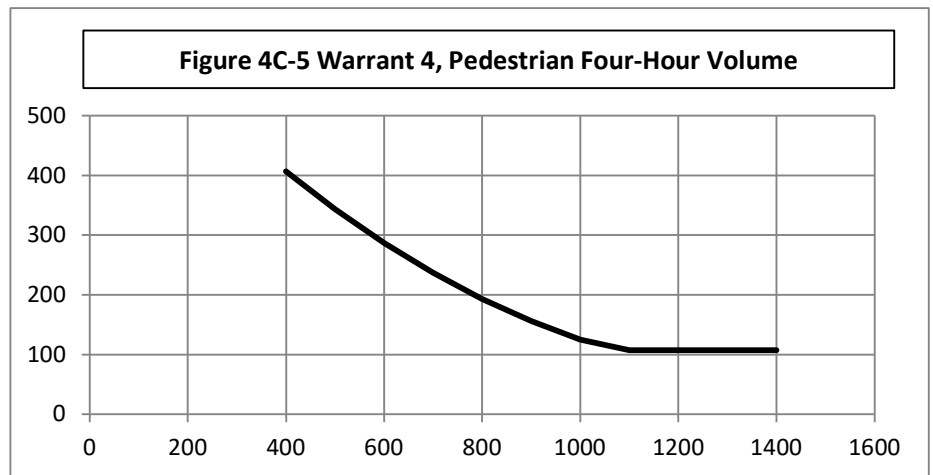
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

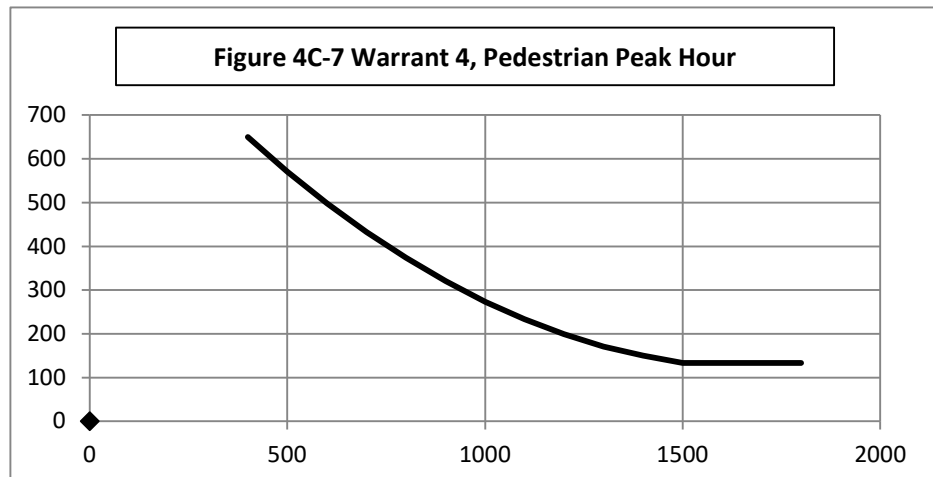
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Wheeler Ave/S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Wheeler Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 1 lane

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2025	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	0	0

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	507	28	535
2	7:00	8:00	1173	39	1212
3	8:00	9:00	1189	38	1227
4	9:00	10:00	1097	51	1148
5	10:00	11:00	1050	44	1094
6	11:00	12:00	1167	29	1196
7	12:00	13:00	1252	32	1284
8	13:00	14:00	1150	36	1186
9	14:00	15:00	1273	43	1316
10	15:00	16:00	1439	42	1481
11	16:00	17:00	1584	38	1622
12	17:00	18:00	1479	41	1520
13	18:00	19:00	1152	25	1177
14	19:00	20:00	743	27	770
15	20:00	21:00	440	13	453
16	21:00	22:00	311	26	337

Warrant 2: Four-Hour Volume

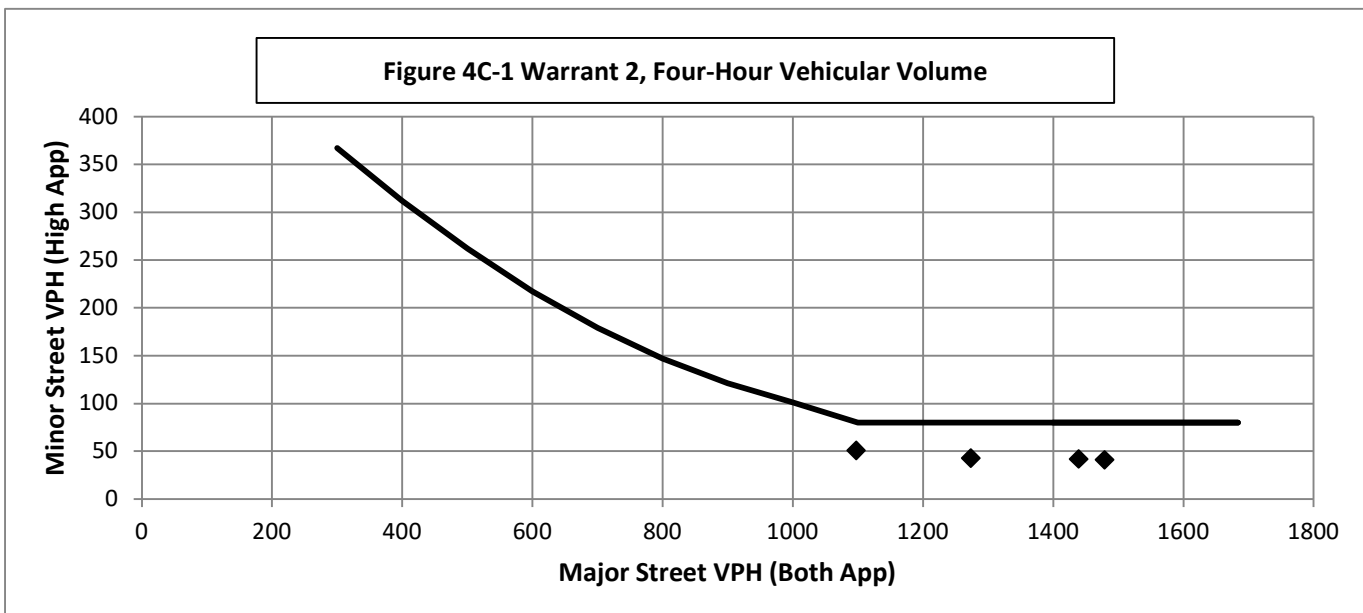
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	9:00	14:00	15:00	17:00
Major Road Vol.	1097	1273	1439	1479
Minor Road Vol.	51	43	42	41



