

TECHNICAL MEMORANDUM

Date: November 15, 2023

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From: Ruta Jariwala, TE
Project Manager

Subject: Audubon Drive Corridor Study (Draft)

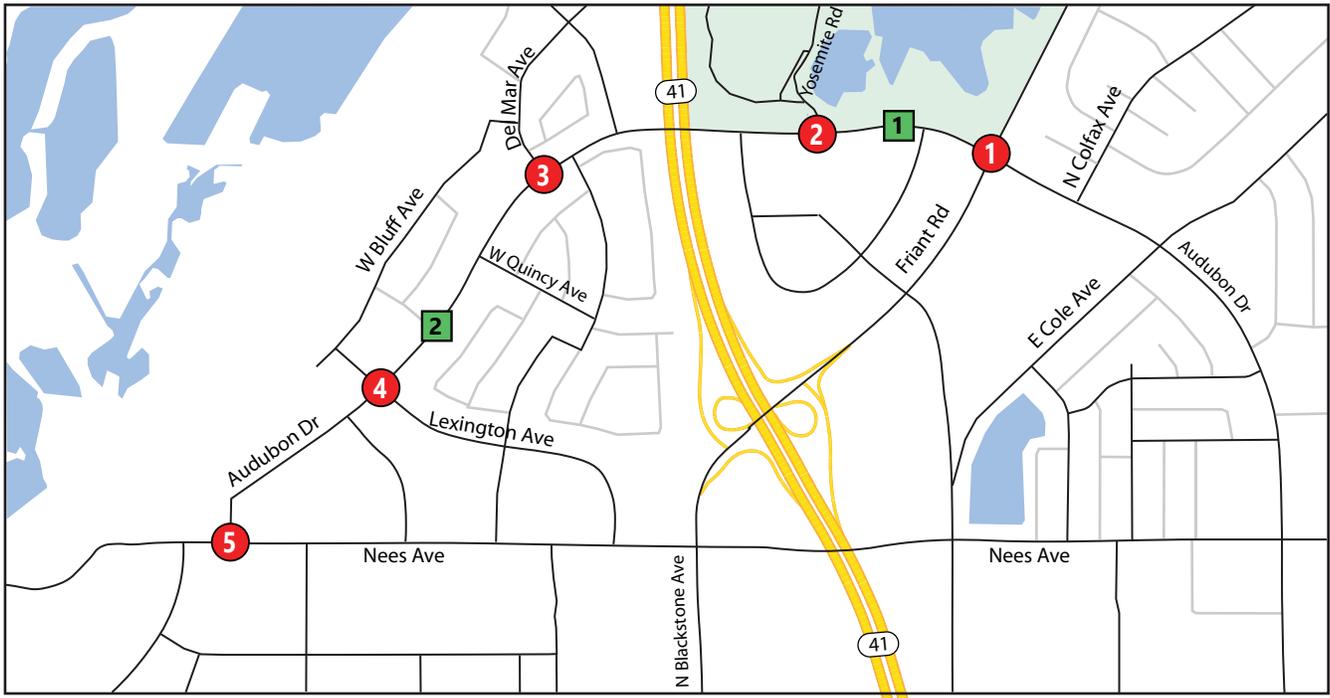
Introduction

This memorandum presents the Traffic Analysis (TA) for the Audubon Drive Corridor Study in the City of Fresno, California. The study area consists of the approximately 1.5 mile section of Audubon Drive between Friant Road and Nees Avenue in the City of Fresno. The roadway is a scenic collector with two to four lanes, with the posted speed limit ranging between 35 and 40 miles per hour (mph). Based on the information provided, residents and visitors to nearby Woodward Park have raised concerns about a number of traffic related issues, such as lack of pedestrian cycling facilities, higher than desirable volumes of truck traffic, and adverse levels of speeding. TJKM developed outreach materials to better engage with the residents, eventually developing concept plans that optimize opportunities for safer travel by pedestrians and cyclists, reduce vehicular traffic speeds, and deter cut-through traffic along Audubon Drive. In this regard, TJKM evaluated the traffic conditions at five study intersections for a typical weekday morning peak hours, midday peak hours, and evening peak hours under Existing and Future (2040) conditions.

This technical memorandum summarizes the intersection vehicular level of service analysis and 95th percentile queue lengths at the study intersections for Existing Conditions, Existing Conditions with Proposed Improvements, Future (2040) Conditions, and Future (2040) Conditions with Proposed Improvements. This memorandum also summarizes the collisions that occurred over a six year period along the study corridor. Improvements to reduce vehicular speeds, ameliorate adverse levels of cut-through traffic, and improve the mobility of pedestrians and cyclists was also explored.

Figure 1 shows the vicinity map of the study area.

Figure 1: Vicinity Map



LEGEND

 Study Intersection

 Study Segment



Study Intersections

TJKM evaluated vehicular traffic operational conditions at five study intersections during the morning, midday, and evening peak hours for a typical weekday while schools were in session. The following is the list of study intersections that were selected for the project:

1. Audubon Drive/Friant Road (Signalized)
2. Audubon Drive/Yosemite Road (Two-Way Stop controlled)
3. Audubon Drive/Del Mar Avenue (One-Way Stop controlled)
4. Audubon Drive/Lexington Avenue (Two-Way Stop controlled)
5. Audubon Drive/Nees Avenue (Signalized)

Data Collection

TJKM collected the intersection Turning Movement Counts (TMCs) for vehicles, pedestrians, and bicycles on Tuesday, November 15, 2022 for the weekday morning peak period of 7:00 a.m. to 9:00 a.m., the midday peak period of 11:00 a.m. to 1:00 p.m., and the evening peak period of 4:00 p.m. to 6:00 p.m. at the five study intersections. In addition to turning movement counts, TJKM also collected 24-hour bidirectional counts, speed and vehicles classification data along the following roadway segments:

1. Audubon Drive between Friant Road and Yosemite Road, and
2. Audubon Drive between Lexington Avenue and Quincy Avenue.

The TMCs and 24-hour counts are included in **Appendix A**.

Level of Service Methodology

Level of Service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The operational LOS are given letter designations from A to F, with A representing the free-flow operating conditions and F representing the severely congested flow with high delays. Intersections generally are the capacity-controlling locations concerning traffic operations on arterial and collector streets. For this analysis, only vehicular LOS was considered.

SIGNALIZED INTERSECTIONS

Signalized intersection LOS is calculated considering the traffic volume present in each lane approaching the intersection versus the capacity of each lane at the intersection, resulting in an estimate of the average amount of delay measured in seconds for each vehicle. Control delay alone is used to characterize LOS for the entire intersection or an approach; control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel

time due to traffic signal control; it is also a surrogate measure of a motorist's perceived inconvenience and the vehicle's fuel consumption. The detailed methodology for determining LOS for vehicles at signalized intersection is presented in Chapter 19 of the Highway Capacity Manual (HCM). The vehicular LOS as defined by HCM for signalized intersections is presented in **Table 1**.

Table 1: Signalized Vehicular LOS Summary

LOS	Definition	Control Delay Range (s/veh)	v/c Range
A	Very low control delay. This level is typically assigned when the v/c ratio is low and either progression is exceptionally favorable or the cycle length is short. Most vehicles arrive during the green phase. Many vehicles do not stop at all.	≤ 10	≤ 1.0
B	The v/c ratio is low. There is good progression, short cycle lengths, or both. More vehicles stop, causing higher levels of delay.	≤ 20	≤ 1.0
C	Higher delays occur in favorable progression or a due to a moderate cycle length, or both. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during a given cycle) may begin to appear. The number of vehicles stopping is still considered low-to-moderate, though many vehicles still pass through the intersection without stopping.	≤ 35	≤ 1.0
D	The influence of congestion becomes more apparent. Longer delays may result from some combination of a high v/c ratio, ineffective progression, long cycle length, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	≤ 55	≤ 1.0
E	Typically considered the limit of acceptable delay. High delays usually indicate a very high v/c ratio, poor progression, long cycle lengths, and high volumes. Most cycles fail to clear the queue.	≤ 80	≤ 1.0
F	Delays are unacceptable to most drivers. Conditions are considered oversaturated. Arrival flow rates exceed the capacity of the intersection (v/c in excess of 1.0). Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.	> 80	> 1.0

TWO-WAY STOP CONTROLLED INTERSECTIONS

At two-way stopped controlled (TWSC) intersections, vehicular LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons:

1. The major-street through and right-turning traffic are assumed to experience zero delay as traffic progression operates unimpeded;
2. The disproportionate number of major-street through traffic at a typical TWSC intersection skews the weighted average of all movements, resulting in very low overall average delay for all vehicles, and
3. The resulting low delay can mask LOS deficiencies for minor movements.

The LOS for the minor street and the mainline left-turn traffic are dependent on the volume and capacity of the available lanes, and the number and frequency of acceptable gaps in the major street traffic to make a conflicting turn. The LOS grade is provided for all conflicting movements at an intersection and is based on the total average control delay calculated for each vehicle and the lane

group's volume-to-capacity (v/c) ratios. The detailed methodology for determining vehicular LOS at TWSC intersection is presented in Chapter 20 of the HCM. The TWSC vehicular LOS descriptions are provided in **Table 2**.

Table 2: TWSC Vehicular LOS Summary

LOS	Definition	Control Delay Range (s/veh)	v/c Range
A	Usually no conflicting traffic. Drivers can easily find gaps in traffic to maneuver. v/c is low.	≤ 10	≤ 1.0
B	Occasionally some delay due to conflicting traffic. Drivers can find gaps in traffic. v/c is low.	≤ 15	≤ 1.0
C	There is some noticeable delay due to conflicting traffic. Drivers are still able to find gaps in traffic.	≤ 25	≤ 1.0
D	Drivers experience delay due to less gaps in traffic to maneuver. Lane group v/c creeps closer to 1.0.	≤ 35	≤ 1.0
E	Delay approaches driver tolerance levels. Drivers will occasionally find gaps in traffic to maneuver. Lane group v/c approaches 1.0.	≤ 50	≤ 1.0
F	Delay exceed driver tolerance levels or v/c exceeds 1.0 or both.	> 50	> 1.0

ALL-WAY STOP CONTROLLED AND ROUNDABOUT INTERSECTIONS

All-way stopped controlled (AWSC) intersections and roundabout intersections are based upon the traffic volume present in each lane on the roadway, the capacity of each lane at the intersection, and control delay. LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach; control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. The detailed methodology for determining LOS at AWSC and roundabout intersection are presented in Chapter 21 and Chapter 22 respectively in the HCM. The AWSC and roundabout LOS descriptions are shared and are provided in **Table 3**.

Table 3: AWSC and Roundabout Vehicular LOS Summary

LOS	Definition	Control Delay Range (s/veh)	v/c Range
A	Usually no conflicting traffic. Drivers can easily find gaps in traffic to maneuver. v/c is low.	≤ 10	≤ 1.0
B	Occasionally some delay due to conflicting traffic. Drivers can find gaps in traffic. v/c is low.	≤ 15	≤ 1.0
C	There is some noticeable delay due to conflicting traffic. Drivers are still able to find gaps in traffic.	≤ 25	≤ 1.0
D	Drivers experience delay due to less gaps in traffic to maneuver. Lane group v/c creeps closer to 1.0.	≤ 35	≤ 1.0
E	Delay approaches driver tolerance levels. Drivers will occasionally find gaps in traffic to maneuver. Lane group v/c approaches 1.0.	≤ 50	≤ 1.0
F	Delay exceed driver tolerance levels or v/c exceeds 1.0 or both.	> 50	> 1.0

STANDARDS OF SIGNIFICANCE

As adopted in 2014 and subsequently amended, Fresno's General Plan seeks to define multimodal levels of service, not just vehicular level of service. Depending on context, the General Plan states,

“Strive to accommodate a peak hour vehicle LOS of D or better on street segments and at intersections” except where other adopted policies within the General Plan offer greater specificity. Here, to consider a vehicular LOS of D as the desired benchmark aligns with the General Plan.

Existing Conditions

ROADWAY NETWORK

Audubon Drive is an east-west scenic collector with two to four lanes roadway which extends between First Street to the east and Nees Avenue to the west. It has the posted speed limit ranging from 35 to 40 miles per hour (mph). Class II bike lanes are present on both the sides of Audubon Drive for the most part of its segment.

Friant Road is a north-south roadway that serves as an arterial roadway as well as an expressway. South of Audubon Drive is classified as an Arterial while north of Audubon Drive is classified as Scenic Expressway. It is a four to six lanes roadway that extends between Millerton Road to the north in the City of Friant to State Route 41 to the south in the City of Fresno. The posted speed limit on Friant Road in the vicinity of the project corridor is ranging from 45 to 50 mph.

Nees Avenue is an east-west roadway and four-lane divided arterial that extends easterly from its intersection with Palm Avenue and N Temperance Avenue to the west, beyond the City of Fresno and into the City of Clovis. Small segment of Nees Avenue east of N Temperance Avenue reduces to two lanes. The posted speed limit in the vicinity of the project corridor is 40 mph.

Lexington Avenue is a two lane local street that traverses in the north-south direction. On street parking on both the sides is allowed on the Lexington Avenue. There are no posted speed limit signs along the Lexington Avenue, however speed limit of 25 mph is assumed for the analysis.

Del Mar Avenue is a two lane local street providing access to residential neighborhoods. Del Mar Avenue has a posted speed limit of 35 mph for the segment north of Audubon Drive.

EXISTING PEDESTRIAN FACILITIES

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal “walkable” community includes but is not limited to having wide sidewalks, a mix of land uses such as residential, employment and shopping opportunities, buildings with windows and interesting facades at or near the edge of sidewalk, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services.

Pedestrian facilities are comprised of crosswalks, sidewalks, ADA ramps, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation and recreation facilities.

In the project vicinity, sidewalks are provided on both sides of Audubon Drive throughout most of the corridor. Sidewalks are not present on Audubon Drive between Yosemite Road and Friant Road. Pedestrian crossings, ADA curb ramps, countdown pedestrian signal heads and pedestrian push buttons are provided at the signalized study intersections.

EXISTING BICYCLE FACILITIES

The City's planned bikeway network will support significant increases in bicycle use. City of Fresno's Bicycle facilities include the following:

1. **Separate Multi-Use Paths (Class I):** Bike or multi-use (bicycle-pedestrian) paths are completely separated from vehicle traffic (Class I bikeways) and may be considered the most desirable type in terms of comfort, particularly by the casual bicyclist.
2. **Improved Bike Lanes (Class II):** These Bike lanes will have a minimum width of at least five feet whenever possible and bike lanes should be wider where space is available. These bike lanes are well striped and marked.
3. **Improved Shared Bike Routes (Class III):** Bike routes or bikeways (Class III facilities) are identified with signage and lane markings indicating a shared roadway.
4. **Improved Separated Bikeways/Cycle Tracks (Class IV):** Separated Bikeways or cycle tracks (Class IV facilities) are on-street bicycle facilities that include a vertical physical barrier between the bikeway and moving traffic.

On the project study corridor, Audubon Drive has Improved Bike Lanes (Class II) present on both the sides between Yosemite Road and Nees Avenue. The nearby Woodward Park has Separate Multi-Use Paths (Class I) for the bicyclists. Class II Bike lanes are also present on Nees Avenue.

COLLISION ANALYSIS

Analysis of collision data helps to reveal the different factors that might be leading to collisions and influencing collision patterns in a given area. For the purpose of this analysis, six-years of jurisdiction-wide collision data (2016 to 2021) was retrieved from the Transportation Injury Mapping System (TIMS) and the Statewide Integrated Traffic Records System (SWITRS).

Collisions that occurred within 150 feet on the approach to an intersection are counted as intersection collisions. Collisions that occurred at a distance greater than 150 feet are counted as non-intersection or roadway segment collisions. During the six years, there were a total of eleven reported collisions:

- Seven collisions were intersection collisions and four collisions were roadway segment collisions. Six of the seven intersection collisions occurred at the signalized intersection of Audubon Drive and Friant Road.
- One collision resulted in severe injury to at least one of the victims involved.
- The most commonly occurring collision types were broadside collisions (~40%) and hit object collisions (~40%). The other types of collisions were rear end collisions (~10%) and side swipe collisions (~10%).

- The top two primary violation categories were unsafe speed (45%) and traffic signal and sign violations (27%).
- For all broadside collisions, the top two primary violation categories were unsafe speed and traffic signal and sign violations.
- The top two primary violation categories for hit object collisions were unsafe speed and improper turning.
- Of the eleven collisions, seven were vehicle to vehicle collisions and four were vehicle to fixed object collisions. There were no pedestrian or bicycle collisions.