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

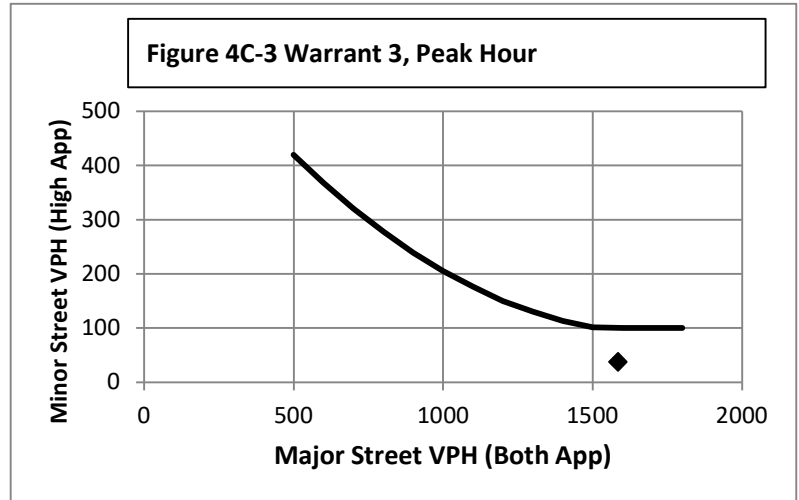
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1584	38



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

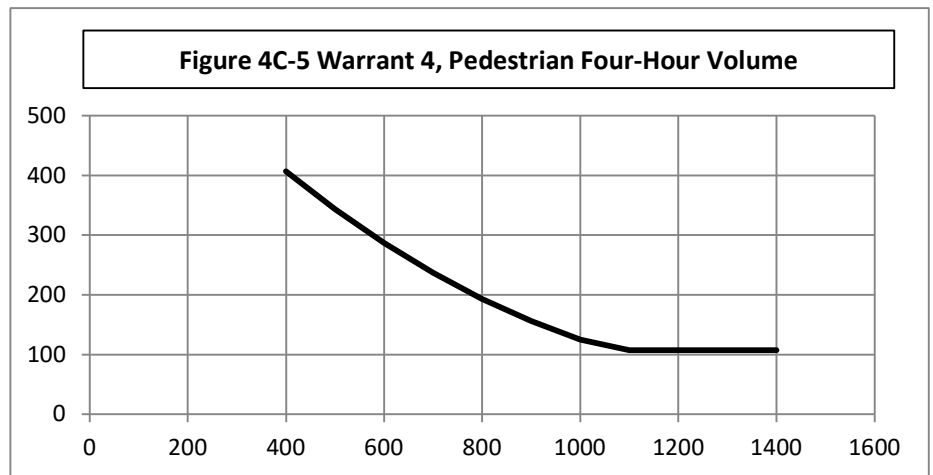
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

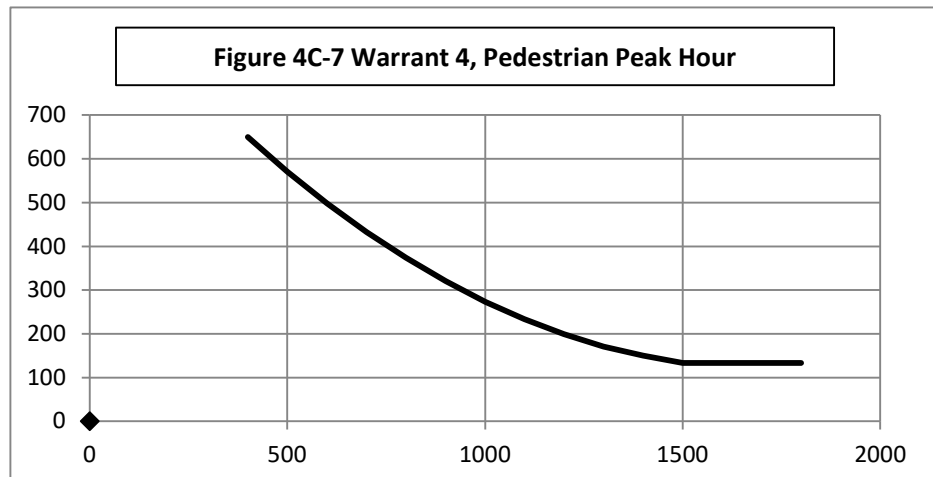
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Wheeler Ave/S. 21st St.

County: El Paso

City: Colorado Springs

Major Street: S. 21st St.

Minor Street: Wheeler Ave.

Critical Approach Speed: 40 mph

Critical Approach Speed: 30 mph

Lanes: 2 or more lanes

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 3

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2045	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	Yes
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Brett Zmenkowski

Agency: Harris Kocher Smith

Date: 9/27/2022

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	12	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	13	15

Satisfied? Yes

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? Yes

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	828	85	913
2	7:00	8:00	1917	196	2113
3	8:00	9:00	1945	199	2144
4	9:00	10:00	1793	183	1976
5	10:00	11:00	1717	176	1893
6	11:00	12:00	1909	195	2104
7	12:00	13:00	2047	209	2256
8	13:00	14:00	1881	192	2073
9	14:00	15:00	2081	213	2294
10	15:00	16:00	2352	241	2593
11	16:00	17:00	2590	265	2855
12	17:00	18:00	2418	247	2665
13	18:00	19:00	1883	193	2076
14	19:00	20:00	1215	124	1339
15	20:00	21:00	720	74	794
16	21:00	22:00	509	52	561