Figure 2: Collision Type

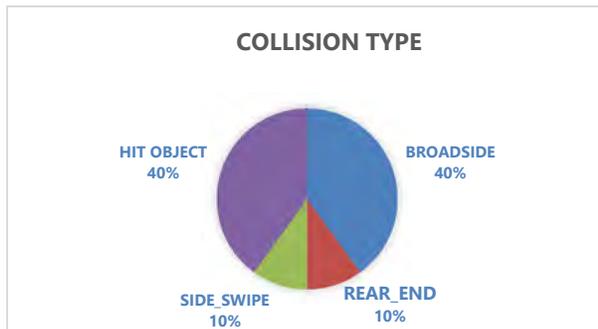
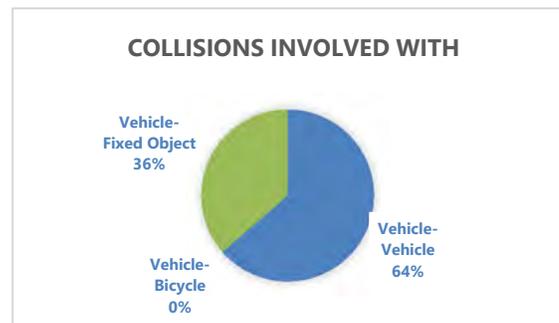


Figure 3: Collisions by Mode of Travel

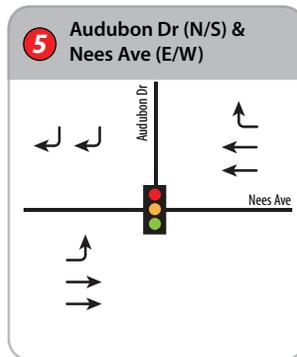
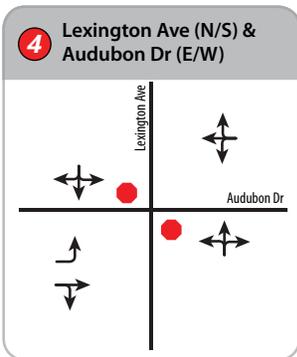
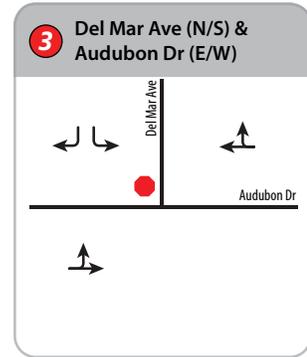
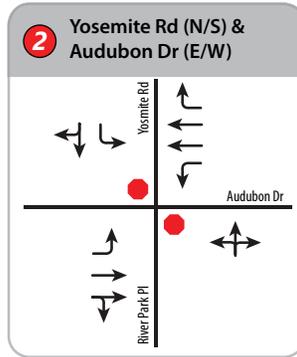
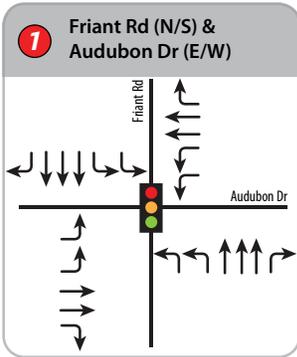
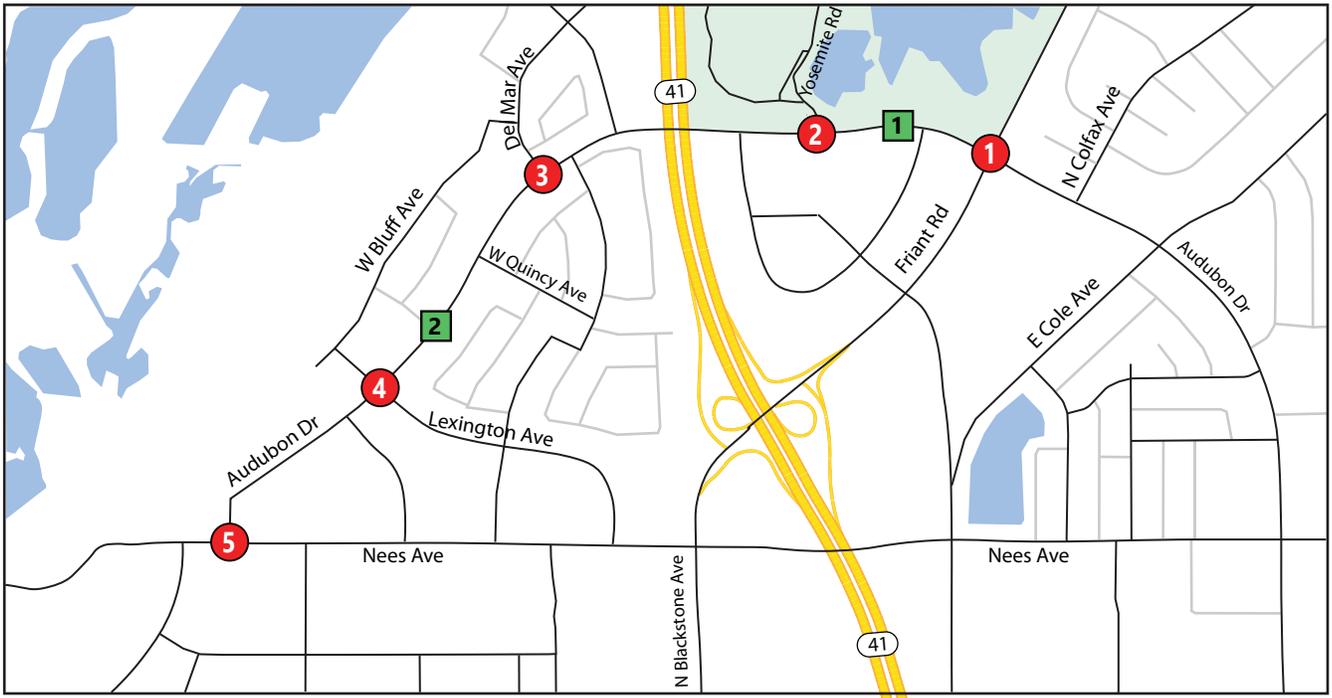


For total collisions, 72% of collisions occurred in daylight, while 28% of collisions occurred in the dark on streets with streetlights and all collisions mostly occurred during clear weather conditions.

Intersection Level of Service Analysis – Existing Conditions

Existing intersection lane configurations, signal timings and turning movement volumes were used to calculate the LOS for the study intersections during each peak hour. The peak hour factor used in the analysis was derived from traffic counts. Signal timings were coded based on signal timing sheets provided by the City of Fresno. **Figure 4** shows the lane geometry and traffic controls at the study intersections. **Figure 5** illustrates the existing peak hour traffic volumes at the study intersections.

Figure 4: Existing Lane Geometry & Traffic Control

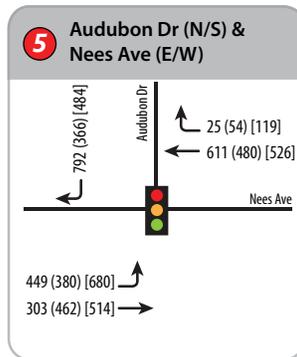
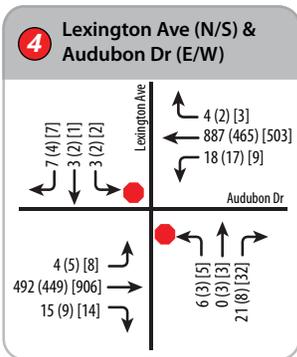
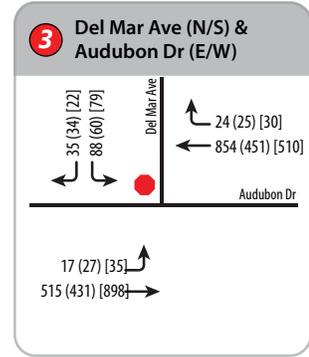
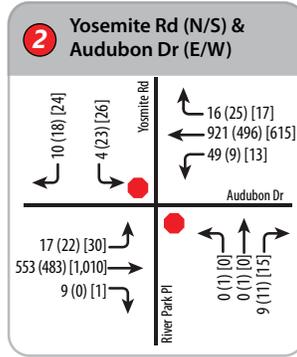
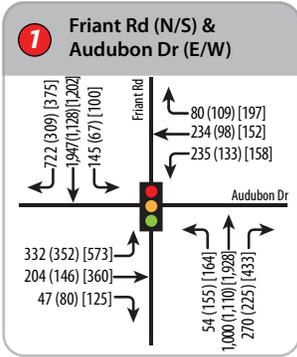
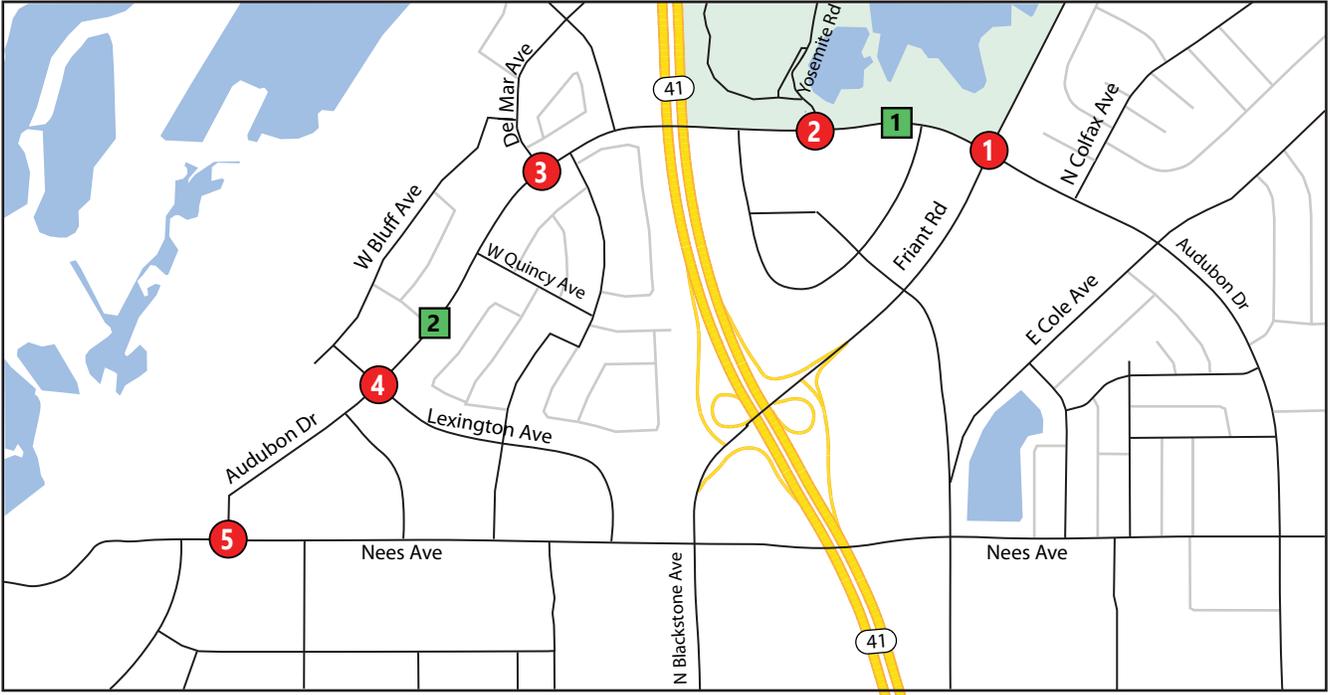


LEGEND

- X Study Intersection
- X Study Segment
- Stop Sign
- ●
 Traffic Signal



Figure 5: Existing Conditions Peak Hour Volumes



LEGEND

- ⊗ Study Intersection ● Stop Sign XX AM Peak Hour Volumes [XX] PM Peak Hour Volumes
- ⊗ Study Segment ● Traffic Signal (XX) Midday Peak Hour Volumes



The results of the LOS analysis using Synchro 11 software for Existing Conditions are summarized in **Table 4**.

Under Existing Conditions, two of the five study intersections operate at acceptable LOS D or better for each peak hour. The following intersections operate at unacceptable LOS:

- Audubon Drive and Friant Road (Intersection 1) signalized intersection operates at LOS F and LOS E during a.m. peak hour and p.m. peak hour respectively.
- Audubon Drive and Yosemite Road (Intersection 2) two-way stop control intersection operates at LOS E during p.m. peak hour.
- Audubon Drive and Lexington Avenue (Intersection 4) two-way stop control intersection operates at LOS E during a.m. peak hour. Detailed LOS worksheets are provided in **Appendix B**.

Table 4: Intersection Level of Service Analysis – Existing Conditions

#	Intersection	Control Type	Peak Hour ¹	Existing Conditions	
				Delay ²	LOS ³
1	Audubon Drive/ Friant Road	Signal	AM	95.8	F
			MID	47.7	D
			PM	63.6	E
2	Audubon Drive/Yosemite Road	Two-Way Stop	AM	26.9	D
			MID	17.7	C
			PM	39.2	E
3	Audubon Drive/Del Mar Avenue	One-Way Stop	AM	27.6	D
			MID	15.1	C
			PM	26.3	D
4	Audubon Drive/Lexington Avenue	Two-Way Stop	AM	36.0	E
			MID	18.6	C
			PM	32.1	D
5	Audubon Drive/Nees Avenue	Signal	AM	29.4	C
			MID	9.6	A
			PM	20.3	C

Notes:

1. AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour

2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay as defined by Fresno’s General Plan.

QUEUING ANALYSIS – EXISTING CONDITIONS

TJKM conducted a vehicle queuing and turn lane storage analysis at the study intersections under Existing Conditions. The 95th percentile queue is determined using statistical analysis to predict the queue length that would manifest up to 95% of the time; conversely, the queue would exceed this length five percent of the time. The 95th percentile queues were analyzed using the HCM 2000 Edition Queue methodology contained in Synchro 11 software. **Table 5** presents the existing queues (in feet)

at the studied signalized intersections. Queue lengths at some locations exceed the available left turn storage capacity, creating a deficient conditions where queued vehicles waiting to turn may block a through lane. **Appendix B** contains the queue output worksheets for Existing Conditions.

Table 5: 95th Percentile Queuing Analysis – Existing No Build Conditions

#	Intersection	Lane Group	Storage Length (Ft.)	Existing Conditions Queue Length (Ft.)		
				AM	MID	PM
1	Audubon Drive/Friant Road	NBL	430	53	124	145
		NBR	430	61	77	329
		SBL	230	136	64	106
		SBR	380	519	73	76
		EBL	185	251	244	478
		EBR	160	0	22	52
		WBL	210	175	110	141
		WBR	90	0	45	123
5	Audubon Drive/Nees Avenue	SBR	100	278	20	62
		EBL	205	362	153	493
		WBR	100	19	21	29

Notes:

Storage length and 95th percentile queue expressed in feet per lane

AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour

Bold font indicates queue lengths exceeding existing storage capacity

Future (2040) Conditions

Traffic conditions at the study intersections under Future (2040) Conditions with and without proposed alternatives were evaluated. Intersection traffic volume forecasts were developed using the Fresno Council of Governments Activity Based Model (ABM). The differences between the model baseline year (2019) and future year (2035) model forecasts were used to derive an average annual growth in traffic volume along Audubon Drive. Based on model forecasts, an annual growth of two percent compounded annually was applied to the existing peak hour counts to project the Future (2040) traffic demands. The two percent growth rate was derived by taking Fresno ABM model generated intersection volumes at the study intersections for the base year and forecast year. The difference between the forecast year and base year was divided by the total number of years between 2022 and 2040 to calculate the percent growth per year.

Based on model forecasts, an annual growth of two percent compounded annually was applied to the existing peak hour counts to project the future (2040) traffic demands. **Figure 6** illustrates the a.m., midday, and p.m. peak hour volumes at the study intersections.

INTERSECTION LEVEL OF SERVICE ANALYSIS – FUTURE (2040) CONDITIONS

Existing intersection lane configurations, optimized signal timings and future turning movement volumes were used to calculate the LOS for the study intersections during each peak hour. The results of the LOS analysis using Synchro 11 software for Future (2040) Conditions are summarized in **Table 6**.

Under Future (2040) Conditions, only Audubon Drive and Nees Avenue (Intersection 5) intersection operates at acceptable LOS D or better for each peak hour. The following intersections operate at unacceptable LOS:

- Audubon Drive and Friant Road (Intersection 1) signalized intersection operates at LOS F during a.m. and p.m. peak hours. Intersection operates at LOS E during midday peak hour.
- Audubon Drive and Yosemite Road (Intersection 2) two-way stop control intersection operates at LOS F during a.m. and p.m. peak hours. Intersection operates at LOS E during midday peak hour.
- Audubon Drive and Del Mar Avenue (Intersection 3) one-way stop control intersection operates at unacceptable LOS F during a.m. and p.m. peak hour.
- Audubon Drive and Lexington Avenue (Intersection 4) two-way stop control intersection operates at LOS F during a.m. and p.m. peak hours. Intersection operates at LOS E during midday peak hour. Detailed LOS worksheets are provided in **Appendix C**.

Table 6: Intersection Level of Service Analysis – Future (2040) Conditions

#	Intersection	Control Type	Peak Hour ¹	Future (2040) Conditions	
				Delay ²	LOS ³
1	Audubon Drive/Friant Road	Signal	AM	200.0	F
			MID	68.8	E
			PM	172.2	F
2	Audubon Drive/Yosemite Road	Two-Way Stop	AM	113.1	F
			MID	35.4	E
			PM	367.4	F
3	Audubon Drive/Del Mar Avenue	One-Way Stop	AM	119.9	F
			MID	23.6	C
			PM	129.9	F
4	Audubon Drive/Lexington Avenue	Two-Way Stop	AM	244.8	F
			MID	37.1	E
			PM	196.1	F
5	Audubon Drive/Nees Avenue	Signal	AM	20.2	C
			MID	12.8	B
			PM	24.7	C

Notes:

1. AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay.

QUEUING ANALYSIS – FUTURE (2040) CONDITIONS

TJKM conducted a vehicle queuing and turn lane storage analysis at study intersections for Future (2040) Conditions. The 95th percentile queues were analyzed using the HCM 2000 Edition Queue methodology contained in Synchro 11 software. **Table 7** presents the queues (in feet) at the study signalized intersections. **Appendix C** contains the queue output worksheets for Future (2040) Conditions.

Table 7: 95th Percentile Queueing Analysis – Future (2040) Conditions

#	Intersection	Lane Group	Storage Length (Ft.)	Future (2040) Conditions Queue Length (Ft.)		
				AM	MID	PM
1	Audubon Drive/N Friant Road	NBL	430	71	214	221
		NBR	430	157	190	563
		SBL	230	171	86	143
		SBR	380	1446	139	266
		EBL	185	482	398	829
		EBR	160	3	42	90
		WBL	210	348	146	170
		WBR	90	25	112	228
5	Audubon Drive/Nees Avenue	SBR	100	331	93	156
		EBL	205	360	333	823
		WBR	100	23	21	80

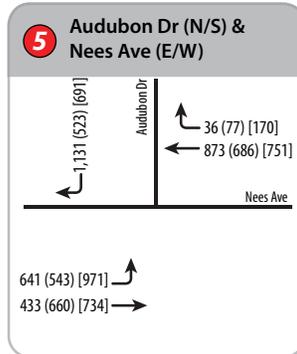
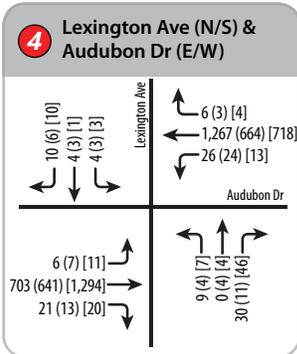
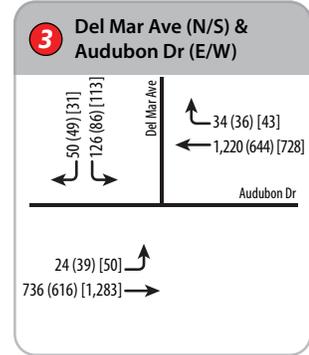
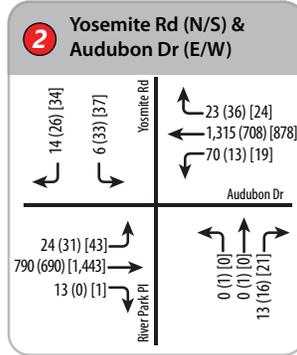
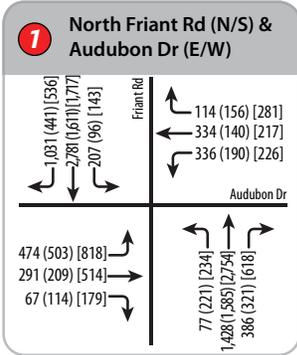
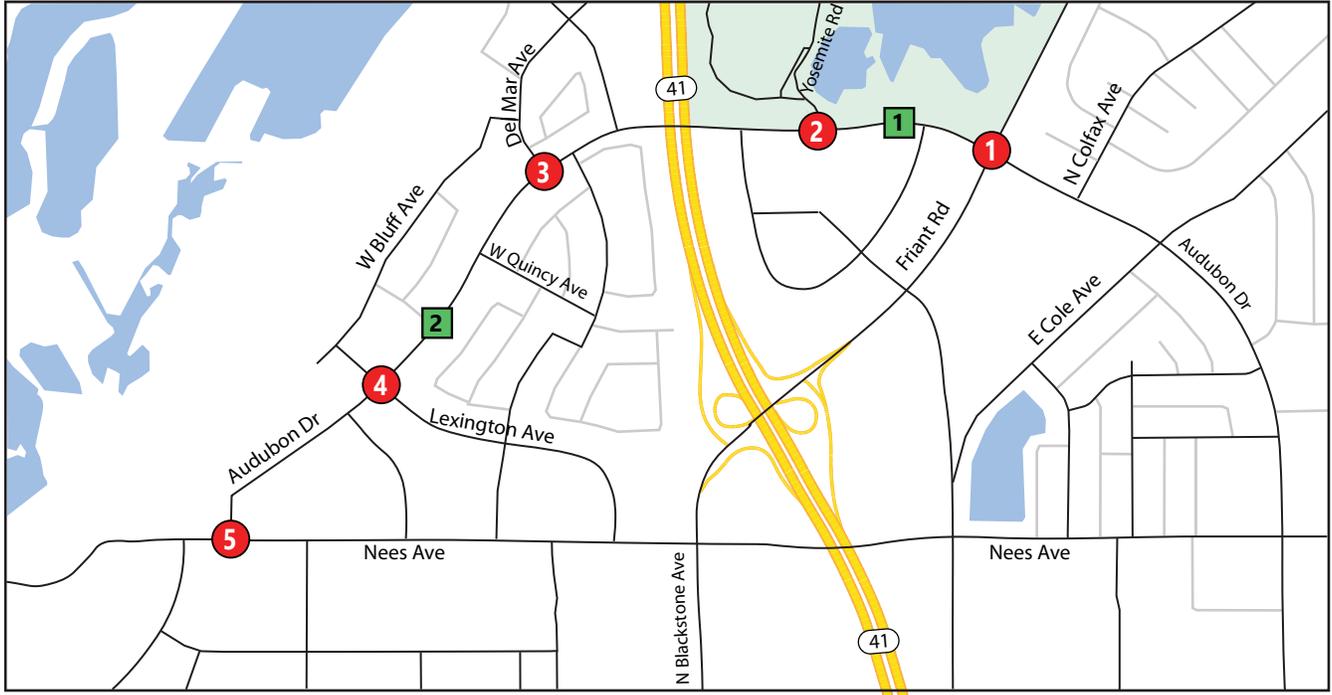
Notes:

Storage length and 95th percentile queue expressed in feet per lane

AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour

Bold font indicates queue lengths exceeding existing storage capacity

Figure 6: Future Conditions Peak Hour Volumes



LEGEND

Study Intersection

XX AM Peak Hour Volumes

Study Segment

(XX) Midday Peak Hour Volumes [XX] PM Peak Hour Volumes



Alternatives

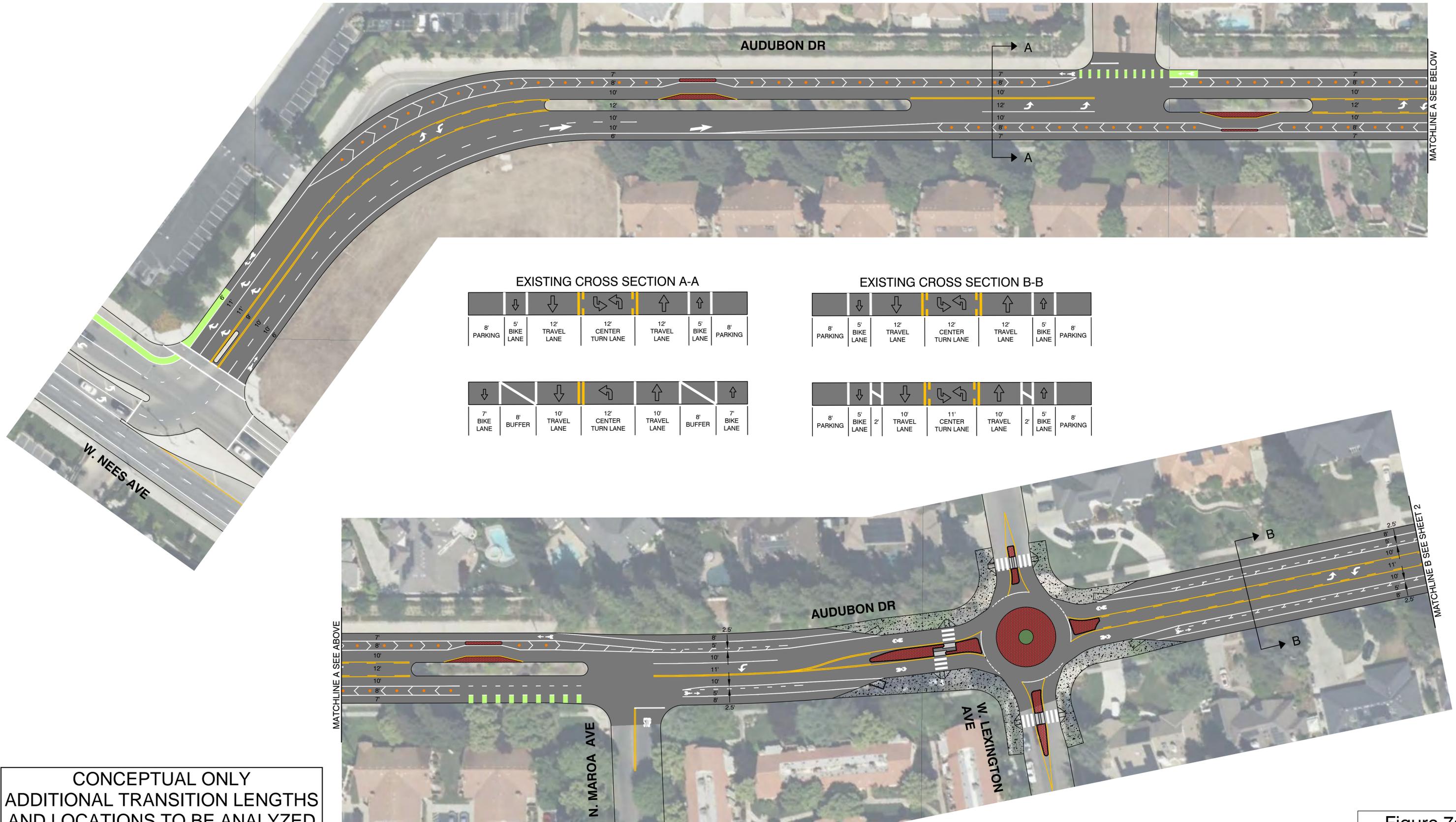
Based on the existing conditions analysis, TJKM identified two concept alternatives for the study corridor. Alternatives include improvements that effectively reduce traffic congestion and the risk of collisions, improve safety, connectivity, mobility, and community livability. Alternatives which includes methods to create a more livable environment and enhance the corridor characteristics by improving multi-modal function, bicycle and pedestrian facilities, and traffic calming measures. Traffic calming measures such as road diet on four-lane roadways, roundabouts at intersections, upgraded bicycle and pedestrian facilities along Audubon Drive between Friant Road and Nees Avenue.

As a part of this study, alternatives under Existing and Future (2040) conditions were evaluated. Under each scenario, alternatives were evaluated and are broadly described as follows:

- Reapportion the existing lane configuration along Audubon Drive from Friant Road to Nees Road to better serve all roadways users by providing a single vehicular travel lane in each direction, buffered bike lanes for both directions of travel, and either a continuous two-way left-turn lane or medians with separate left turn lanes at select intersections.
- Implement intersection improvements such as adding turn lanes at signalized intersections, converting existing traditional intersections into single lane roundabouts, and implementing traffic calming measures such as bulb outs, splitter islands, and chokers.
- Consider installing all-way stop control or rectangular rapid flashing beacon (RRFB) along Audubon Drive at key intersections.

Conceptual plans are shown in **Figures 7a, 7b, 7c, 7d, 7e, and 7f.**

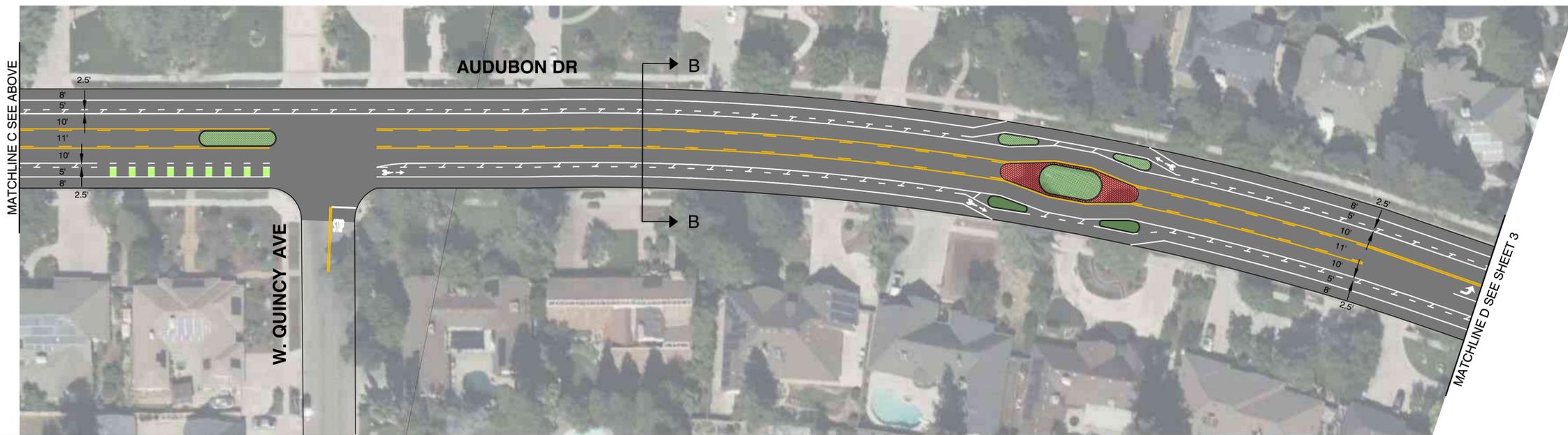
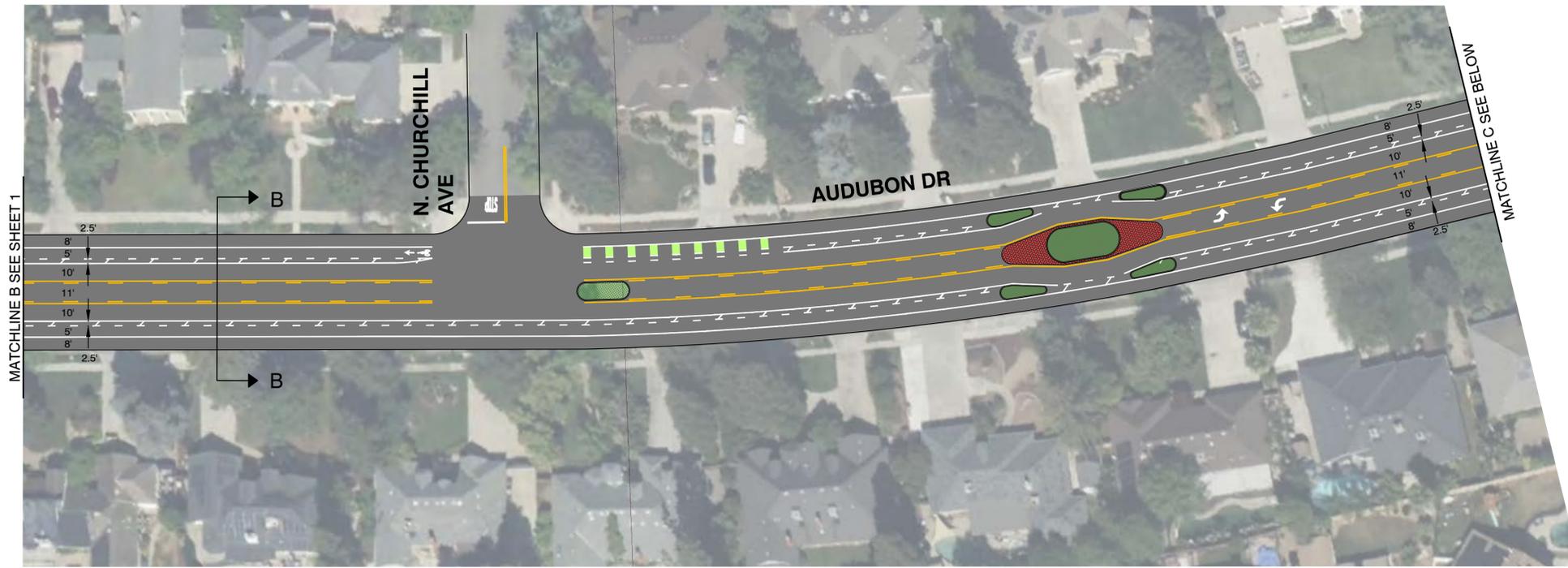
AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS



CONCEPTUAL ONLY
ADDITIONAL TRANSITION LENGTHS
AND LOCATIONS TO BE ANALYZED

Figure 7a

AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS



EXISTING CROSS SECTION B-B

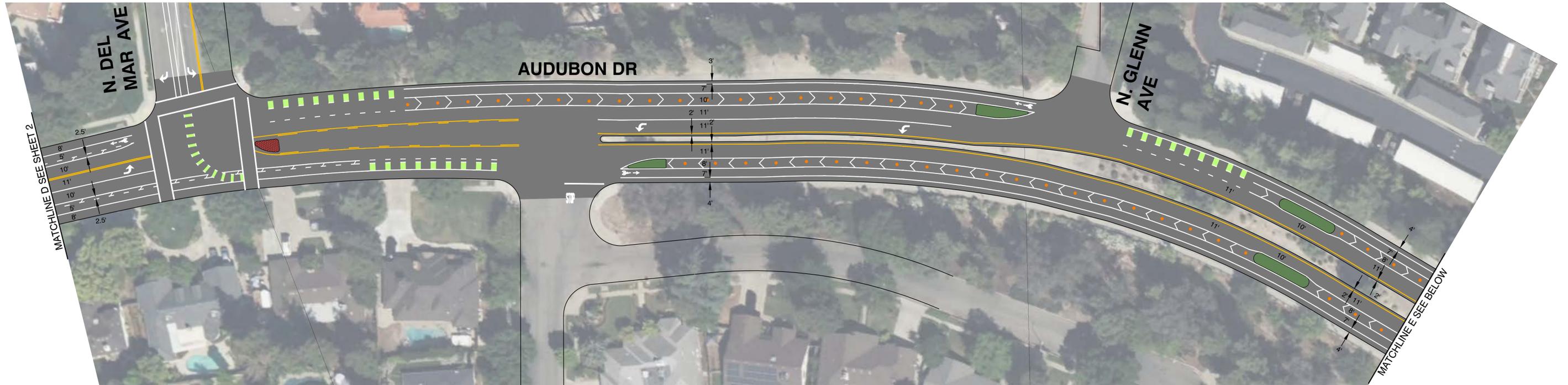
↓	↓	↩ ↪	↑	↑		
8' PARKING	5' BIKE LANE	12' TRAVEL LANE	12' CENTER TURN LANE	12' TRAVEL LANE	5' BIKE LANE	8' PARKING

↓	↘	↓	↩ ↪	↑	↗	↑		
8' PARKING	5' BIKE LANE	2'	10' TRAVEL LANE	11' CENTER TURN LANE	10' TRAVEL LANE	2'	5' BIKE LANE	8' PARKING

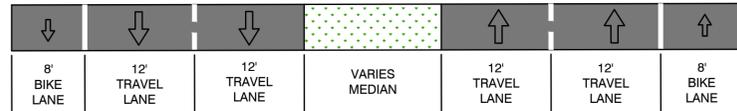
CONCEPTUAL ONLY
ADDITIONAL TRANSITION LENGTHS
AND LOCATIONS TO BE ANALYZED

Figure 7b

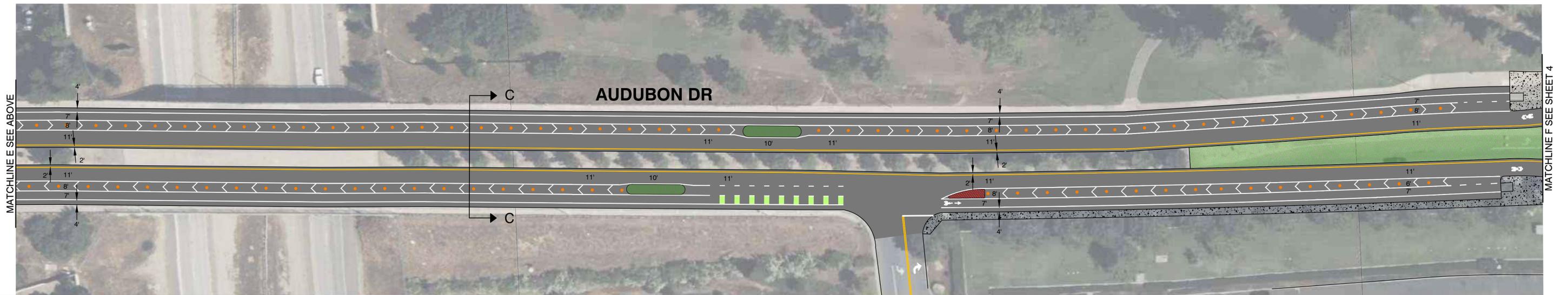
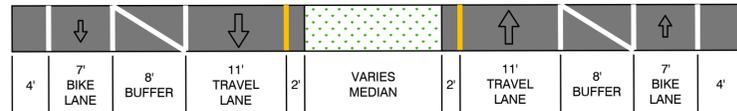
AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS



EXISTING CROSS SECTION C-C



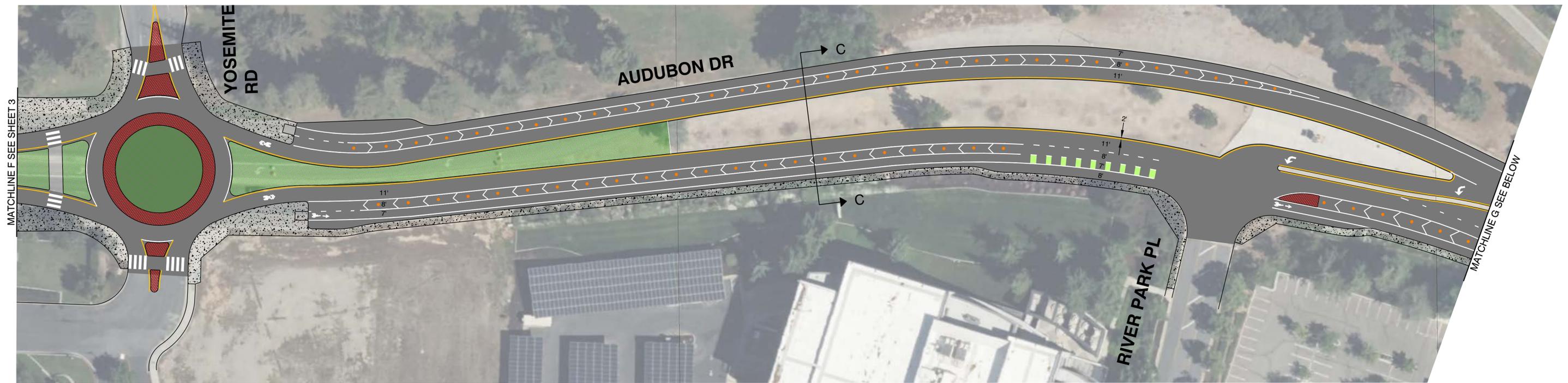
PROPOSED CROSS SECTION C-C



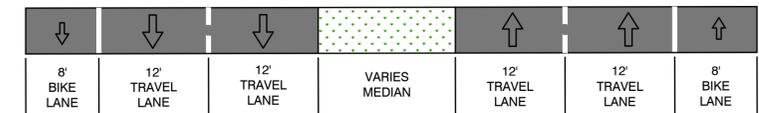
CONCEPTUAL ONLY
ADDITIONAL TRANSITION LENGTHS
AND LOCATIONS TO BE ANALYZED

Figure 7c

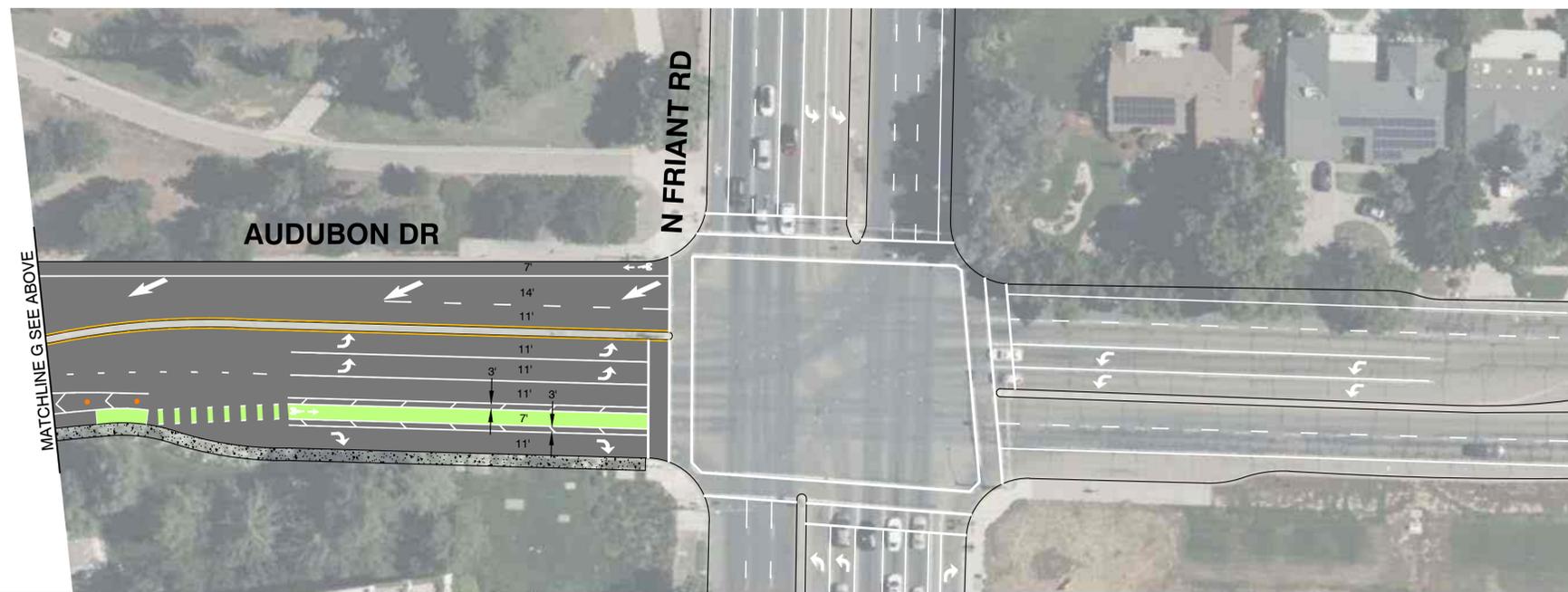
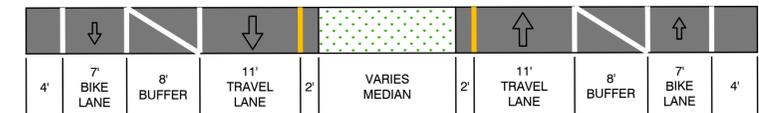
AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS



EXISTING CROSS SECTION C-C



PROPOSED CROSS SECTION C-C



CONCEPTUAL ONLY
ADDITIONAL TRANSITION LENGTHS
AND LOCATIONS TO BE ANALYZED

Figure 7d

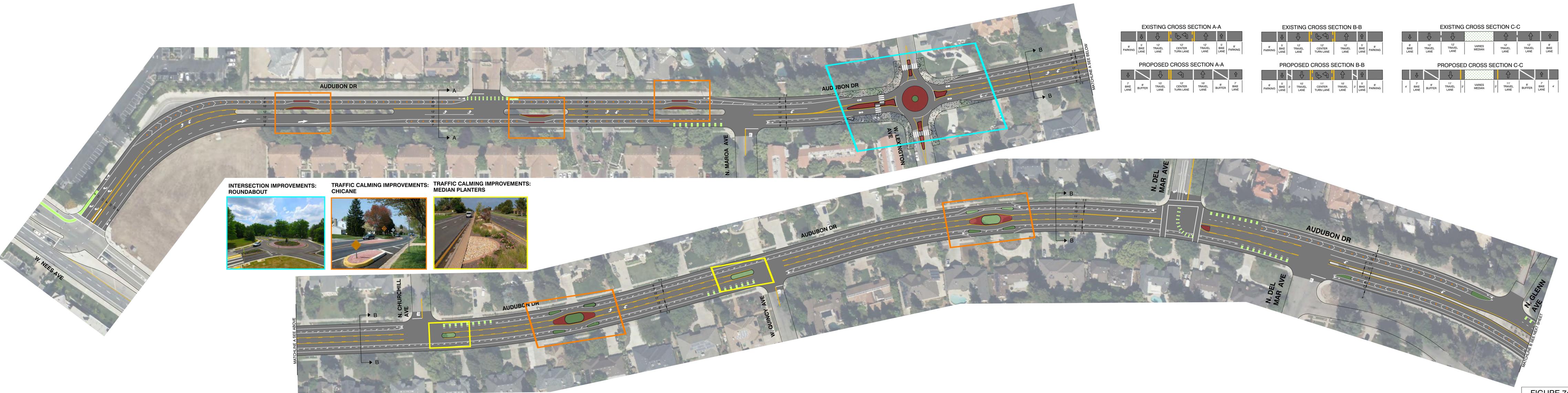


FIGURE 7e
AUGUST 2023



EXISTING CROSS SECTION C-C

↓	↓	↓	↑	↑	↑
8' BIKE LANE	12' TRAVEL LANE	12' TRAVEL LANE	VARIABLE MEDIAN	12' TRAVEL LANE	8' BIKE LANE

PROPOSED CROSS SECTION C-C

↓	↓	↓	↑	↑	↑
4' BIKE LANE	7' BUFFER	11' TRAVEL LANE	VARIABLE MEDIAN	11' TRAVEL LANE	7' BIKE LANE

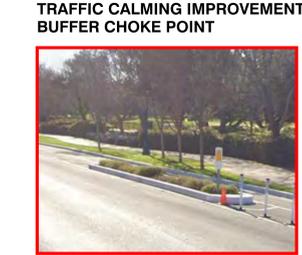


FIGURE 7f
AUGUST 2023

Traffic Management Strategies

MULTI-WAY STOP WARRANT ANALYSIS

Methodology:

Multi-way stop applications were developed by the Federal Highway Administration (FHWA) and are described in Section 2B.07 of the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD, Revision 6, March 2020). The CA MUTCD describes four criteria to evaluate the need for a multi-way stop application. Additionally, the CA MUTCD discusses four optional criteria that may be considered on a case-by-case basis. Only one criteria needs to be satisfied in order to justify the implementation of a multi-way stop.

- A. *Where traffic control signals are justified, the all-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal*
- B. *Five or more reported crashes in a 12-month period that are susceptible to correction by an all-way stop installation. Such crashes include right- and left-turn collisions as well as right-angle collisions*
- C. *Minimum Volumes:*
 1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
 2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
 3. *If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values provided in Items 1 and 2.*
- D. *Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.*

Other criteria that may be considered include:

- A. *The need to control left-turn conflicts:*
- B. *The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;*
- C. *Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and*
- D. *An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection.*

Upon data collection, an engineering analysis was performed to ascertain the feasibility of all-way stop control (AWSC) at the intersection of Audubon Drive and Lexington Avenue intersection for existing conditions. The Speed limit on Audubon Drive is 40 mph. The results of the analysis are summarized below:

- Traffic volumes generated on major streets meets the minimum threshold of 300 but traffic volume on minor streets for any eight hours of an average day are not significant enough to generate concerns for vehicle delay and traffic operations. Additionally, the intersection experiences low hourly pedestrian and bicycle volumes throughout the day. Even if vehicle speeds exceeded 40 mph, traffic volumes are not significant enough to meet 70 percent of the minimum values in C.2.
- Collision history is an indicator to determine if there are significant safety concerns that would improve with the installation of all-way stop control (AWSC). Collision history was evaluated for a six year period (2016 to 2021). One collision were recorded during this time at the study intersection.
- The approximate sight distance at Audubon Drive is more than intersection sight distance requirements of 445 feet for the speed limit 40 mph according to *2018 AASHTO Green Book (Chapter 9, Section 9.5.3, Table 2-5 Intersection Sight Distance)*.

Results of the multi-way stop control assessment for Audubon Drive and Lexington Avenue Intersection are summarized in **Table 8**.

Table 8: All-Way Stop Warrant Analysis Summary

<i>Criterion</i>	<i>Result</i>	<i>Summary</i>
A	Traffic signals are not justified, and no future traffic signal installation planned at this location.	Not Satisfied
B	One Collision was reported at the subject intersection within six year period (2016 to 2021). Thus, there were no correctable crashes at the subject intersection that an all-way stop could mitigate.	Not Satisfied
C	Minimum volumes per criteria C.1 was satisfied and C.2 were not satisfied. Minimum volumes per criteria C.3 were not satisfied.	Not Satisfied
D	The Criteria B and C.2 would continue to not be satisfied if the threshold were reduced to 80%.	Not Satisfied
Optional A	One collision was reported at the subject intersection within six year period (2016 to 2021). Thus, based on existing conditions, the need to control left-turn conflicts is not expected.	Not Satisfied
Optional B	Given the location of the study intersection, it is not expected that the intersection would typically experience high levels of pedestrian volume.	Not Satisfied
Optional C	Based on existing topography and vegetation, the existing sight distance at the subject intersection does not appear to present a hazard.	Not Satisfied
Optional D	As the major street is a Collector Street and minor street is Local Street, this criteria is not satisfied.	Not Satisfied

Based on the CA MUTCD guidelines, the intersection of Audubon Drive and Lexington Avenue is not expected to warrant a Multi-way stop application.

RECTANGULAR FLASHING BEACON (RRFB) WARRANT ANALYSIS

The RRFB is intended to provide a higher level of warning to motorists that pedestrians are desiring to cross or are crossing the roadway. RRFBs use rectangular-shaped high intensity light-emitting-diode (LED) based indicators, flashing rapidly in a combination wig-wag and simultaneous flash pattern, and mounted immediately below the crossing sign.

TJKM conducted an analysis to determine the feasibility of installing Rectangular Rapid Flashing Beacons (RRFB) at the intersection of Audubon Drive and Lexington Avenue.

Methodology

There is currently no warrant criteria for installing RRFBs in the CAMUTCD. However, Section 1A.09 Engineering Study and Engineering Judgment states that the "Manual should not be considered a substitute for engineering judgment." Thus, an alternative analysis is offered.

Crossing Opportunities by Cyclists and Pedestrians

Given the presence of the adjacent neighborhoods, the ability for cyclists and pedestrians to safely cross Audubon Drive at Lexington Avenue should be considered. While turning movement counts taken at the intersection documented a minimal presence of pedestrians and no cyclists, there may exist a repressed latent demand to cross the street exacerbated by a perceived inability to do so safely.

The ability for pedestrians to cross a street is contingent on available gaps in the traffic stream. Based on guidance in the CAMUTCD, an assumed typical walking speed for pedestrians is 3.5 feet per second. Audubon Drive is approximately 63 feet wide measured between curb faces. Adding three feet for shy distance, a pedestrian would need a gap in the traffic stream of at least $66 / 3.5 = 18.9$ seconds. Adding 2.5 seconds of perception and reaction time needed for pedestrians to judge traffic, a gap of at least 21.4 seconds, rounded up to 22 seconds for the purposes of analysis, is considered to be appropriate.

Intersection Improvements

TJKM recommends the following improvements along Audubon Drive between W. Nees Avenue and N. Friant Road be considered:

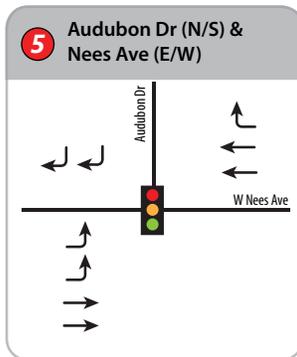
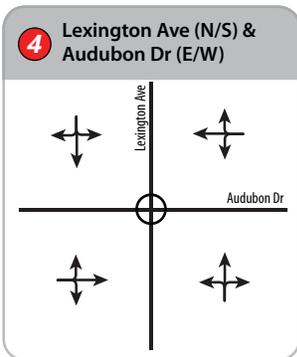
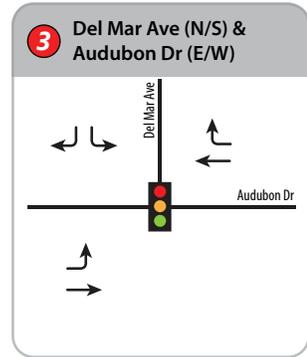
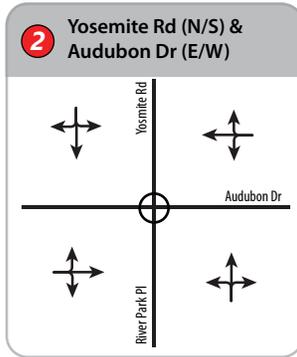
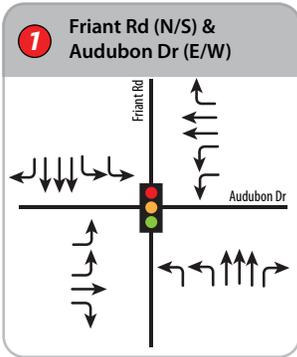
- Audubon Drive and Friant Road intersection: Removal of one through lane for eastbound along Audubon Drive to reappportion the existing roadway to provide for buffered bike lanes for both eastbound and westbound travel. Begin transitions west of Friant Road.
- Reappportion Audubon Drive from four lanes to two lanes between Friant Road and Del Mar Avenue Road, and add buffered bike lanes. Provide separate left turn lanes at key intersections.

- Single lane roundabouts are proposed at Audubon Drive/Yosemite Road and Audubon Drive/Lexington Avenue intersections.
- Audubon Drive and Del Mar Avenue intersection would likely be signalized in the future. Provide left turn bays at this intersection.
- At Audubon Drive and Nees Avenue intersection, install an additional left-turn lane for eastbound to northbound travel to improve traffic operations and reduce congestion.
- Introducing traffic calming improvements like Chicanes, Median Planters and Buffer Choke Points along Audubon Drive at strategic locations.

TJKM conducted a traffic analysis for a single lane roundabout with singular approach lanes for all directions for Audubon Drive/Yosemite Road (Intersection 2) and Audubon Drive/Lexington Avenue (Intersection 4) using the SIDRA version 9 software package. For Audubon Drive/Yosemite Road, a roundabout with an inscribed circular diameter (ICD) up to 140 ft. is possible without acquiring additional right of way. For Audubon Drive/Lexington Avenue, a compact roundabout with an ICD of about 90 ft. is recommended so as to avoid right of way acquisition. The results show acceptable LOS for all peak hours at both the intersections. Results of the roundabout analysis for build conditions are shown in **Table 10 and Table 12.**

Analysis was conducted for four scenarios. The first analyzes existing conditions as they are today and is referred to as "Existing Conditions". The second scenario assumes the recommended improvements are implemented relatively quickly such that the existing traffic volumes are about the same. This scenario is referred to as "Existing Build Conditions". The third considers that no improvements have been implemented and it is now the year 2040. This scenario is referred to as "Future Conditions". The fourth scenario assumes that the improvements have been implemented but it is now the year 2040. This scenario is referred to as "Future Build Conditions".

Figure 8: Build Conditions Lane Geometry & Traffic Control



LEGEND

- ⊗ Study Intersection
- ⊠ Study Segment
- Roundabout
- Traffic Signal



Intersection Level of Service Analysis – Existing Conditions with Proposed Improvements

Proposed lane configurations, signal timings and existing turning movement volumes were used to calculate the LOS for the study intersections during each peak hour. The results of the LOS analysis using Synchro 11 software for Existing Conditions with Proposed Improvements are summarized in **Table 10**. LOS worksheets are provided in **Appendix D**.

Under Existing Conditions with Proposed Improvements, four of the five study intersections operates at acceptable LOS D or better for each peak hour. The results are shown in Table 10.