Warrant 2: Four-Hour Volume

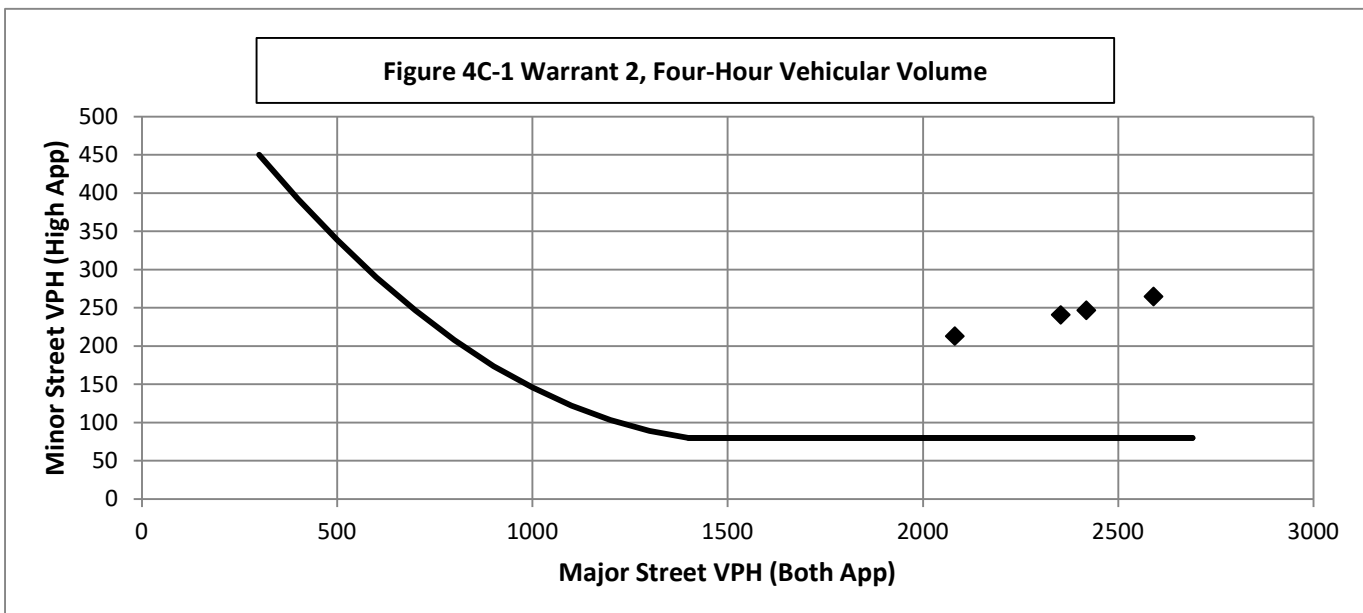
100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	16:00	17:00	15:00	14:00
Major Road Vol.	2590	2418	2352	2081
Minor Road Vol.	265	247	241	213



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

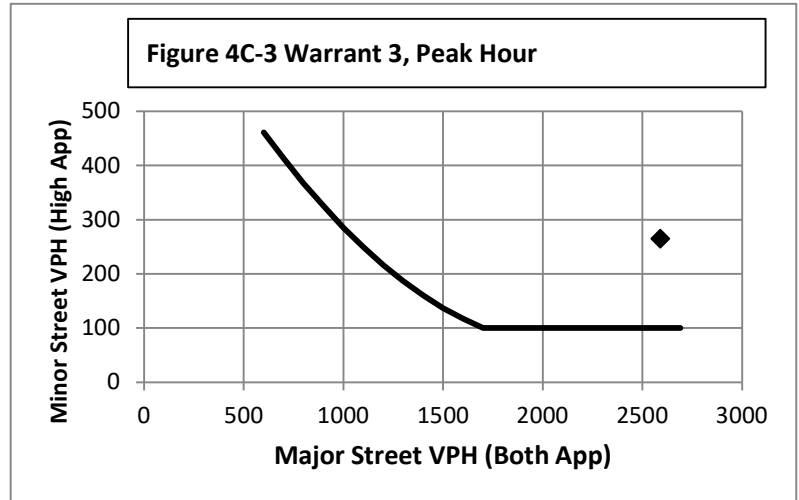
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	2590	265



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

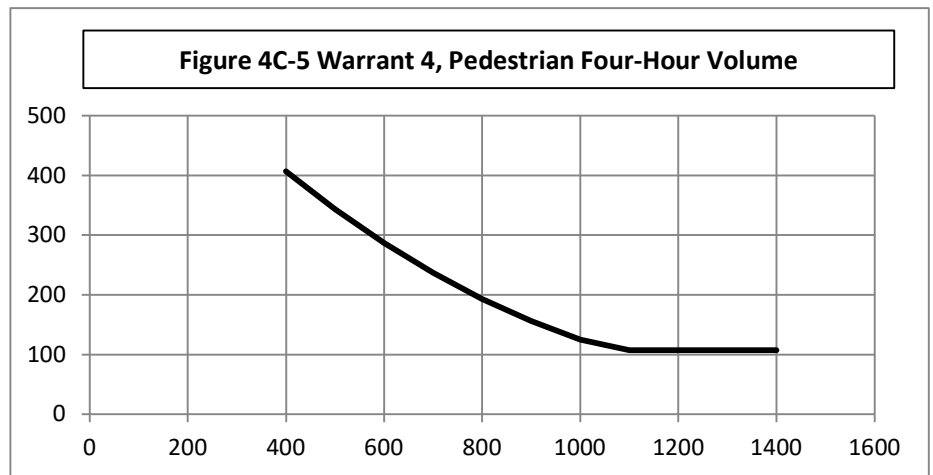
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

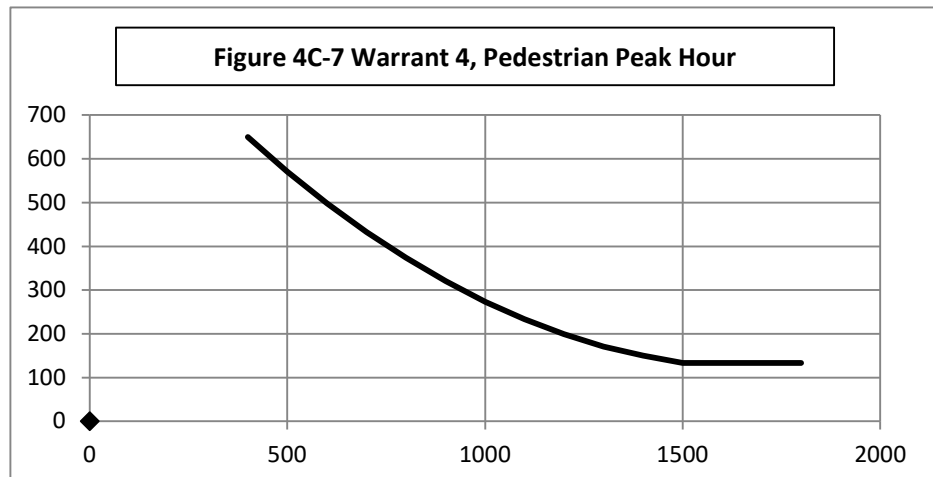
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



APPENDIX “D”

**ALTERNATIVE
INTERSECTION
ANALYSIS**

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
09/27/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.975				0.850		0.998				0.996
Flt Protected		0.979			0.978		0.950			0.950		
Satd. Flow (prot)	0	1778	0	0	1822	1583	1770	3532	0	1770	3525	0
Flt Permitted		0.829			0.875		0.311			0.254		
Satd. Flow (perm)	0	1506	0	0	1630	1583	579	3532	0	473	3525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				83		3			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		374			253			409			493	
Travel Time (s)		8.5			5.8			9.3			11.2	

Intersection Summary

Area Type: Other

Timings
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		↔		↕	↗	↖	↕↔	↖	↕↔
Traffic Volume (vph)	30	27	27	33	107	4	966	56	798
Future Volume (vph)	30	27	27	33	107	4	966	56	798
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4		8			2		6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	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)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	37.0	37.0	37.0	37.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
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)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		7.9		7.9	7.9	46.0	46.0	46.0	46.0
Actuated g/C Ratio		0.13		0.13	0.13	0.77	0.77	0.77	0.77
v/c Ratio		0.36		0.30	0.41	0.01	0.39	0.17	0.33
Control Delay		24.4		26.4	14.1	2.5	2.6	4.7	3.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.4		26.4	14.1	2.5	2.6	4.7	3.6
LOS		C		C	B	A	A	A	A
Approach Delay		24.4		18.5			2.6		3.6
Approach LOS		C		B			A		A

Intersection Summary

Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 5.0	Intersection LOS: A
Intersection Capacity Utilization 53.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: S. 21st St. & Wheeler Ave.


























Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	65	116	4	1061	61	893
v/c Ratio	0.36	0.30	0.41	0.01	0.39	0.17	0.33
Control Delay	24.4	26.4	14.1	2.5	2.6	4.7	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	26.4	14.1	2.5	2.6	4.7	3.6
Queue Length 50th (ft)	21	22	11	0	35	5	46
Queue Length 95th (ft)	51	50	48	m1	51	20	85
Internal Link Dist (ft)	294	173			329		413
Turn Bay Length (ft)				100		100	
Base Capacity (vph)	474	502	545	443	2706	362	2702
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.13	0.21	0.01	0.39	0.17	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
 09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	27	13	27	33	107	4	966	10	56	798	24
Future Volume (veh/h)	30	27	13	27	33	107	4	966	10	56	798	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	29	14	29	36	116	4	1050	11	61	867	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	91	33	144	131	175	528	2664	28	513	2605	78
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	1.00	1.00	1.00	0.74	0.74	0.74
Sat Flow, veh/h	514	825	302	515	1183	1585	623	3603	38	532	3523	106
Grp Volume(v), veh/h	76	0	0	65	0	116	4	518	543	61	437	456
Grp Sat Flow(s),veh/h/ln	1641	0	0	1698	0	1585	623	1777	1864	532	1777	1851
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	2.0	5.1	5.1
Cycle Q Clear(g_c), s	2.4	0.0	0.0	1.9	0.0	4.2	5.1	0.0	0.0	2.0	5.1	5.1
Prop In Lane	0.43		0.18	0.45		1.00	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	267	0	0	274	0	175	528	1314	1378	513	1314	1369
V/C Ratio(X)	0.28	0.00	0.00	0.24	0.00	0.66	0.01	0.39	0.39	0.12	0.33	0.33
Avail Cap(c_a), veh/h	578	0	0	592	0	489	528	1314	1378	513	1314	1369
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	0.0	24.6	0.0	25.6	0.3	0.0	0.0	2.3	2.7	2.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.4	0.0	4.2	0.0	0.8	0.8	0.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.8	0.0	1.7	0.0	0.3	0.3	0.2	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	0.0	0.0	25.0	0.0	29.8	0.3	0.8	0.8	2.8	3.4	3.4
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		76			181			1065			954	
Approach Delay, s/veh		25.4			28.1			0.8			3.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.9		11.1		48.9		11.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.5		18.5		32.5		18.5				
Max Q Clear Time (g_c+I1), s		7.1		4.4		7.1		6.2				
Green Ext Time (p_c), s		7.9		0.2		7.1		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				4.9								
HCM 6th LOS				A								

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
09/27/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.988				0.850		0.996			0.995	
Flt Protected		0.982			0.983		0.950		0.950			
Satd. Flow (prot)	0	1807	0	0	1831	1583	1770	3525	0	1770	3522	0
Flt Permitted		0.857			0.904		0.224		0.190			
Satd. Flow (perm)	0	1577	0	0	1684	1583	417	3525	0	354	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				53		8			10	
Link Speed (mph)		30			30		30		30		30	
Link Distance (ft)		374			253		409		493			
Travel Time (s)		8.5			5.8		9.3				11.2	

Intersection Summary

Area Type: Other

Timings
2: S. 21st St. & Wheeler Ave.



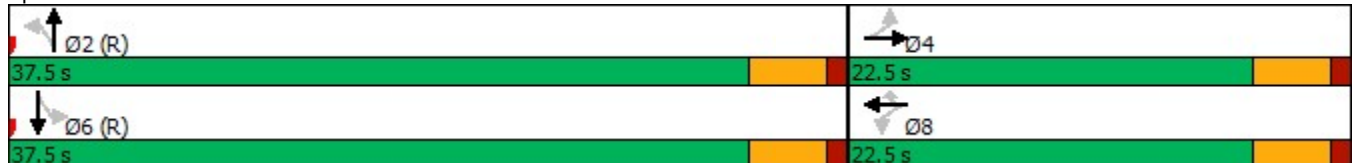
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		↔		↕	↗	↖	↕↔	↖	↕↔
Traffic Volume (vph)	31	47	17	32	80	11	1143	141	1025
Future Volume (vph)	31	47	17	32	80	11	1143	141	1025
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4		8			2		6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	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)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	37.5	37.5	37.5	37.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%	62.5%	62.5%
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)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		8.5		8.5	8.5	45.4	45.4	45.4	45.4
Actuated g/C Ratio		0.14		0.14	0.14	0.76	0.76	0.76	0.76
v/c Ratio		0.40		0.22	0.32	0.04	0.48	0.57	0.43
Control Delay		26.3		24.0	14.6	2.6	2.9	18.4	4.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		26.3		24.0	14.6	2.6	2.9	18.4	4.4
LOS		C		C	B	A	A	B	A
Approach Delay		26.3		18.1			2.9		6.0
Approach LOS		C		B			A		A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 5.9
 Intersection Capacity Utilization 63.0%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 2: S. 21st St. & Wheeler Ave.





Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	93	53	87	12	1279	153	1155
v/c Ratio	0.40	0.22	0.32	0.04	0.48	0.57	0.43
Control Delay	26.3	24.0	14.6	2.6	2.9	18.4	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	24.0	14.6	2.6	2.9	18.4	4.4
Queue Length 50th (ft)	29	17	11	1	46	21	71
Queue Length 95th (ft)	62	42	42	m2	58	#128	129
Internal Link Dist (ft)	294	173			329		413
Turn Bay Length (ft)				100		100	
Base Capacity (vph)	478	505	512	315	2668	268	2666
Starvation Cap Reductn	0	0	0	0	28	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.10	0.17	0.04	0.48	0.57	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
 09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (veh/h)	31	47	7	17	32	80	11	1143	34	141	1025	38
Future Volume (veh/h)	31	47	7	17	32	80	11	1143	34	141	1025	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	51	8	18	35	87	12	1242	37	153	1114	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	95	13	116	124	144	435	2676	80	448	2655	98
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.76	0.76	0.76
Sat Flow, veh/h	497	1049	145	396	1371	1585	487	3523	105	432	3495	129
Grp Volume(v), veh/h	93	0	0	53	0	87	12	626	653	153	566	589
Grp Sat Flow(s),veh/h/ln	1691	0	0	1768	0	1585	487	1777	1851	432	1777	1847
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	3.2	0.2	0.0	0.0	7.9	6.8	6.8
Cycle Q Clear(g_c), s	3.1	0.0	0.0	1.6	0.0	3.2	7.0	0.0	0.0	7.9	6.8	6.8
Prop In Lane	0.37		0.09	0.34		1.00	1.00		0.06	1.00		0.07
Lane Grp Cap(c), veh/h	235	0	0	240	0	144	435	1349	1406	448	1349	1403
V/C Ratio(X)	0.40	0.00	0.00	0.22	0.00	0.61	0.03	0.46	0.46	0.34	0.42	0.42
Avail Cap(c_a), veh/h	576	0	0	586	0	476	435	1349	1406	448	1349	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	0.0	25.5	0.0	26.3	0.5	0.0	0.0	2.7	2.5	2.5
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.5	0.0	4.1	0.1	1.0	1.0	2.1	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.7	0.0	1.3	0.0	0.4	0.4	0.5	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	0.0	0.0	26.0	0.0	30.3	0.6	1.0	1.0	4.8	3.5	3.5
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		93			140			1291			1308	
Approach Delay, s/veh		27.2			28.7			1.0			3.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.1		9.9		50.1		9.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		33.0		18.0				
Max Q Clear Time (g_c+I1), s		9.0		5.1		9.9		5.2				
Green Ext Time (p_c), s		10.1		0.3		11.1		0.4				

Intersection Summary												
HCM 6th Ctrl Delay				4.5								
HCM 6th LOS				A								

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.945				0.983	
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1709	0	1770	1863	1831	0
Flt Permitted	0.971		0.393			
Satd. Flow (perm)	1709	0	732	1863	1831	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	39				19	
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Timings
1: S. 21st St. & Busch Ave.



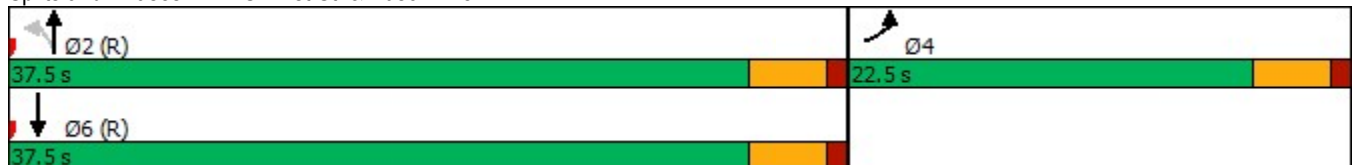
Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	W	W	↑	↑
Traffic Volume (vph)	52	27	665	501
Future Volume (vph)	52	27	665	501
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	22.5	37.5	37.5	37.5
Total Split (%)	37.5%	62.5%	62.5%	62.5%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
Act Effct Green (s)	7.7	46.2	46.2	46.2
Actuated g/C Ratio	0.13	0.77	0.77	0.77
v/c Ratio	0.38	0.05	0.50	0.44
Control Delay	19.8	3.3	5.5	4.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.8	3.3	5.5	4.7
LOS	B	A	A	A
Approach Delay	19.8		5.4	4.7
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 6.0
 Intersection Capacity Utilization 47.6%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 1: S. 21st St. & Busch Ave.





Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	96	29	723	621
v/c Ratio	0.38	0.05	0.50	0.44
Control Delay	19.8	3.3	5.5	4.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.8	3.3	5.5	4.7
Queue Length 50th (ft)	19	2	86	65
Queue Length 95th (ft)	53	10	190	146
Internal Link Dist (ft)	303		554	329
Turn Bay Length (ft)		100		
Base Capacity (vph)	540	563	1434	1414
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.05	0.50	0.44
Intersection Summary				

HCM 6th Signalized Intersection Summary
 1: S. 21st St. & Busch Ave.

DHIC - Skyline Ridge
 03/09/2023



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	36	27	665	501	70
Future Volume (veh/h)	52	36	27	665	501	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	39	29	723	545	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	74	50	651	1451	1246	174
Arrive On Green	0.07	0.07	0.78	0.78	0.78	0.78
Sat Flow, veh/h	998	683	803	1870	1606	224
Grp Volume(v), veh/h	97	0	29	723	0	621
Grp Sat Flow(s),veh/h/ln	1698	0	803	1870	0	1830
Q Serve(g_s), s	3.4	0.0	0.8	8.5	0.0	6.9
Cycle Q Clear(g_c), s	3.4	0.0	7.7	8.5	0.0	6.9
Prop In Lane	0.59	0.40	1.00			0.12
Lane Grp Cap(c), veh/h	126	0	651	1451	0	1420
V/C Ratio(X)	0.77	0.00	0.04	0.50	0.00	0.44
Avail Cap(c_a), veh/h	509	0	651	1451	0	1420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	3.6	2.5	0.0	2.3
Incr Delay (d2), s/veh	9.6	0.0	0.1	1.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.1	1.5	0.0	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.9	0.0	3.7	3.7	0.0	3.3
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	97			752	621	
Approach Delay, s/veh	36.9			3.7	3.3	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.1		8.9		51.1
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		33.0		18.0		33.0
Max Q Clear Time (g_c+I1), s		10.5		5.4		8.9
Green Ext Time (p_c), s		5.6		0.2		4.5

Intersection Summary

HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.950				0.991	
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1715	0	1770	1863	1846	0
Flt Permitted	0.969		0.294			
Satd. Flow (perm)	1715	0	548	1863	1846	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	36				9	
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Timings
1: S. 21st St. & Busch Ave.

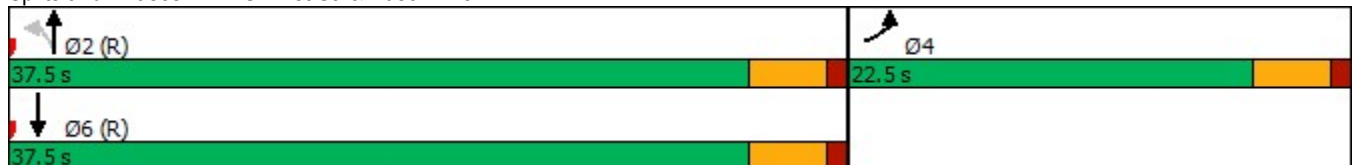


Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	W	W	↑	↑
Traffic Volume (vph)	57	38	754	691
Future Volume (vph)	57	38	754	691
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	22.5	37.5	37.5	37.5
Total Split (%)	37.5%	62.5%	62.5%	62.5%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
Act Effct Green (s)	7.9	46.0	46.0	46.0
Actuated g/C Ratio	0.13	0.77	0.77	0.77
v/c Ratio	0.38	0.10	0.57	0.57
Control Delay	20.4	3.8	6.5	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.4	3.8	6.5	6.3
LOS	C	A	A	A
Approach Delay	20.4		6.3	6.3
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 7.1
 Intersection Capacity Utilization 52.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 1: S. 21st St. & Busch Ave.



Queues

1: S. 21st St. & Busch Ave.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	98	41	820	804
v/c Ratio	0.38	0.10	0.57	0.57
Control Delay	20.4	3.8	6.5	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.4	3.8	6.5	6.3
Queue Length 50th (ft)	21	3	108	103
Queue Length 95th (ft)	55	14	244	234
Internal Link Dist (ft)	303		554	329
Turn Bay Length (ft)		100		
Base Capacity (vph)	539	420	1429	1418
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.10	0.57	0.57

Intersection Summary

HCM 6th Signalized Intersection Summary
 1: S. 21st St. & Busch Ave.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	57	33	38	754	691	49
Future Volume (veh/h)	57	33	38	754	691	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	36	41	820	751	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	80	47	527	1449	1338	94
Arrive On Green	0.08	0.08	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1068	620	677	1870	1727	122
Grp Volume(v), veh/h	99	0	41	820	0	804
Grp Sat Flow(s),veh/h/ln	1705	0	677	1870	0	1848
Q Serve(g_s), s	3.4	0.0	1.5	10.6	0.0	10.4
Cycle Q Clear(g_c), s	3.4	0.0	11.9	10.6	0.0	10.4
Prop In Lane	0.63	0.36	1.00			0.07
Lane Grp Cap(c), veh/h	128	0	527	1449	0	1432
V/C Ratio(X)	0.77	0.00	0.08	0.57	0.00	0.56
Avail Cap(c_a), veh/h	512	0	527	1449	0	1432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	5.1	2.7	0.0	2.7
Incr Delay (d2), s/veh	9.3	0.0	0.3	1.6	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.2	1.9	0.0	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.6	0.0	5.4	4.3	0.0	4.3
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h				861	804	
Approach Delay, s/veh	36.6			4.4	4.3	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.0		9.0		51.0
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		33.0		18.0		33.0
Max Q Clear Time (g_c+I1), s		13.9		5.4		12.4
Green Ext Time (p_c), s		6.4		0.2		6.1
Intersection Summary						
HCM 6th Ctrl Delay			6.1			
HCM 6th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.945				0.986	
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1709	0	1770	3539	3490	0
Flt Permitted	0.971		0.302			
Satd. Flow (perm)	1709	0	563	3539	3490	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	42				29	
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Timings
1: S. 21st St. & Busch Ave.



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	57	31	953	764
Future Volume (vph)	57	31	953	764
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	23.0	37.0	37.0	37.0
Total Split (%)	38.3%	61.7%	61.7%	61.7%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
Act Effct Green (s)	7.9	46.0	46.0	46.0
Actuated g/C Ratio	0.13	0.77	0.77	0.77
v/c Ratio	0.40	0.08	0.38	0.34
Control Delay	19.8	3.7	3.8	2.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.8	3.7	3.8	2.3
LOS	B	A	A	A
Approach Delay	19.8		3.8	2.3
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.40
 Intersection Signal Delay: 4.0
 Intersection LOS: A
 Intersection Capacity Utilization 39.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: S. 21st St. & Busch Ave.



Queues

1: S. 21st St. & Busch Ave.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	104	34	1036	918
v/c Ratio	0.40	0.08	0.38	0.34
Control Delay	19.8	3.7	3.8	2.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.8	3.7	3.8	2.3
Queue Length 50th (ft)	21	3	56	13
Queue Length 95th (ft)	56	12	106	19
Internal Link Dist (ft)	303		554	329
Turn Bay Length (ft)		100		
Base Capacity (vph)	555	432	2714	2683
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.08	0.38	0.34

Intersection Summary

HCM 6th Signalized Intersection Summary
 1: S. 21st St. & Busch Ave.

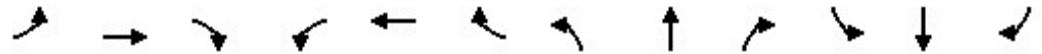
DHIC - Skyline Ridge
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	57	39	31	953	764	81
Future Volume (veh/h)	57	39	31	953	764	81
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	42	34	1036	830	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	80	55	588	2735	2495	265
Arrive On Green	0.08	0.08	0.77	0.77	1.00	1.00
Sat Flow, veh/h	1003	679	609	3647	3335	344
Grp Volume(v), veh/h	105	0	34	1036	455	463
Grp Sat Flow(s),veh/h/ln	1698	0	609	1777	1777	1808
Q Serve(g_s), s	3.6	0.0	0.8	5.7	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.8	5.7	0.0	0.0
Prop In Lane	0.59	0.40	1.00			0.19
Lane Grp Cap(c), veh/h	136	0	588	2735	1368	1392
V/C Ratio(X)	0.77	0.00	0.06	0.38	0.33	0.33
Avail Cap(c_a), veh/h	524	0	588	2735	1368	1392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.95	0.95
Uniform Delay (d), s/veh	27.0	0.0	1.7	2.2	0.0	0.0
Incr Delay (d2), s/veh	8.8	0.0	0.2	0.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.1	0.9	0.2	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.9	0.0	1.9	2.6	0.6	0.6
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	105			1070	918	
Approach Delay, s/veh	35.9			2.6	0.6	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		50.7		9.3		50.7
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.5		18.5		32.5
Max Q Clear Time (g_c+I1), s		7.7		5.6		2.0
Green Ext Time (p_c), s		8.8		0.2		6.9
Intersection Summary						
HCM 6th Ctrl Delay			3.4			
HCM 6th LOS			A			

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
03/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.977				0.850		0.998			0.995	
Flt Protected		0.977			0.978		0.950		0.950			
Satd. Flow (prot)	0	1778	0	0	1822	1583	1770	3532	0	1770	3522	0
Flt Permitted		0.816			0.876		0.305		0.245			
Satd. Flow (perm)	0	1485	0	0	1632	1583	568	3532	0	456	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				78		3			8	
Link Speed (mph)		30			30		30		30		30	
Link Distance (ft)		374			253		409		493			
Travel Time (s)		8.5			5.8		9.3		11.2			