Table 10: Intersection Level of Service Analysis – Existing Conditions with Proposed Improvements

#	Intersection	Control	Peak Hour ¹	Existing Conditions		Control	Existing Conditions with Proposed Improvements	
				Delay ²	LOS ³		Delay ²	LOS ³
1	Audubon Drive/Friant Road	Signal	AM	95.8	F	Signal	95.8	F
			MID	47.7	D		47.9	D
			PM	63.6	E		64.3	E
2	Audubon Drive/Yosemite Road	Two-Way Stop	AM	26.9	D	Roundabout	5.4	A
			MID	17.7	C		4.8	A
			PM	39.2	E		8.0	A
3	Audubon Drive/Del Mar Avenue	One Way Stop	AM	27.6	D	Signal	8.0	A
			MID	15.1	C		5.6	A
			PM	26.3	D		8.9	A
4	Audubon Drive/Lexington Avenue	Two-Way Stop	AM	36.0	E	Roundabout	4.3	A
			MID	18.6	C		4.0	A
			PM	32.1	D		4.1	A
5	Audubon Drive/Nees Avenue	Signal	AM	29.4	C	Signal	27.9	C
			MID	9.6	A		9.0	A
			PM	20.3	C		15.8	B

Notes:

1. AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay.

QUEUING ANALYSIS – EXISTING CONDITIONS WITH PROPOSED IMPROVEMENTS

TJKM conducted a vehicle queuing and turn lane storage analysis at study intersections for Existing Conditions with Proposed Improvements. The 95th percentile queues were analyzed using the HCM 2000 Edition Queue methodology contained in Synchro 11 software. **Table 11** presents the existing queues (in feet) at the study signalized intersections. **Appendix D** contains the queue output worksheets for Existing Conditions with Proposed Improvements.

Table 11: 95th Percentile Queuing Analysis – Existing Conditions with Proposed Improvements

#	Intersection	Lane Group	Storage Length (ft)	Existing Conditions Queue Length (Ft.)			Existing Conditions with Proposed Improvements Queue Length (Ft.)		
				AM	MID	PM	AM	MID	PM
1	Audubon Drive/Friant Road	NBL	430	53	124	145	53	124	145
		NBR	430	61	77	329	61	77	329
		SBL	230	136	64	106	136	64	106
		SBR	380	519	73	76	519	73	76
		EBL	185	251	244	478	251	244	478
		EBR	160	0	22	52	0	22	55
		WBL	210	175	110	141	175	110	141
		WBR	90	0	45	123	0	45	123
3	Audubon Drive/Del Mar Avenue	SBL	100	-	-	-	76	41	36
		SBR	100	-	-	-	23	16	16
		EBL	100	-	-	-	9	10	21
		WBR	100	-	-	-	7	6	11
5	Audubon Drive/Nees Avenue	SBR	100	278	20	62	285	21	62
		EBL	205	362	153	493	153	61	150
		WBR	100	19	21	29	18	17	29

Notes:

Storage length and 95th percentile queue expressed in feet per lane

AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour

Bold font indicates queue lengths exceeding existing storage capacity

Intersection Level of Service Analysis – Future (2040) Conditions with Proposed Improvements

Proposed intersection lane configurations, optimized signal timings and Future traffic volumes were used to calculate the LOS at the study intersections during each peak hour. The results of the LOS analysis using Synchro 11 software for Future (2040) Conditions with Proposed Improvements are summarized in **Table 12**. LOS worksheets are provided in **Appendix E**.

Under Future (2040) Conditions with Proposed Improvements, four of the five study intersections operate at acceptable LOS D or better for each peak hours. **Table 12** presents these details.

Table 12: Intersection Level of Service Analysis –Future (2040) Conditions with Proposed Improvements

#	Intersection	Control	Peak Hour ¹	Future Conditions		Control	Future (2040) Conditions with Proposed Conditions	
				Delay ²	LOS ³		Delay ²	LOS ³
1	Audubon Drive/Friant Road	Signal	AM	200.0	F	Signal	192.1	F
			MID	68.8	E		69.0	E
			PM	172.2	F		174.5	F
2	Audubon Drive/Yosemite Road	Two-Way Stop	AM	113.1	F	Roundabout	18.9	B
			MID	35.4	E		5.0	A
			PM	367.4	F		52.6	D
3	Audubon Drive/Del Mar Avenue	One Way Stop	AM	119.9	F	Signal	20.2	C
			MID	23.6	C		7.6	A
			PM	129.9	F		18.3	B
4	Audubon Drive/Lexington Avenue	Two-Way Stop	AM	244.8	F	Roundabout	9.9	A
			MID	37.1	E		4.1	A
			PM	196.1	F		17.8	B
5	Audubon Drive/Nees Avenue	Signal	AM	20.2	C	Signal	21.9	C
			MID	12.8	B		11.0	B
			PM	24.7	C		15.7	B

Notes:

1. AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. Bold indicates unacceptable LOS and Delay.

QUEUING ANALYSIS – FUTURE (2040) CONDITIONS WITH PROPOSED IMPROVEMENTS

TJKM conducted a vehicle queuing and turn lane storage analysis at study intersections for Future (2040) Conditions with Proposed Improvements. The 95th percentile queues were analyzed using the

HCM 2000 Edition Queue methodology contained in Synchro 11 software. **Table 13** presents the queues (in feet) at the study signalized intersection. **Appendix E** contains the queue output worksheets for Future (2040) Conditions with Proposed Improvements.

Table 13: 95th Percentile Queuing Analysis – Future (2040) Conditions with Proposed Improvements

#	Intersection	Lane Group	Storage Length (ft)	Future Conditions Queue Length (Ft.)			Future (2040) Conditions with Proposed Conditions Queue Length (Ft.)		
				AM	MID	PM	AM	MID	PM
1	Audubon Drive/Friant Road	NBL	430	71	214	221	71	214	221
		NBR	430	157	190	563	157	190	563
		SBL	230	171	86	143	171	86	143
		SBR	380	1446	139	266	1446	139	269
		EBL	185	482	398	829	483	398	829
		EBR	160	3	42	90	0	42	90
		WBL	210	348	146	170	348	146	190
		WBR	90	25	112	228	25	112	183
3	Audubon Drive/Del Mar Avenue	SBL	100	-	-	-	201	55	174
		SBR	100	-	-	-	41	19	33
		EBL	100	-	-	-	72	15	24
		WBR	100	-	-	-	12	9	11
5	Audubon Drive/W Nees Avenue	SBR	100	331	93	156	433	77	152
		EBL	205	360	333	823	130	108	224
		WBR	100	23	21	80	22	17	74

Notes:

Storage length and 95th percentile queue expressed in feet per lane

AM – morning peak hour, MID – mid day peak hour, PM – evening peak hour

Bold font indicates queue lengths exceeding existing storage capacity

Summary and Conclusion

The results of the Audubon Drive Corridor Study are summarized as:

- There were a total of 11 collisions reported on the Audubon Drive, Fresno between Nees Avenue and Friant Road from 2016 to 2021. For total collisions, the most commonly occurring collision types were broadside collisions (40%) and hit object collisions (40%). The other type of collisions were rear end collisions (10%) and side swipe collisions (10%). However, there were no pedestrians and bicycles involved in the collisions.
- Under Existing Conditions, two study intersections operate at acceptable LOS D or better for each peak hour.

- Under Future (2040) Conditions, only Audubon Drive and Nees Avenue (Intersection 5) intersection operates at acceptable LOS D or better for each peak hour.
- An engineering analysis was performed to ascertain the feasibility of all-way stop control (AWSC) at the intersection of Audubon Drive and Lexington Avenue intersection for Existing Conditions. Based on the CA MUTCD guidelines, the intersection of Audubon Drive and Lexington Avenue is not expected to warrant an All-way stop application.
- An analysis to determine feasibility of installation of Rectangular Rapid Flashing Beacon (RRFB) at Audubon Drive and Lexington Avenue two way stop intersection was conducted for Existing Conditions. The minimum threshold number of pedestrians for any two hours vehicular volume per hour was not satisfied. Hence, warrants for a RRFB were not met at the intersection.
- Under Existing Conditions with Proposed Improvements, four of the five study intersections operate at acceptable LOS D or better for each peak hour. Audubon Drive and Friant Road intersection operates at unacceptable LOS.
- Under Future (2040) Conditions with Proposed Improvements, four of the five study intersections operate at acceptable LOS D or better for each peak hours. Audubon Drive and Friant Road intersection operates at unacceptable LOS.

APPENDIX A – TRAFFIC COUNTS SHEETS

Vehicle Classification Report Summary



Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd

Count Direction: Eastbound / Westbound

Date Range: 11/9/2022 to 11/9/2022

Site Code: 01

	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Study Total														
Eastbound	27	6,547	1,540	4	448	46	0	2	8	8	1	0	10	8,641
Percent	0.3%	75.8%	17.8%	0.0%	5.2%	0.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	100%
Westbound	15	6,214	1,629	1	587	61	0	5	4	9	0	0	1	8,526
Percent	0.2%	72.9%	19.1%	0.0%	6.9%	0.7%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	100%
Total	42	12,761	3,169	5	1,035	107	0	7	12	17	1	0	11	17,167
Percent	0.2%	74.3%	18.5%	0.0%	6.0%	0.6%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	100%

FHWA Vehicle Classification	
Class 1 - Motorcycles	Class 8 - Four or Fewer Axle Single-Trailer Trucks
Class 2 - Passenger Cars	Class 9 - Five-Axle Single-Trailer Trucks
Class 3 - Other Two-Axle, Four-Tire Single Unit Vehicles	Class 10 - Six or More Axle Single-Trailer Trucks
Class 4 - Buses	Class 11 - Five or fewer Axle Multi-Trailer Trucks
Class 5 - Two-Axle, Six-Tire, Single-Unit Trucks	Class 12 - Six-Axle Multi-Trailer Trucks
Class 6 - Three-Axle Single-Unit Trucks	Class 13 - Seven or More Axle Multi-Trailer Trucks
Class 7 - Four or More Axle Single-Unit Trucks	

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

Wednesday, November 9, 2022
Eastbound

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	11	1	0	1	0	0	0	0	0	0	0	0	13
1:00 AM	0	10	2	0	1	0	0	0	0	0	0	0	0	13
2:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0	6
3:00 AM	0	13	2	0	0	0	0	0	0	0	0	0	0	15
4:00 AM	0	22	2	0	2	0	0	0	0	0	0	0	0	26
5:00 AM	0	58	13	0	4	0	0	0	0	0	0	0	0	75
6:00 AM	0	142	50	0	10	0	0	0	0	0	0	0	1	203
7:00 AM	0	390	87	0	28	0	0	1	1	0	0	0	0	507
8:00 AM	0	413	107	0	25	2	0	0	0	1	0	0	0	548
9:00 AM	3	303	75	0	36	1	0	1	0	0	1	0	0	420
10:00 AM	2	296	88	0	24	1	0	0	2	0	0	0	0	413
11:00 AM	0	336	96	1	30	0	0	0	0	1	0	0	0	464
12:00 PM	3	511	137	0	31	3	0	0	0	0	0	0	2	687
1:00 PM	3	472	111	2	34	5	0	0	1	0	0	0	0	628
2:00 PM	2	424	109	0	30	4	0	0	0	0	0	0	0	569
3:00 PM	2	556	129	0	47	0	0	0	0	0	0	0	0	734
4:00 PM	3	691	159	1	41	12	0	0	1	3	0	0	2	913
5:00 PM	4	743	153	0	37	16	0	0	3	2	0	0	4	962
6:00 PM	3	455	89	0	30	0	0	0	0	1	0	0	0	578
7:00 PM	2	266	52	0	16	0	0	0	0	0	0	0	1	337
8:00 PM	0	184	37	0	9	1	0	0	0	0	0	0	0	231
9:00 PM	0	139	22	0	7	1	0	0	0	0	0	0	0	169
10:00 PM	0	68	14	0	4	0	0	0	0	0	0	0	0	86
11:00 PM	0	40	3	0	1	0	0	0	0	0	0	0	0	44
Total	27	6,547	1,540	4	448	46	0	2	8	8	1	0	10	8,641
Percent	0.3%	75.8%	17.8%	0.0%	5.2%	0.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

Wednesday, November 9, 2022
Westbound

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	24	0	0	1	0	0	0	0	0	0	0	0	25
1:00 AM	0	17	2	0	0	0	0	0	0	0	0	0	0	19
2:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	9	1	0	0	1	0	0	0	0	0	0	0	11
4:00 AM	0	17	7	0	5	1	0	0	0	0	0	0	0	30
5:00 AM	0	66	12	0	9	2	0	0	0	0	0	0	0	89
6:00 AM	0	181	39	0	23	4	0	0	1	0	0	0	0	248
7:00 AM	1	535	146	0	59	11	0	0	1	1	0	0	0	754
8:00 AM	2	573	186	0	51	7	0	0	0	0	0	0	0	819
9:00 AM	0	364	104	1	45	5	0	0	1	0	0	0	0	520
10:00 AM	0	339	99	0	34	1	0	0	0	2	0	0	0	475
11:00 AM	0	363	113	0	47	2	0	0	1	0	0	0	0	526
12:00 PM	1	355	106	0	40	4	0	0	0	1	0	0	1	508
1:00 PM	2	413	120	0	34	5	0	2	0	0	0	0	0	576
2:00 PM	1	381	121	0	43	0	0	0	0	2	0	0	0	548
3:00 PM	1	496	135	0	48	3	0	1	0	1	0	0	0	685
4:00 PM	0	440	112	0	43	1	0	2	0	2	0	0	0	600
5:00 PM	5	502	126	0	39	5	0	0	0	0	0	0	0	677
6:00 PM	1	326	61	0	24	5	0	0	0	0	0	0	0	417
7:00 PM	0	268	54	0	18	2	0	0	0	0	0	0	0	342
8:00 PM	1	250	37	0	9	2	0	0	0	0	0	0	0	299
9:00 PM	0	151	21	0	7	0	0	0	0	0	0	0	0	179
10:00 PM	0	86	17	0	5	0	0	0	0	0	0	0	0	108
11:00 PM	0	54	9	0	3	0	0	0	0	0	0	0	0	66
Total	15	6,214	1,629	1	587	61	0	5	4	9	0	0	1	8,526
Percent	0.2%	72.9%	19.1%	0.0%	6.9%	0.7%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**Total Study Average
Eastbound**

Time	FHWA Vehicle Classification													Total Volume	
	1	2	3	4	5	6	7	8	9	10	11	12	13		
12:00 AM	0	11	1	0	1	0	0	0	0	0	0	0	0	0	13
1:00 AM	0	10	2	0	1	0	0	0	0	0	0	0	0	0	13
2:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
3:00 AM	0	13	2	0	0	0	0	0	0	0	0	0	0	0	15
4:00 AM	0	22	2	0	2	0	0	0	0	0	0	0	0	0	26
5:00 AM	0	58	13	0	4	0	0	0	0	0	0	0	0	0	75
6:00 AM	0	142	50	0	10	0	0	0	0	0	0	0	0	1	203
7:00 AM	0	390	87	0	28	0	0	1	1	0	0	0	0	0	507
8:00 AM	0	413	107	0	25	2	0	0	0	0	1	0	0	0	548
9:00 AM	3	303	75	0	36	1	0	1	0	0	0	1	0	0	420
10:00 AM	2	296	88	0	24	1	0	0	2	0	0	0	0	0	413
11:00 AM	0	336	96	1	30	0	0	0	0	1	0	0	0	0	464
12:00 PM	3	511	137	0	31	3	0	0	0	0	0	0	0	2	687
1:00 PM	3	472	111	2	34	5	0	0	1	0	0	0	0	0	628
2:00 PM	2	424	109	0	30	4	0	0	0	0	0	0	0	0	569
3:00 PM	2	556	129	0	47	0	0	0	0	0	0	0	0	0	734
4:00 PM	3	691	159	1	41	12	0	0	1	3	0	0	0	2	913
5:00 PM	4	743	153	0	37	16	0	0	3	2	0	0	0	4	962
6:00 PM	3	455	89	0	30	0	0	0	0	1	0	0	0	0	578
7:00 PM	2	266	52	0	16	0	0	0	0	0	0	0	0	1	337
8:00 PM	0	184	37	0	9	1	0	0	0	0	0	0	0	0	231
9:00 PM	0	139	22	0	7	1	0	0	0	0	0	0	0	0	169
10:00 PM	0	68	14	0	4	0	0	0	0	0	0	0	0	0	86
11:00 PM	0	40	3	0	1	0	0	0	0	0	0	0	0	0	44
Total	27	6,547	1,540	4	448	46	0	2	8	8	1	0	10		8,641
Percent	0.3%	75.8%	17.8%	0.0%	5.2%	0.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%		

Note: Average only considered on days with 24-hours of data.

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**Total Study Average
Westbound**

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	24	0	0	1	0	0	0	0	0	0	0	0	25
1:00 AM	0	17	2	0	0	0	0	0	0	0	0	0	0	19
2:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	9	1	0	0	1	0	0	0	0	0	0	0	11
4:00 AM	0	17	7	0	5	1	0	0	0	0	0	0	0	30
5:00 AM	0	66	12	0	9	2	0	0	0	0	0	0	0	89
6:00 AM	0	181	39	0	23	4	0	0	1	0	0	0	0	248
7:00 AM	1	535	146	0	59	11	0	0	1	1	0	0	0	754
8:00 AM	2	573	186	0	51	7	0	0	0	0	0	0	0	819
9:00 AM	0	364	104	1	45	5	0	0	1	0	0	0	0	520
10:00 AM	0	339	99	0	34	1	0	0	0	2	0	0	0	475
11:00 AM	0	363	113	0	47	2	0	0	1	0	0	0	0	526
12:00 PM	1	355	106	0	40	4	0	0	0	1	0	0	1	508
1:00 PM	2	413	120	0	34	5	0	2	0	0	0	0	0	576
2:00 PM	1	381	121	0	43	0	0	0	0	2	0	0	0	548
3:00 PM	1	496	135	0	48	3	0	1	0	1	0	0	0	685
4:00 PM	0	440	112	0	43	1	0	2	0	2	0	0	0	600
5:00 PM	5	502	126	0	39	5	0	0	0	0	0	0	0	677
6:00 PM	1	326	61	0	24	5	0	0	0	0	0	0	0	417
7:00 PM	0	268	54	0	18	2	0	0	0	0	0	0	0	342
8:00 PM	1	250	37	0	9	2	0	0	0	0	0	0	0	299
9:00 PM	0	151	21	0	7	0	0	0	0	0	0	0	0	179
10:00 PM	0	86	17	0	5	0	0	0	0	0	0	0	0	108
11:00 PM	0	54	9	0	3	0	0	0	0	0	0	0	0	66
Total	15	6,214	1,629	1	587	61	0	5	4	9	0	0	1	8,526
Percent	0.2%	72.9%	19.1%	0.0%	6.9%	0.7%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	

Note: Average only considered on days with 24-hours of data.

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**3-Day (Tuesday - Thursday) Average
 Eastbound**

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	11	1	0	1	0	0	0	0	0	0	0	0	13
1:00 AM	0	10	2	0	1	0	0	0	0	0	0	0	0	13
2:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0	6
3:00 AM	0	13	2	0	0	0	0	0	0	0	0	0	0	15
4:00 AM	0	22	2	0	2	0	0	0	0	0	0	0	0	26
5:00 AM	0	58	13	0	4	0	0	0	0	0	0	0	0	75
6:00 AM	0	142	50	0	10	0	0	0	0	0	0	0	1	203
7:00 AM	0	390	87	0	28	0	0	1	1	0	0	0	0	507
8:00 AM	0	413	107	0	25	2	0	0	0	1	0	0	0	548
9:00 AM	3	303	75	0	36	1	0	1	0	0	1	0	0	420
10:00 AM	2	296	88	0	24	1	0	0	2	0	0	0	0	413
11:00 AM	0	336	96	1	30	0	0	0	0	1	0	0	0	464
12:00 PM	3	511	137	0	31	3	0	0	0	0	0	0	2	687
1:00 PM	3	472	111	2	34	5	0	0	1	0	0	0	0	628
2:00 PM	2	424	109	0	30	4	0	0	0	0	0	0	0	569
3:00 PM	2	556	129	0	47	0	0	0	0	0	0	0	0	734
4:00 PM	3	691	159	1	41	12	0	0	1	3	0	0	2	913
5:00 PM	4	743	153	0	37	16	0	0	3	2	0	0	4	962
6:00 PM	3	455	89	0	30	0	0	0	0	1	0	0	0	578
7:00 PM	2	266	52	0	16	0	0	0	0	0	0	0	1	337
8:00 PM	0	184	37	0	9	1	0	0	0	0	0	0	0	231
9:00 PM	0	139	22	0	7	1	0	0	0	0	0	0	0	169
10:00 PM	0	68	14	0	4	0	0	0	0	0	0	0	0	86
11:00 PM	0	40	3	0	1	0	0	0	0	0	0	0	0	44
Total	27	6,547	1,540	4	448	46	0	2	8	8	1	0	10	8,641
Percent	0.3%	75.8%	17.8%	0.0%	5.2%	0.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**3-Day (Tuesday - Thursday) Average
 Westbound**

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	24	0	0	1	0	0	0	0	0	0	0	0	25
1:00 AM	0	17	2	0	0	0	0	0	0	0	0	0	0	19
2:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	9	1	0	0	1	0	0	0	0	0	0	0	11
4:00 AM	0	17	7	0	5	1	0	0	0	0	0	0	0	30
5:00 AM	0	66	12	0	9	2	0	0	0	0	0	0	0	89
6:00 AM	0	181	39	0	23	4	0	0	1	0	0	0	0	248
7:00 AM	1	535	146	0	59	11	0	0	1	1	0	0	0	754
8:00 AM	2	573	186	0	51	7	0	0	0	0	0	0	0	819
9:00 AM	0	364	104	1	45	5	0	0	1	0	0	0	0	520
10:00 AM	0	339	99	0	34	1	0	0	0	2	0	0	0	475
11:00 AM	0	363	113	0	47	2	0	0	1	0	0	0	0	526
12:00 PM	1	355	106	0	40	4	0	0	0	1	0	0	1	508
1:00 PM	2	413	120	0	34	5	0	2	0	0	0	0	0	576
2:00 PM	1	381	121	0	43	0	0	0	0	2	0	0	0	548
3:00 PM	1	496	135	0	48	3	0	1	0	1	0	0	0	685
4:00 PM	0	440	112	0	43	1	0	2	0	2	0	0	0	600
5:00 PM	5	502	126	0	39	5	0	0	0	0	0	0	0	677
6:00 PM	1	326	61	0	24	5	0	0	0	0	0	0	0	417
7:00 PM	0	268	54	0	18	2	0	0	0	0	0	0	0	342
8:00 PM	1	250	37	0	9	2	0	0	0	0	0	0	0	299
9:00 PM	0	151	21	0	7	0	0	0	0	0	0	0	0	179
10:00 PM	0	86	17	0	5	0	0	0	0	0	0	0	0	108
11:00 PM	0	54	9	0	3	0	0	0	0	0	0	0	0	66
Total	15	6,214	1,629	1	587	61	0	5	4	9	0	0	1	8,526
Percent	0.2%	72.9%	19.1%	0.0%	6.9%	0.7%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	

Vehicle Speed Report Summary

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Count Direction: Eastbound / Westbound
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
Study Total																		
Eastbound	19	59	76	121	218	539	2,052	3,388	1,643	390	96	30	7	0	2	0	1	8,641
Percent	0.2%	0.7%	0.9%	1.4%	2.5%	6.2%	23.7%	39.2%	19.0%	4.5%	1.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	100%
Westbound	10	0	3	2	22	275	1,393	3,440	2,556	671	107	29	15	0	2	1	0	8,526
Percent	0.1%	0.0%	0.0%	0.0%	0.3%	3.2%	16.3%	40.3%	30.0%	7.9%	1.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	100%
Total	29	59	79	123	240	814	3,445	6,828	4,199	1,061	203	59	22	0	4	1	1	17,167
Percent	0.2%	0.3%	0.5%	0.7%	1.4%	4.7%	20.1%	39.8%	24.5%	6.2%	1.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	100%

Total Study Percentile Speed Summary			Total Study Speed Statistics		
Eastbound			Eastbound		
50th Percentile (Median)	41.7	mph	Mean (Average) Speed	41.2	mph
85th Percentile	46.9	mph	10 mph Pace	36.8 - 46.8	mph
95th Percentile	50.8	mph	Percent in Pace	67.4	%
Westbound			Westbound		
50th Percentile (Median)	43.8	mph	Mean (Average) Speed	43.9	mph
85th Percentile	48.7	mph	10 mph Pace	39.3 - 49.3	mph
95th Percentile	51.9	mph	Percent in Pace	71.5	%

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

Wednesday, November 9, 2022
Eastbound

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	0	4	6	2	1	0	0	0	0	0	0	0	13
1:00 AM	0	0	0	0	0	2	6	4	1	0	0	0	0	0	0	0	0	13
2:00 AM	0	0	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	6
3:00 AM	0	0	0	0	0	0	1	6	5	2	1	0	0	0	0	0	0	15
4:00 AM	0	0	0	0	0	1	4	10	9	1	1	0	0	0	0	0	0	26
5:00 AM	0	0	0	0	0	2	22	33	10	5	2	1	0	0	0	0	0	75
6:00 AM	0	0	0	1	1	7	47	73	44	21	7	2	0	0	0	0	0	203
7:00 AM	0	2	0	0	1	7	108	223	130	29	4	3	0	0	0	0	0	507
8:00 AM	0	0	0	0	0	8	94	261	143	33	8	1	0	0	0	0	0	548
9:00 AM	0	0	0	0	1	21	119	150	98	22	7	0	1	0	1	0	0	420
10:00 AM	0	0	0	0	2	23	114	171	78	17	4	3	0	0	1	0	0	413
11:00 AM	0	0	0	0	1	20	86	209	115	26	6	1	0	0	0	0	0	464
12:00 PM	0	2	1	1	3	24	149	323	141	32	8	3	0	0	0	0	0	687
1:00 PM	0	0	1	1	4	30	115	270	159	32	9	7	0	0	0	0	0	628
2:00 PM	0	0	1	0	2	21	91	269	135	39	9	1	1	0	0	0	0	569
3:00 PM	0	0	1	0	3	28	170	335	152	27	10	3	4	0	0	0	1	734
4:00 PM	6	14	26	42	75	137	249	261	79	18	6	0	0	0	0	0	0	913
5:00 PM	13	40	46	72	115	157	262	190	48	17	2	0	0	0	0	0	0	962
6:00 PM	0	0	0	2	6	29	194	237	83	18	6	3	0	0	0	0	0	578
7:00 PM	0	1	0	0	2	8	103	139	65	17	0	2	0	0	0	0	0	337
8:00 PM	0	0	0	2	0	9	57	89	52	17	4	0	1	0	0	0	0	231
9:00 PM	0	0	0	0	2	2	37	65	53	9	1	0	0	0	0	0	0	169
10:00 PM	0	0	0	0	0	1	12	39	30	3	1	0	0	0	0	0	0	86
11:00 PM	0	0	0	0	0	2	7	21	10	4	0	0	0	0	0	0	0	44
Total	19	59	76	121	218	539	2,052	3,388	1,643	390	96	30	7	0	2	0	1	8,641
Percent	0.2%	0.7%	0.9%	1.4%	2.5%	6.2%	23.7%	39.2%	19.0%	4.5%	1.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

Daily Percentile Speed Summary		Speed Statistics	
50th Percentile (Median)	41.7 mph	Mean (Average) Speed	41.2 mph
85th Percentile	46.9 mph	10 mph Pace	36.8 - 46.8 mph
95th Percentile	50.8 mph	Percent in Pace	67.4 %

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
 Date Range: 11/9/2022 to 11/9/2022
 Site Code: 01

Wednesday, November 9, 2022
 Westbound

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	3	4	9	5	3	1	0	0	0	0	0	0	25
1:00 AM	0	0	0	0	0	0	3	10	5	1	0	0	0	0	0	0	0	19
2:00 AM	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
3:00 AM	0	0	0	0	0	0	3	4	3	1	0	0	0	0	0	0	0	11
4:00 AM	0	0	0	0	1	2	8	10	9	0	0	0	0	0	0	0	0	30
5:00 AM	0	0	0	0	2	5	20	31	21	6	3	1	0	0	0	0	0	89
6:00 AM	0	0	0	0	1	2	51	97	75	19	3	0	0	0	0	0	0	248
7:00 AM	0	0	0	0	0	8	77	288	291	76	10	1	3	0	0	0	0	754
8:00 AM	0	0	0	0	0	6	88	367	266	81	8	3	0	0	0	0	0	819
9:00 AM	0	0	0	0	3	11	86	222	160	30	4	3	0	0	1	0	0	520
10:00 AM	0	0	0	0	5	22	99	188	117	41	2	1	0	0	0	0	0	475
11:00 AM	0	0	0	0	3	36	106	194	137	42	5	2	1	0	0	0	0	526
12:00 PM	0	0	0	0	1	21	86	174	167	48	8	2	1	0	0	0	0	508
1:00 PM	0	0	0	0	1	36	90	213	175	44	11	4	1	0	1	0	0	576
2:00 PM	0	0	0	1	3	35	110	202	141	46	7	2	0	0	0	1	0	548
3:00 PM	0	0	1	0	0	18	106	288	210	49	6	5	2	0	0	0	0	685
4:00 PM	1	0	0	1	0	23	91	262	180	36	4	1	1	0	0	0	0	600
5:00 PM	9	0	2	0	0	12	115	298	184	41	10	3	3	0	0	0	0	677
6:00 PM	0	0	0	0	0	9	82	171	122	25	7	0	1	0	0	0	0	417
7:00 PM	0	0	0	0	1	8	57	158	83	29	6	0	0	0	0	0	0	342
8:00 PM	0	0	0	0	1	14	46	111	95	27	2	1	2	0	0	0	0	299
9:00 PM	0	0	0	0	0	2	28	72	52	19	6	0	0	0	0	0	0	179
10:00 PM	0	0	0	0	0	2	26	42	30	4	4	0	0	0	0	0	0	108
11:00 PM	0	0	0	0	0	0	10	26	27	3	0	0	0	0	0	0	0	66
Total	10	0	3	2	22	275	1,393	3,440	2,556	671	107	29	15	0	2	1	0	8,526
Percent	0.1%	0.0%	0.0%	0.0%	0.3%	3.2%	16.3%	40.3%	30.0%	7.9%	1.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%

Daily Percentile Speed Summary		Speed Statistics	
50th Percentile (Median)	43.8 mph	Mean (Average) Speed	43.9 mph
85th Percentile	48.7 mph	10 mph Pace	39.3 - 49.3 mph
95th Percentile	51.9 mph	Percent in Pace	71.53 %

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
 Date Range: 11/9/2022 to 11/9/2022
 Site Code: 01

**Total Study Average
Eastbound**

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	0	4	6	2	1	0	0	0	0	0	0	0	13
1:00 AM	0	0	0	0	0	2	6	4	1	0	0	0	0	0	0	0	0	13
2:00 AM	0	0	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	6
3:00 AM	0	0	0	0	0	0	1	6	5	2	1	0	0	0	0	0	0	15
4:00 AM	0	0	0	0	0	1	4	10	9	1	1	0	0	0	0	0	0	26
5:00 AM	0	0	0	0	0	2	22	33	10	5	2	1	0	0	0	0	0	75
6:00 AM	0	0	0	1	1	7	47	73	44	21	7	2	0	0	0	0	0	203
7:00 AM	0	2	0	0	1	7	108	223	130	29	4	3	0	0	0	0	0	507
8:00 AM	0	0	0	0	0	8	94	261	143	33	8	1	0	0	0	0	0	548
9:00 AM	0	0	0	0	1	21	119	150	98	22	7	0	1	0	1	0	0	420
10:00 AM	0	0	0	0	2	23	114	171	78	17	4	3	0	0	1	0	0	413
11:00 AM	0	0	0	0	1	20	86	209	115	26	6	1	0	0	0	0	0	464
12:00 PM	0	2	1	1	3	24	149	323	141	32	8	3	0	0	0	0	0	687
1:00 PM	0	0	1	1	4	30	115	270	159	32	9	7	0	0	0	0	0	628
2:00 PM	0	0	1	0	2	21	91	269	135	39	9	1	1	0	0	0	0	569
3:00 PM	0	0	1	0	3	28	170	335	152	27	10	3	4	0	0	0	1	734
4:00 PM	6	14	26	42	75	137	249	261	79	18	6	0	0	0	0	0	0	913
5:00 PM	13	40	46	72	115	157	262	190	48	17	2	0	0	0	0	0	0	962
6:00 PM	0	0	0	2	6	29	194	237	83	18	6	3	0	0	0	0	0	578
7:00 PM	0	1	0	0	2	8	103	139	65	17	0	2	0	0	0	0	0	337
8:00 PM	0	0	0	2	0	9	57	89	52	17	4	0	1	0	0	0	0	231
9:00 PM	0	0	0	0	2	2	37	65	53	9	1	0	0	0	0	0	0	169
10:00 PM	0	0	0	0	0	1	12	39	30	3	1	0	0	0	0	0	0	86
11:00 PM	0	0	0	0	0	2	7	21	10	4	0	0	0	0	0	0	0	44
Total	19	59	76	121	218	539	2,052	3,388	1,643	390	96	30	7	0	2	0	1	8,641
Percent	0.2%	0.7%	0.9%	1.4%	2.5%	6.2%	23.7%	39.2%	19.0%	4.5%	1.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

Note: Average only considered on days with 24-hours of data.

Total Study Percentile Speed Summary		Total Study Speed Statistics	
50th Percentile (Median)	41.7 mph	Mean (Average) Speed	41.2 mph
85th Percentile	46.9 mph	10 mph Pace	36.8 - 46.8 mph
95th Percentile	50.8 mph	Percent in Pace	67.4 %

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
 Date Range: 11/9/2022 to 11/9/2022
 Site Code: 01

**Total Study Average
 Westbound**

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	3	4	9	5	3	1	0	0	0	0	0	0	25
1:00 AM	0	0	0	0	0	0	3	10	5	1	0	0	0	0	0	0	0	19
2:00 AM	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
3:00 AM	0	0	0	0	0	0	3	4	3	1	0	0	0	0	0	0	0	11
4:00 AM	0	0	0	0	1	2	8	10	9	0	0	0	0	0	0	0	0	30
5:00 AM	0	0	0	0	2	5	20	31	21	6	3	1	0	0	0	0	0	89
6:00 AM	0	0	0	0	1	2	51	97	75	19	3	0	0	0	0	0	0	248
7:00 AM	0	0	0	0	0	8	77	288	291	76	10	1	3	0	0	0	0	754
8:00 AM	0	0	0	0	0	6	88	367	266	81	8	3	0	0	0	0	0	819
9:00 AM	0	0	0	0	3	11	86	222	160	30	4	3	0	0	1	0	0	520
10:00 AM	0	0	0	0	5	22	99	188	117	41	2	1	0	0	0	0	0	475
11:00 AM	0	0	0	0	3	36	106	194	137	42	5	2	1	0	0	0	0	526
12:00 PM	0	0	0	0	1	21	86	174	167	48	8	2	1	0	0	0	0	508
1:00 PM	0	0	0	0	1	36	90	213	175	44	11	4	1	0	1	0	0	576
2:00 PM	0	0	0	1	3	35	110	202	141	46	7	2	0	0	0	1	0	548
3:00 PM	0	0	1	0	0	18	106	288	210	49	6	5	2	0	0	0	0	685
4:00 PM	1	0	0	1	0	23	91	262	180	36	4	1	1	0	0	0	0	600
5:00 PM	9	0	2	0	0	12	115	298	184	41	10	3	3	0	0	0	0	677
6:00 PM	0	0	0	0	0	9	82	171	122	25	7	0	1	0	0	0	0	417
7:00 PM	0	0	0	0	1	8	57	158	83	29	6	0	0	0	0	0	0	342
8:00 PM	0	0	0	0	1	14	46	111	95	27	2	1	2	0	0	0	0	299
9:00 PM	0	0	0	0	0	2	28	72	52	19	6	0	0	0	0	0	0	179
10:00 PM	0	0	0	0	0	2	26	42	30	4	4	0	0	0	0	0	0	108
11:00 PM	0	0	0	0	0	0	10	26	27	3	0	0	0	0	0	0	0	66
Total	10	0	3	2	22	275	1,393	3,440	2,556	671	107	29	15	0	2	1	0	8,526
Percent	0.1%	0.0%	0.0%	0.0%	0.3%	3.2%	16.3%	40.3%	30.0%	7.9%	1.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%

Note: Average only considered on days with 24-hours of data.