Intersection Summary

Area Type: Other

Timings
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		↔		↕	↕	↕	↕↔	↕	↕↔
Traffic Volume (vph)	36	27	27	33	107	4	989	56	808
Future Volume (vph)	36	27	27	33	107	4	989	56	808
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4		8			2		6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	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)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	37.0	37.0	37.0	37.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
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)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		8.1		8.1	8.1	45.8	45.8	45.8	45.8
Actuated g/C Ratio		0.14		0.14	0.14	0.76	0.76	0.76	0.76
v/c Ratio		0.38		0.29	0.41	0.01	0.40	0.18	0.34
Control Delay		25.0		25.9	14.6	2.5	2.5	5.0	3.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		25.0		25.9	14.6	2.5	2.5	5.0	3.7
LOS		C		C	B	A	A	A	A
Approach Delay		25.0		18.7			2.5		3.8
Approach LOS		C		B			A		A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 5.1
 Intersection Capacity Utilization 53.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: S. 21st St. & Wheeler Ave.
























Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	65	116	4	1086	61	907
v/c Ratio	0.38	0.29	0.41	0.01	0.40	0.18	0.34
Control Delay	25.0	25.9	14.6	2.5	2.5	5.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	25.9	14.6	2.5	2.5	5.0	3.7
Queue Length 50th (ft)	23	22	12	0	36	5	48
Queue Length 95th (ft)	54	49	49	m1	55	21	90
Internal Link Dist (ft)	294	173			329		413
Turn Bay Length (ft)				100		100	
Base Capacity (vph)	467	503	542	433	2694	347	2688
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.13	0.21	0.01	0.40	0.18	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
 03/09/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	27	13	27	33	107	4	989	10	56	808	27
Future Volume (veh/h)	36	27	13	27	33	107	4	989	10	56	808	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	29	14	29	36	116	4	1075	11	61	878	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	85	31	144	131	175	521	2664	27	504	2595	86
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	1.00	1.00	1.00	0.74	0.74	0.74
Sat Flow, veh/h	587	765	278	518	1188	1585	615	3604	37	519	3510	116
Grp Volume(v), veh/h	82	0	0	65	0	116	4	530	556	61	444	463
Grp Sat Flow(s),veh/h/ln	1630	0	0	1705	0	1585	615	1777	1864	519	1777	1849
Q Serve(g_s), s	0.7	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	2.1	5.2	5.2
Cycle Q Clear(g_c), s	2.6	0.0	0.0	1.9	0.0	4.2	5.3	0.0	0.0	2.1	5.2	5.2
Prop In Lane	0.48		0.17	0.45		1.00	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	269	0	0	276	0	175	521	1314	1378	504	1314	1367
V/C Ratio(X)	0.30	0.00	0.00	0.24	0.00	0.66	0.01	0.40	0.40	0.12	0.34	0.34
Avail Cap(c_a), veh/h	576	0	0	593	0	489	521	1314	1378	504	1314	1367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	24.6	0.0	25.6	0.3	0.0	0.0	2.3	2.7	2.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.4	0.0	4.2	0.0	0.9	0.8	0.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.8	0.0	1.7	0.0	0.3	0.3	0.2	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	0.0	25.0	0.0	29.8	0.3	0.9	0.8	2.8	3.4	3.4
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		82			181			1090			968	
Approach Delay, s/veh		25.5			28.1			0.8			3.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.9		11.1		48.9		11.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.5		18.5		32.5		18.5				
Max Q Clear Time (g_c+I1), s		7.3		4.6		7.2		6.2				
Green Ext Time (p_c), s		8.1		0.3		7.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				4.9								
HCM 6th LOS				A								

Lanes and Geometrics
 1: S. 21st St. & Busch Ave.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.951				0.993	
Flt Protected	0.969		0.950			
Satd. Flow (prot)	1717	0	1770	3539	3514	0
Flt Permitted	0.969		0.222			
Satd. Flow (perm)	1717	0	414	3539	3514	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	40				14	
Link Speed (mph)	30			30	30	
Link Distance (ft)	383			634	409	
Travel Time (s)	8.7			14.4	9.3	

Intersection Summary

Area Type: Other

Timings
1: S. 21st St. & Busch Ave.

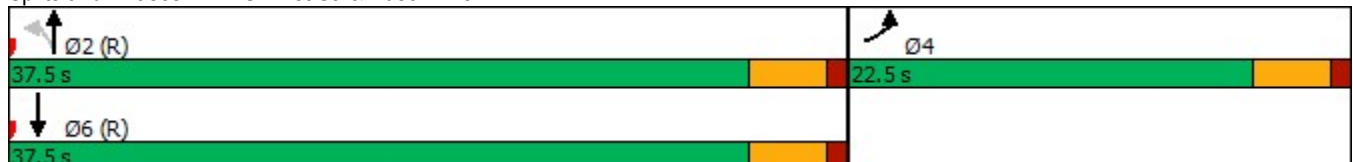


Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	↘	↘	↑↑	↑↑
Traffic Volume (vph)	64	42	1144	1019
Future Volume (vph)	64	42	1144	1019
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	22.5	37.5	37.5	37.5
Total Split (%)	37.5%	62.5%	62.5%	62.5%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.1	45.8	45.8	45.8
Actuated g/C Ratio	0.14	0.76	0.76	0.76
v/c Ratio	0.41	0.15	0.46	0.43
Control Delay	20.5	4.8	4.5	2.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.5	4.8	4.5	2.5
LOS	C	A	A	A
Approach Delay	20.5		4.5	2.5
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 4.3
 Intersection Capacity Utilization 48.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 1: S. 21st St. & Busch Ave.