Total Study Percentile Speed Summary		Total Study Speed Statistics	
50th Percentile (Median)	43.8 mph	Mean (Average) Speed	43.9 mph
85th Percentile	48.7 mph	10 mph Pace	39.3 - 49.3 mph
95th Percentile	51.9 mph	Percent in Pace	71.5 %

Location: E Audubon Dr, Between N Frait Rd and Yosemite Rd
 Date Range: 11/9/2022 - 11/15/2022
 Site Code: 01

Time	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday			Mid-Week Average		
	11/9/2022			11/10/2022			11/11/2022			11/12/2022			11/13/2022			11/14/2022			11/15/2022					
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	13	25	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	25	38
1:00 AM	13	19	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	19	32
2:00 AM	6	5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	11
3:00 AM	15	11	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	11	26
4:00 AM	26	30	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	30	56
5:00 AM	75	89	164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	89	164
6:00 AM	203	248	451	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	203	248	451
7:00 AM	507	754	1,261	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	507	754	1,261
8:00 AM	548	819	1,367	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	548	819	1,367
9:00 AM	420	520	940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	420	520	940
10:00 AM	413	475	888	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	413	475	888
11:00 AM	464	526	990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	464	526	990
12:00 PM	687	508	1,195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	687	508	1,195
1:00 PM	628	576	1,204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	628	576	1,204
2:00 PM	569	548	1,117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	569	548	1,117
3:00 PM	734	685	1,419	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	734	685	1,419
4:00 PM	913	600	1,513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	913	600	1,513
5:00 PM	962	677	1,639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	962	677	1,639
6:00 PM	578	417	995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	578	417	995
7:00 PM	337	342	679	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	337	342	679
8:00 PM	231	299	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	231	299	530
9:00 PM	169	179	348	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	169	179	348
10:00 PM	86	108	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	108	194
11:00 PM	44	66	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	66	110
Total	8,641	8,526	17,167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,641	8,526	17,167
Percent	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	-
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	548	819	1,367	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	548	819	1,367
PM Peak	17:00	15:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	15:00	17:00
Vol.	962	685	1,639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	962	685	1,639

1. Mid-week average includes data between Tuesday and Thursday.

Vehicle Classification Report Summary

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Count Direction: Eastbound / Westbound
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Study Total														
Eastbound	35	5,296	1,437	0	552	9	0	0	0	1	0	1	0	7,331
Percent	0.5%	72.2%	19.6%	0.0%	7.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Westbound	12	5,395	1,360	0	515	4	0	1	1	0	0	0	0	7,288
Percent	0.2%	74.0%	18.7%	0.0%	7.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Total	47	10,691	2,797	0	1,067	13	0	1	1	1	0	1	0	14,619
Percent	0.3%	73.1%	19.1%	0.0%	7.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

FHWA Vehicle Classification	
Class 1 - Motorcycles	Class 8 - Four or Fewer Axle Single-Trailer Trucks
Class 2 - Passenger Cars	Class 9 - Five-Axle Single-Trailer Trucks
Class 3 - Other Two-Axle, Four-Tire Single Unit Vehicles	Class 10 - Six or More Axle Single-Trailer Trucks
Class 4 - Buses	Class 11 - Five or fewer Axle Multi-Trailer Trucks
Class 5 - Two-Axle, Six-Tire, Single-Unit Trucks	Class 12 - Six-Axle Multi-Trailer Trucks
Class 6 - Three-Axle Single-Unit Trucks	Class 13 - Seven or More Axle Multi-Trailer Trucks
Class 7 - Four or More Axle Single-Unit Trucks	

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

Wednesday, November 9, 2022
Eastbound

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	11
1:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0	7
2:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	12	0	0	0	0	0	0	0	0	0	0	0	12
4:00 AM	0	14	3	0	0	0	0	0	0	0	0	0	0	17
5:00 AM	1	60	15	0	1	0	0	0	0	0	0	0	0	77
6:00 AM	1	104	39	0	7	0	0	0	0	0	0	0	0	151
7:00 AM	0	301	61	0	24	0	0	0	0	0	0	0	0	386
8:00 AM	3	375	94	0	17	0	0	0	0	1	0	0	0	490
9:00 AM	1	272	73	0	25	0	0	0	0	0	0	0	0	371
10:00 AM	3	245	76	0	14	0	0	0	0	0	0	0	0	338
11:00 AM	1	310	81	0	22	0	0	0	0	0	0	0	0	414
12:00 PM	4	429	96	0	26	0	0	0	0	0	0	0	0	555
1:00 PM	5	366	89	0	37	1	0	0	0	0	0	0	0	498
2:00 PM	4	318	100	0	58	1	0	0	0	0	0	1	0	482
3:00 PM	3	421	119	0	64	0	0	0	0	0	0	0	0	607
4:00 PM	4	537	128	0	83	1	0	0	0	0	0	0	0	753
5:00 PM	1	668	155	0	70	2	0	0	0	0	0	0	0	896
6:00 PM	3	365	98	0	48	4	0	0	0	0	0	0	0	518
7:00 PM	1	219	55	0	16	0	0	0	0	0	0	0	0	291
8:00 PM	0	138	54	0	24	0	0	0	0	0	0	0	0	216
9:00 PM	0	64	73	0	10	0	0	0	0	0	0	0	0	147
10:00 PM	0	47	20	0	5	0	0	0	0	0	0	0	0	72
11:00 PM	0	13	3	0	1	0	0	0	0	0	0	0	0	17
Total	35	5,296	1,437	0	552	9	0	0	0	1	0	1	0	7,331
Percent	0.5%	72.2%	19.6%	0.0%	7.5%	0.1%	0.0%							

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

Wednesday, November 9, 2022
Westbound

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	17	1	0	0	0	0	0	0	0	0	0	0	18
1:00 AM	0	14	1	0	0	0	0	0	0	0	0	0	0	15
2:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	11
4:00 AM	0	16	11	0	2	0	0	0	0	0	0	0	0	29
5:00 AM	0	52	11	0	7	0	0	0	0	0	0	0	0	70
6:00 AM	0	139	37	0	19	0	0	0	0	0	0	0	0	195
7:00 AM	0	559	113	0	49	1	0	0	0	0	0	0	0	722
8:00 AM	1	577	147	0	40	0	0	0	0	0	0	0	0	765
9:00 AM	0	330	97	0	28	0	0	0	0	0	0	0	0	455
10:00 AM	0	297	66	0	29	0	0	0	0	0	0	0	0	392
11:00 AM	0	328	67	0	30	0	0	0	0	0	0	0	0	425
12:00 PM	0	338	80	0	22	1	0	0	0	0	0	0	0	441
1:00 PM	2	361	87	0	31	0	0	1	1	0	0	0	0	483
2:00 PM	1	279	107	0	37	0	0	0	0	0	0	0	0	424
3:00 PM	3	438	114	0	43	1	0	0	0	0	0	0	0	599
4:00 PM	1	372	83	0	52	1	0	0	0	0	0	0	0	509
5:00 PM	2	436	96	0	45	0	0	0	0	0	0	0	0	579
6:00 PM	0	265	56	0	29	0	0	0	0	0	0	0	0	350
7:00 PM	1	210	50	0	20	0	0	0	0	0	0	0	0	281
8:00 PM	1	181	71	0	8	0	0	0	0	0	0	0	0	261
9:00 PM	0	90	50	0	14	0	0	0	0	0	0	0	0	154
10:00 PM	0	63	13	0	9	0	0	0	0	0	0	0	0	85
11:00 PM	0	18	1	0	1	0	0	0	0	0	0	0	0	20
Total	12	5,395	1,360	0	515	4	0	1	1	0	0	0	0	7,288
Percent	0.2%	74.0%	18.7%	0.0%	7.1%	0.1%	0.0%							

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**Total Study Average
Eastbound**

Time	FHWA Vehicle Classification													Total Volume	
	1	2	3	4	5	6	7	8	9	10	11	12	13		
12:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
1:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
2:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12
4:00 AM	0	14	3	0	0	0	0	0	0	0	0	0	0	0	17
5:00 AM	1	60	15	0	1	0	0	0	0	0	0	0	0	0	77
6:00 AM	1	104	39	0	7	0	0	0	0	0	0	0	0	0	151
7:00 AM	0	301	61	0	24	0	0	0	0	0	0	0	0	0	386
8:00 AM	3	375	94	0	17	0	0	0	0	1	0	0	0	0	490
9:00 AM	1	272	73	0	25	0	0	0	0	0	0	0	0	0	371
10:00 AM	3	245	76	0	14	0	0	0	0	0	0	0	0	0	338
11:00 AM	1	310	81	0	22	0	0	0	0	0	0	0	0	0	414
12:00 PM	4	429	96	0	26	0	0	0	0	0	0	0	0	0	555
1:00 PM	5	366	89	0	37	1	0	0	0	0	0	0	0	0	498
2:00 PM	4	318	100	0	58	1	0	0	0	0	0	1	0	0	482
3:00 PM	3	421	119	0	64	0	0	0	0	0	0	0	0	0	607
4:00 PM	4	537	128	0	83	1	0	0	0	0	0	0	0	0	753
5:00 PM	1	668	155	0	70	2	0	0	0	0	0	0	0	0	896
6:00 PM	3	365	98	0	48	4	0	0	0	0	0	0	0	0	518
7:00 PM	1	219	55	0	16	0	0	0	0	0	0	0	0	0	291
8:00 PM	0	138	54	0	24	0	0	0	0	0	0	0	0	0	216
9:00 PM	0	64	73	0	10	0	0	0	0	0	0	0	0	0	147
10:00 PM	0	47	20	0	5	0	0	0	0	0	0	0	0	0	72
11:00 PM	0	13	3	0	1	0	0	0	0	0	0	0	0	0	17
Total	35	5,296	1,437	0	552	9	0	0	0	1	0	1	0	0	7,331
Percent	0.5%	72.2%	19.6%	0.0%	7.5%	0.1%	0.0%	0.0%							

Note: Average only considered on days with 24-hours of data.

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**Total Study Average
Westbound**

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	17	1	0	0	0	0	0	0	0	0	0	0	18
1:00 AM	0	14	1	0	0	0	0	0	0	0	0	0	0	15
2:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	11
4:00 AM	0	16	11	0	2	0	0	0	0	0	0	0	0	29
5:00 AM	0	52	11	0	7	0	0	0	0	0	0	0	0	70
6:00 AM	0	139	37	0	19	0	0	0	0	0	0	0	0	195
7:00 AM	0	559	113	0	49	1	0	0	0	0	0	0	0	722
8:00 AM	1	577	147	0	40	0	0	0	0	0	0	0	0	765
9:00 AM	0	330	97	0	28	0	0	0	0	0	0	0	0	455
10:00 AM	0	297	66	0	29	0	0	0	0	0	0	0	0	392
11:00 AM	0	328	67	0	30	0	0	0	0	0	0	0	0	425
12:00 PM	0	338	80	0	22	1	0	0	0	0	0	0	0	441
1:00 PM	2	361	87	0	31	0	0	1	1	0	0	0	0	483
2:00 PM	1	279	107	0	37	0	0	0	0	0	0	0	0	424
3:00 PM	3	438	114	0	43	1	0	0	0	0	0	0	0	599
4:00 PM	1	372	83	0	52	1	0	0	0	0	0	0	0	509
5:00 PM	2	436	96	0	45	0	0	0	0	0	0	0	0	579
6:00 PM	0	265	56	0	29	0	0	0	0	0	0	0	0	350
7:00 PM	1	210	50	0	20	0	0	0	0	0	0	0	0	281
8:00 PM	1	181	71	0	8	0	0	0	0	0	0	0	0	261
9:00 PM	0	90	50	0	14	0	0	0	0	0	0	0	0	154
10:00 PM	0	63	13	0	9	0	0	0	0	0	0	0	0	85
11:00 PM	0	18	1	0	1	0	0	0	0	0	0	0	0	20
Total	12	5,395	1,360	0	515	4	0	1	1	0	0	0	0	7,288
Percent	0.2%	74.0%	18.7%	0.0%	7.1%	0.1%	0.0%							

Note: Average only considered on days with 24-hours of data.

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**3-Day (Tuesday - Thursday) Average
Eastbound**

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	11
1:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0	7
2:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	12	0	0	0	0	0	0	0	0	0	0	0	12
4:00 AM	0	14	3	0	0	0	0	0	0	0	0	0	0	17
5:00 AM	1	60	15	0	1	0	0	0	0	0	0	0	0	77
6:00 AM	1	104	39	0	7	0	0	0	0	0	0	0	0	151
7:00 AM	0	301	61	0	24	0	0	0	0	0	0	0	0	386
8:00 AM	3	375	94	0	17	0	0	0	0	1	0	0	0	490
9:00 AM	1	272	73	0	25	0	0	0	0	0	0	0	0	371
10:00 AM	3	245	76	0	14	0	0	0	0	0	0	0	0	338
11:00 AM	1	310	81	0	22	0	0	0	0	0	0	0	0	414
12:00 PM	4	429	96	0	26	0	0	0	0	0	0	0	0	555
1:00 PM	5	366	89	0	37	1	0	0	0	0	0	0	0	498
2:00 PM	4	318	100	0	58	1	0	0	0	0	0	1	0	482
3:00 PM	3	421	119	0	64	0	0	0	0	0	0	0	0	607
4:00 PM	4	537	128	0	83	1	0	0	0	0	0	0	0	753
5:00 PM	1	668	155	0	70	2	0	0	0	0	0	0	0	896
6:00 PM	3	365	98	0	48	4	0	0	0	0	0	0	0	518
7:00 PM	1	219	55	0	16	0	0	0	0	0	0	0	0	291
8:00 PM	0	138	54	0	24	0	0	0	0	0	0	0	0	216
9:00 PM	0	64	73	0	10	0	0	0	0	0	0	0	0	147
10:00 PM	0	47	20	0	5	0	0	0	0	0	0	0	0	72
11:00 PM	0	13	3	0	1	0	0	0	0	0	0	0	0	17
Total	35	5,296	1,437	0	552	9	0	0	0	1	0	1	0	7,331
Percent	0.5%	72.2%	19.6%	0.0%	7.5%	0.1%	0.0%							

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**3-Day (Tuesday - Thursday) Average
 Westbound**

Time	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
12:00 AM	0	17	1	0	0	0	0	0	0	0	0	0	0	18
1:00 AM	0	14	1	0	0	0	0	0	0	0	0	0	0	15
2:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	11
4:00 AM	0	16	11	0	2	0	0	0	0	0	0	0	0	29
5:00 AM	0	52	11	0	7	0	0	0	0	0	0	0	0	70
6:00 AM	0	139	37	0	19	0	0	0	0	0	0	0	0	195
7:00 AM	0	559	113	0	49	1	0	0	0	0	0	0	0	722
8:00 AM	1	577	147	0	40	0	0	0	0	0	0	0	0	765
9:00 AM	0	330	97	0	28	0	0	0	0	0	0	0	0	455
10:00 AM	0	297	66	0	29	0	0	0	0	0	0	0	0	392
11:00 AM	0	328	67	0	30	0	0	0	0	0	0	0	0	425
12:00 PM	0	338	80	0	22	1	0	0	0	0	0	0	0	441
1:00 PM	2	361	87	0	31	0	0	1	1	0	0	0	0	483
2:00 PM	1	279	107	0	37	0	0	0	0	0	0	0	0	424
3:00 PM	3	438	114	0	43	1	0	0	0	0	0	0	0	599
4:00 PM	1	372	83	0	52	1	0	0	0	0	0	0	0	509
5:00 PM	2	436	96	0	45	0	0	0	0	0	0	0	0	579
6:00 PM	0	265	56	0	29	0	0	0	0	0	0	0	0	350
7:00 PM	1	210	50	0	20	0	0	0	0	0	0	0	0	281
8:00 PM	1	181	71	0	8	0	0	0	0	0	0	0	0	261
9:00 PM	0	90	50	0	14	0	0	0	0	0	0	0	0	154
10:00 PM	0	63	13	0	9	0	0	0	0	0	0	0	0	85
11:00 PM	0	18	1	0	1	0	0	0	0	0	0	0	0	20
Total	12	5,395	1,360	0	515	4	0	1	1	0	0	0	0	7,288
Percent	0.2%	74.0%	18.7%	0.0%	7.1%	0.1%	0.0%							

Vehicle Speed Report Summary

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave

Count Direction: Eastbound / Westbound

Date Range: 11/9/2022 to 11/9/2022

Site Code: 01

	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
Study Total																		
Eastbound	1	9	17	29	62	261	1,890	3,461	1,339	220	30	7	3	1	1	0	0	7,331
Percent	0.0%	0.1%	0.2%	0.4%	0.8%	3.6%	25.8%	47.2%	18.3%	3.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Westbound	2	12	8	32	56	135	1,300	3,359	1,880	409	80	10	2	1	2	0	0	7,288
Percent	0.0%	0.2%	0.1%	0.4%	0.8%	1.9%	17.8%	46.1%	25.8%	5.6%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Total	3	21	25	61	118	396	3,190	6,820	3,219	629	110	17	5	2	3	0	0	14,619
Percent	0.0%	0.1%	0.2%	0.4%	0.8%	2.7%	21.8%	46.7%	22.0%	4.3%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Total Study Percentile Speed Summary			Total Study Speed Statistics		
Eastbound			Eastbound		
50th Percentile (Median)	41.9	mph	Mean (Average) Speed	41.9	mph
85th Percentile	46.1	mph	10 mph Pace	37.1 - 47.1	mph
95th Percentile	49.1	mph	Percent in Pace	79.0	%
Westbound			Westbound		
50th Percentile (Median)	43.1	mph	Mean (Average) Speed	43.2	mph
85th Percentile	47.6	mph	10 mph Pace	38.5 - 48.5	mph
95th Percentile	51.0	mph	Percent in Pace	76.4	%

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
 Date Range: 11/9/2022 to 11/9/2022
 Site Code: 01

Wednesday, November 9, 2022
 Eastbound

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	0	4	4	3	0	0	0	0	0	0	0	0	11
1:00 AM	0	0	0	0	1	1	4	0	1	0	0	0	0	0	0	0	0	7
2:00 AM	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	5
3:00 AM	0	0	0	0	2	0	1	1	7	1	0	0	0	0	0	0	0	12
4:00 AM	0	0	0	0	0	0	4	5	6	2	0	0	0	0	0	0	0	17
5:00 AM	0	0	2	2	0	4	20	28	11	9	0	1	0	0	0	0	0	77
6:00 AM	0	0	3	0	2	10	37	64	25	8	2	0	0	0	0	0	0	151
7:00 AM	0	0	0	0	13	27	120	173	42	9	1	1	0	0	0	0	0	386
8:00 AM	0	2	1	1	4	17	159	218	78	9	0	1	0	0	0	0	0	490
9:00 AM	0	0	0	1	2	20	126	169	47	4	2	0	0	0	0	0	0	371
10:00 AM	0	0	0	4	2	31	127	136	31	5	2	0	0	0	0	0	0	338
11:00 AM	0	0	0	1	4	10	132	220	40	6	1	0	0	0	0	0	0	414
12:00 PM	0	1	2	2	0	16	182	304	43	4	1	0	0	0	0	0	0	555
1:00 PM	0	0	2	1	4	15	109	254	100	11	2	0	0	0	0	0	0	498
2:00 PM	0	1	1	3	6	6	84	184	168	27	1	1	0	0	0	0	0	482
3:00 PM	0	1	0	3	3	8	112	290	173	15	2	0	0	0	0	0	0	607
4:00 PM	1	3	3	1	3	12	129	422	166	11	1	1	0	0	0	0	0	753
5:00 PM	0	0	1	4	6	42	275	442	114	11	0	1	0	0	0	0	0	896
6:00 PM	0	0	2	3	4	19	138	253	85	11	1	0	0	1	1	0	0	518
7:00 PM	0	1	0	3	2	10	71	142	46	13	2	0	1	0	0	0	0	291
8:00 PM	0	0	0	0	0	8	39	82	57	22	5	1	2	0	0	0	0	216
9:00 PM	0	0	0	0	2	0	10	39	61	31	4	0	0	0	0	0	0	147
10:00 PM	0	0	0	0	2	4	6	22	27	8	3	0	0	0	0	0	0	72
11:00 PM	0	0	0	0	0	1	1	6	6	3	0	0	0	0	0	0	0	17
Total	1	9	17	29	62	261	1,890	3,461	1,339	220	30	7	3	1	1	0	0	7,331
Percent	0.0%	0.1%	0.2%	0.4%	0.8%	3.6%	25.8%	47.2%	18.3%	3.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Daily Percentile Speed Summary		Speed Statistics	
50th Percentile (Median)	41.9 mph	Mean (Average) Speed	41.9 mph
85th Percentile	46.1 mph	10 mph Pace	37.1 - 47.1 mph
95th Percentile	49.1 mph	Percent in Pace	79.0 %