Queues

1: S. 21st St. & Busch Ave.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	110	46	1243	1166
v/c Ratio	0.41	0.15	0.46	0.43
Control Delay	20.5	4.8	4.5	2.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.5	4.8	4.5	2.5
Queue Length 50th (ft)	23	4	76	38
Queue Length 95th (ft)	59	17	141	52
Internal Link Dist (ft)	303		554	329
Turn Bay Length (ft)		100		
Base Capacity (vph)	543	315	2700	2684
Starvation Cap Reductn	0	0	0	61
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.15	0.46	0.44

Intersection Summary

HCM 6th Signalized Intersection Summary
 1: S. 21st St. & Busch Ave.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	37	42	1144	1019	53
Future Volume (veh/h)	64	37	42	1144	1019	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	40	46	1243	1108	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	91	52	489	2720	2629	138
Arrive On Green	0.08	0.08	0.77	0.77	1.00	1.00
Sat Flow, veh/h	1076	615	481	3647	3529	180
Grp Volume(v), veh/h	111	0	46	1243	573	593
Grp Sat Flow(s),veh/h/ln	1706	0	481	1777	1777	1838
Q Serve(g_s), s	3.8	0.0	1.5	7.6	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	1.5	7.6	0.0	0.0
Prop In Lane	0.63	0.36	1.00			0.10
Lane Grp Cap(c), veh/h	144	0	489	2720	1360	1407
V/C Ratio(X)	0.77	0.00	0.09	0.46	0.42	0.42
Avail Cap(c_a), veh/h	512	0	489	2720	1360	1407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.89	0.89
Uniform Delay (d), s/veh	26.9	0.0	1.8	2.5	0.0	0.0
Incr Delay (d2), s/veh	8.3	0.0	0.4	0.6	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.1	1.2	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	0.0	2.2	3.1	0.9	0.8
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	111			1289	1166	
Approach Delay, s/veh	35.2			3.1	0.8	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		50.4		9.6		50.4
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		33.0		18.0		33.0
Max Q Clear Time (g_c+I1), s		9.6		5.8		2.0
Green Ext Time (p_c), s		10.9		0.2		9.6

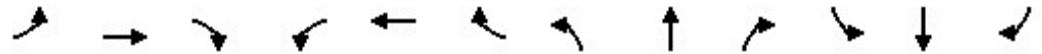
Intersection Summary

HCM 6th Ctrl Delay	3.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Lanes and Geometrics
2: S. 21st St. & Wheeler Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		0	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	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.989				0.850		0.996				0.994
Flt Protected		0.981			0.983		0.950			0.950		
Satd. Flow (prot)	0	1807	0	0	1831	1583	1770	3525	0	1770	3518	0
Flt Permitted		0.849			0.904		0.214			0.185		
Satd. Flow (perm)	0	1564	0	0	1684	1583	399	3525	0	345	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				50		8				11
Link Speed (mph)		30			30			30				30
Link Distance (ft)		374			253			409				493
Travel Time (s)		8.5			5.8			9.3				11.2

Intersection Summary

Area Type: Other

Timings
2: S. 21st St. & Wheeler Ave.



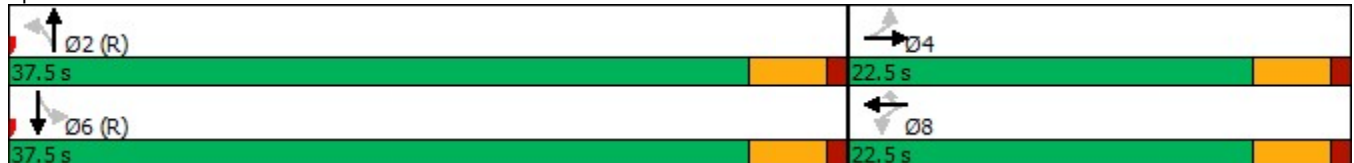
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		↔		↕	↗	↖	↕↔	↖	↕↔
Traffic Volume (vph)	35	47	17	32	80	11	1160	141	1047
Future Volume (vph)	35	47	17	32	80	11	1160	141	1047
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4		8			2		6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	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)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	37.5	37.5	37.5	37.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%	62.5%	62.5%
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)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		8.7		8.7	8.7	45.2	45.2	45.2	45.2
Actuated g/C Ratio		0.14		0.14	0.14	0.75	0.75	0.75	0.75
v/c Ratio		0.42		0.22	0.32	0.04	0.49	0.59	0.45
Control Delay		26.5		23.7	14.9	2.8	2.8	20.0	4.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		26.5		23.7	14.9	2.8	2.8	20.0	4.6
LOS		C		C	B	A	A	B	A
Approach Delay		26.5		18.2			2.8		6.3
Approach LOS		C		B			A		A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 6.0
 Intersection Capacity Utilization 63.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 2: S. 21st St. & Wheeler Ave.


























Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	97	53	87	12	1298	153	1186
v/c Ratio	0.42	0.22	0.32	0.04	0.49	0.59	0.45
Control Delay	26.5	23.7	14.9	2.8	2.8	20.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	23.7	14.9	2.8	2.8	20.0	4.6
Queue Length 50th (ft)	30	17	12	1	49	22	74
Queue Length 95th (ft)	64	41	43	m2	65	#131	137
Internal Link Dist (ft)	294	173			329		413
Turn Bay Length (ft)				100		100	
Base Capacity (vph)	474	505	509	300	2658	259	2654
Starvation Cap Reductn	0	0	0	0	16	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.10	0.17	0.04	0.49	0.59	0.45

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 2: S. 21st St. & Wheeler Ave.

DHIC - Skyline Ridge
 03/09/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	47	7	17	32	80	11	1160	34	141	1047	44
Future Volume (veh/h)	35	47	7	17	32	80	11	1160	34	141	1047	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	51	8	18	35	87	12	1261	37	153	1138	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	91	13	116	125	144	423	2676	78	442	2637	111
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.76	0.76	0.76
Sat Flow, veh/h	545	998	139	397	1376	1585	472	3525	103	425	3474	146
Grp Volume(v), veh/h	97	0	0	53	0	87	12	635	663	153	582	604
Grp Sat Flow(s),veh/h/ln	1682	0	0	1773	0	1585	472	1777	1852	425	1777	1844
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	3.2	0.2	0.0	0.0	8.1	7.0	7.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.6	0.0	3.2	7.3	0.0	0.0	8.1	7.0	7.0
Prop In Lane	0.39		0.08	0.34		1.00	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	236	0	0	242	0	144	423	1349	1406	442	1349	1400
V/C Ratio(X)	0.41	0.00	0.00	0.22	0.00	0.60	0.03	0.47	0.47	0.35	0.43	0.43
Avail Cap(c_a), veh/h	575	0	0	587	0	476	423	1349	1406	442	1349	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	0.0	25.5	0.0	26.2	0.6	0.0	0.0	2.7	2.6	2.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.5	0.0	4.0	0.1	1.1	1.0	2.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.7	0.0	1.3	0.0	0.4	0.4	0.5	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.0	0.0	26.0	0.0	30.2	0.7	1.1	1.0	4.9	3.6	3.6
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		97			140			1310			1339	
Approach Delay, s/veh		27.4			28.6			1.0			3.7	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.0		10.0		50.0		10.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		33.0		18.0				
Max Q Clear Time (g_c+I1), s		9.3		5.2		10.1		5.2				
Green Ext Time (p_c), s		10.2		0.3		11.4		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				4.5								
HCM 6th LOS				A								