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
 Date Range: 11/9/2022 to 11/9/2022
 Site Code: 01

Wednesday, November 9, 2022
 Westbound

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	0	3	5	7	2	1	0	0	0	0	0	0	18
1:00 AM	0	0	0	0	0	1	1	9	4	0	0	0	0	0	0	0	0	15
2:00 AM	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0	0	5
3:00 AM	0	1	0	0	0	1	1	4	3	1	0	0	0	0	0	0	0	11
4:00 AM	0	0	0	0	0	1	6	9	7	6	0	0	0	0	0	0	0	29
5:00 AM	0	0	0	1	0	0	9	28	20	8	4	0	0	0	0	0	0	70
6:00 AM	0	0	0	0	0	3	24	92	63	11	1	1	0	0	0	0	0	195
7:00 AM	1	9	5	8	6	22	198	349	110	12	2	0	0	0	0	0	0	722
8:00 AM	0	0	0	0	6	18	199	412	123	6	1	0	0	0	0	0	0	765
9:00 AM	0	0	0	0	0	4	70	231	115	30	5	0	0	0	0	0	0	455
10:00 AM	0	0	0	0	0	5	96	194	78	17	2	0	0	0	0	0	0	392
11:00 AM	0	0	0	2	5	5	72	198	118	21	4	0	0	0	0	0	0	425
12:00 PM	0	0	0	0	11	4	76	198	124	24	4	0	0	0	0	0	0	441
1:00 PM	0	0	0	6	0	18	70	231	124	30	3	0	1	0	0	0	0	483
2:00 PM	0	2	2	2	4	8	63	188	126	24	2	1	1	0	1	0	0	424
3:00 PM	0	0	1	1	3	16	97	268	169	36	5	2	0	0	1	0	0	599
4:00 PM	0	0	0	2	6	8	71	249	136	34	3	0	0	0	0	0	0	509
5:00 PM	0	0	0	3	4	10	101	248	188	22	3	0	0	0	0	0	0	579
6:00 PM	1	0	0	5	5	3	57	150	102	20	7	0	0	0	0	0	0	350
7:00 PM	0	0	0	0	1	1	35	133	89	20	2	0	0	0	0	0	0	281
8:00 PM	0	0	0	1	3	6	38	91	74	34	12	2	0	0	0	0	0	261
9:00 PM	0	0	0	0	1	1	7	32	61	36	12	3	0	1	0	0	0	154
10:00 PM	0	0	0	1	1	0	5	32	31	10	4	1	0	0	0	0	0	85
11:00 PM	0	0	0	0	0	0	0	5	8	4	3	0	0	0	0	0	0	20
Total	2	12	8	32	56	135	1,300	3,359	1,880	409	80	10	2	1	2	0	0	7,288
Percent	0.0%	0.2%	0.1%	0.4%	0.8%	1.9%	17.8%	46.1%	25.8%	5.6%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Daily Percentile Speed Summary		Speed Statistics	
50th Percentile (Median)	43.1 mph	Mean (Average) Speed	43.2 mph
85th Percentile	47.6 mph	10 mph Pace	38.5 - 48.5 mph
95th Percentile	51.0 mph	Percent in Pace	76.41 %

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
 Date Range: 11/9/2022 to 11/9/2022
 Site Code: 01

**Total Study Average
Eastbound**

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	0	4	4	3	0	0	0	0	0	0	0	0	11
1:00 AM	0	0	0	0	1	1	4	0	1	0	0	0	0	0	0	0	0	7
2:00 AM	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	5
3:00 AM	0	0	0	0	2	0	1	1	7	1	0	0	0	0	0	0	0	12
4:00 AM	0	0	0	0	0	0	4	5	6	2	0	0	0	0	0	0	0	17
5:00 AM	0	0	2	2	0	4	20	28	11	9	0	1	0	0	0	0	0	77
6:00 AM	0	0	3	0	2	10	37	64	25	8	2	0	0	0	0	0	0	151
7:00 AM	0	0	0	0	13	27	120	173	42	9	1	1	0	0	0	0	0	386
8:00 AM	0	2	1	1	4	17	159	218	78	9	0	1	0	0	0	0	0	490
9:00 AM	0	0	0	1	2	20	126	169	47	4	2	0	0	0	0	0	0	371
10:00 AM	0	0	0	4	2	31	127	136	31	5	2	0	0	0	0	0	0	338
11:00 AM	0	0	0	1	4	10	132	220	40	6	1	0	0	0	0	0	0	414
12:00 PM	0	1	2	2	0	16	182	304	43	4	1	0	0	0	0	0	0	555
1:00 PM	0	0	2	1	4	15	109	254	100	11	2	0	0	0	0	0	0	498
2:00 PM	0	1	1	3	6	6	84	184	168	27	1	1	0	0	0	0	0	482
3:00 PM	0	1	0	3	3	8	112	290	173	15	2	0	0	0	0	0	0	607
4:00 PM	1	3	3	1	3	12	129	422	166	11	1	1	0	0	0	0	0	753
5:00 PM	0	0	1	4	6	42	275	442	114	11	0	1	0	0	0	0	0	896
6:00 PM	0	0	2	3	4	19	138	253	85	11	1	0	0	1	1	0	0	518
7:00 PM	0	1	0	3	2	10	71	142	46	13	2	0	1	0	0	0	0	291
8:00 PM	0	0	0	0	0	8	39	82	57	22	5	1	2	0	0	0	0	216
9:00 PM	0	0	0	0	2	0	10	39	61	31	4	0	0	0	0	0	0	147
10:00 PM	0	0	0	0	2	4	6	22	27	8	3	0	0	0	0	0	0	72
11:00 PM	0	0	0	0	0	1	1	6	6	3	0	0	0	0	0	0	0	17
Total	1	9	17	29	62	261	1,890	3,461	1,339	220	30	7	3	1	1	0	0	7,331
Percent	0.0%	0.1%	0.2%	0.4%	0.8%	3.6%	25.8%	47.2%	18.3%	3.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Note: Average only considered on days with 24-hours of data.

Total Study Percentile Speed Summary		Total Study Speed Statistics	
50th Percentile (Median)	41.9 mph	Mean (Average) Speed	41.9 mph
85th Percentile	46.1 mph	10 mph Pace	37.1 - 47.1 mph
95th Percentile	49.1 mph	Percent in Pace	79.0 %

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
Date Range: 11/9/2022 to 11/9/2022
Site Code: 01

**Total Study Average
Westbound**

Time	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
12:00 AM	0	0	0	0	0	0	3	5	7	2	1	0	0	0	0	0	0	18
1:00 AM	0	0	0	0	0	1	1	9	4	0	0	0	0	0	0	0	0	15
2:00 AM	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0	0	5
3:00 AM	0	1	0	0	0	1	1	4	3	1	0	0	0	0	0	0	0	11
4:00 AM	0	0	0	0	0	1	6	9	7	6	0	0	0	0	0	0	0	29
5:00 AM	0	0	0	1	0	0	9	28	20	8	4	0	0	0	0	0	0	70
6:00 AM	0	0	0	0	0	3	24	92	63	11	1	1	0	0	0	0	0	195
7:00 AM	1	9	5	8	6	22	198	349	110	12	2	0	0	0	0	0	0	722
8:00 AM	0	0	0	0	6	18	199	412	123	6	1	0	0	0	0	0	0	765
9:00 AM	0	0	0	0	0	4	70	231	115	30	5	0	0	0	0	0	0	455
10:00 AM	0	0	0	0	0	5	96	194	78	17	2	0	0	0	0	0	0	392
11:00 AM	0	0	0	2	5	5	72	198	118	21	4	0	0	0	0	0	0	425
12:00 PM	0	0	0	0	11	4	76	198	124	24	4	0	0	0	0	0	0	441
1:00 PM	0	0	0	6	0	18	70	231	124	30	3	0	1	0	0	0	0	483
2:00 PM	0	2	2	2	4	8	63	188	126	24	2	1	1	0	1	0	0	424
3:00 PM	0	0	1	1	3	16	97	268	169	36	5	2	0	0	1	0	0	599
4:00 PM	0	0	0	2	6	8	71	249	136	34	3	0	0	0	0	0	0	509
5:00 PM	0	0	0	3	4	10	101	248	188	22	3	0	0	0	0	0	0	579
6:00 PM	1	0	0	5	5	3	57	150	102	20	7	0	0	0	0	0	0	350
7:00 PM	0	0	0	0	1	1	35	133	89	20	2	0	0	0	0	0	0	281
8:00 PM	0	0	0	1	3	6	38	91	74	34	12	2	0	0	0	0	0	261
9:00 PM	0	0	0	0	1	1	7	32	61	36	12	3	0	1	0	0	0	154
10:00 PM	0	0	0	1	1	0	5	32	31	10	4	1	0	0	0	0	0	85
11:00 PM	0	0	0	0	0	0	0	5	8	4	3	0	0	0	0	0	0	20
Total	2	12	8	32	56	135	1,300	3,359	1,880	409	80	10	2	1	2	0	0	7,288
Percent	0.0%	0.2%	0.1%	0.4%	0.8%	1.9%	17.8%	46.1%	25.8%	5.6%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Note: Average only considered on days with 24-hours of data.

Total Study Percentile Speed Summary		Total Study Speed Statistics	
50th Percentile (Median)	43.1 mph	Mean (Average) Speed	43.2 mph
85th Percentile	47.6 mph	10 mph Pace	38.5 - 48.5 mph
95th Percentile	51.0 mph	Percent in Pace	76.4 %

Location: E Audubon Dr, Between W Quincy Ave and W Lexington Ave
 Date Range: 11/9/2022 - 11/15/2022
 Site Code: 01

Time	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday			Mid-Week Average		
	11/9/2022			11/10/2022			11/11/2022			11/12/2022			11/13/2022			11/14/2022			11/15/2022					
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	11	18	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	18	29
1:00 AM	7	15	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	15	22
2:00 AM	5	5	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	10
3:00 AM	12	11	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	11	23
4:00 AM	17	29	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	29	46
5:00 AM	77	70	147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	70	147
6:00 AM	151	195	346	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	151	195	346
7:00 AM	386	722	1,108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	386	722	1,108
8:00 AM	490	765	1,255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	490	765	1,255
9:00 AM	371	455	826	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	371	455	826
10:00 AM	338	392	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	338	392	730
11:00 AM	414	425	839	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	414	425	839
12:00 PM	555	441	996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	555	441	996
1:00 PM	498	483	981	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	498	483	981
2:00 PM	482	424	906	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	482	424	906
3:00 PM	607	599	1,206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	607	599	1,206
4:00 PM	753	509	1,262	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	753	509	1,262
5:00 PM	896	579	1,475	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	896	579	1,475
6:00 PM	518	350	868	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	518	350	868
7:00 PM	291	281	572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	291	281	572
8:00 PM	216	261	477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	216	261	477
9:00 PM	147	154	301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	147	154	301
10:00 PM	72	85	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	85	157
11:00 PM	17	20	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	20	37
Total	7,331	7,288	14,619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,331	7,288	14,619
Percent	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	-
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	490	765	1,255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	490	765	1,255
PM Peak	17:00	15:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	15:00	17:00
Vol.	896	599	1,475	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	896	599	1,475

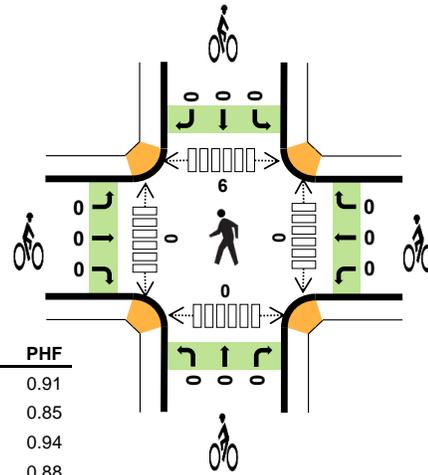
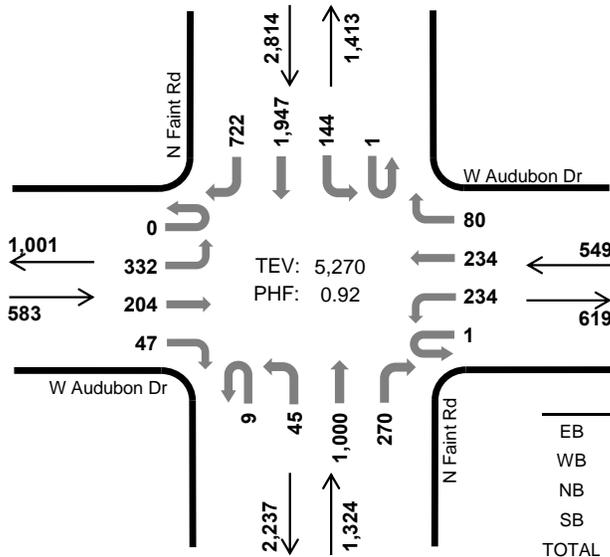
1. Mid-week average includes data between Tuesday and Thursday.

N Faint Rd W Audubon Dr



Peak Hour

Date: 11/15/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	1.0%	0.91
WB	0.5%	0.85
NB	3.8%	0.94
SB	1.2%	0.88
TOTAL	1.8%	0.92

Two-Hour Count Summaries

Interval Start	W Audubon Dr Eastbound				W Audubon Dr Westbound				N Faint Rd Northbound				N Faint Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	1	39	23	16	0	50	24	12	1	6	167	28	0	10	434	96	907	0	
7:15 AM	0	69	32	12	0	45	45	13	0	8	225	40	0	16	464	106	1,075	0	
7:30 AM	0	97	49	15	0	61	40	11	1	12	237	55	0	30	490	147	1,245	0	
7:45 AM	0	79	47	13	1	48	65	20	1	11	246	74	0	45	499	214	1,363	4,590	
8:00 AM	0	76	65	9	0	66	52	24	1	11	256	83	0	51	545	199	1,438	5,121	
8:15 AM	0	80	43	10	0	59	77	25	6	11	261	58	1	18	413	162	1,224	5,270	
8:30 AM	0	100	30	15	0	68	42	15	6	13	243	37	0	21	415	126	1,131	5,156	
8:45 AM	1	60	30	17	0	34	30	23	2	10	279	32	0	17	362	121	1,018	4,811	
Count Total	2	600	319	107	1	431	375	143	18	82	1,914	407	1	208	3,622	1,171	9,401	0	
Peak Hour	All	0	332	204	47	1	234	234	80	9	45	1,000	270	1	144	1,947	722	5,270	0
	HV	0	5	1	0	0	0	2	1	0	4	45	1	0	2	28	4	93	0
	HV%	-	2%	0%	0%	0%	0%	1%	1%	0%	9%	5%	0%	0%	1%	1%	1%	2%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	2	13	9	26	1	0	0	0	1	0	0	2	0	2
7:15 AM	2	1	21	8	32	0	0	0	0	0	0	0	3	0	3
7:30 AM	2	0	14	9	25	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	1	10	8	20	0	0	0	0	0	0	0	1	0	1
8:00 AM	3	1	16	9	29	0	0	0	0	0	0	0	3	0	3
8:15 AM	0	1	10	8	19	0	0	0	0	0	0	0	2	0	2
8:30 AM	2	2	11	4	19	0	0	0	0	0	0	2	2	4	8
8:45 AM	2	1	20	7	30	0	0	0	0	0	0	0	0	0	0
Count Total	14	9	115	62	200	1	0	0	0	1	0	2	13	4	19
Peak Hour	6	3	50	34	93	0	0	0	0	0	0	0	6	0	6

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Dr				W Audubon Dr				N Faint Rd				N Faint Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	0	2	0	2	11	0	0	1	6	2	26	0
7:15 AM	0	1	1	0	0	0	0	1	0	0	21	0	0	1	6	1	32	0
7:30 AM	0	2	0	0	0	0	0	0	0	1	12	1	0	1	7	1	25	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	10	0	0	0	8	0	20	103
8:00 AM	0	2	1	0	0	0	0	1	0	3	13	0	0	1	6	2	29	106
8:15 AM	0	0	0	0	0	0	1	0	0	0	10	0	0	0	7	1	19	93
8:30 AM	0	2	0	0	0	0	0	2	0	1	10	0	0	0	3	1	19	87
8:45 AM	0	1	1	0	0	0	0	1	0	0	19	1	0	0	6	1	30	97
Count Total	0	9	5	0	0	0	2	7	0	7	106	2	0	4	49	9	200	0
Peak Hour	0	5	1	0	0	0	2	1	0	4	45	1	0	2	28	4	93	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Dr			W Audubon Dr			N Faint Rd			N Faint Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

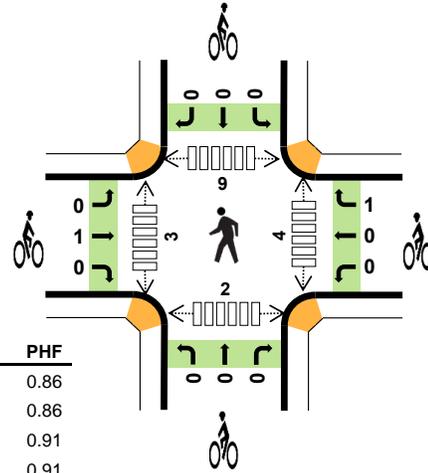
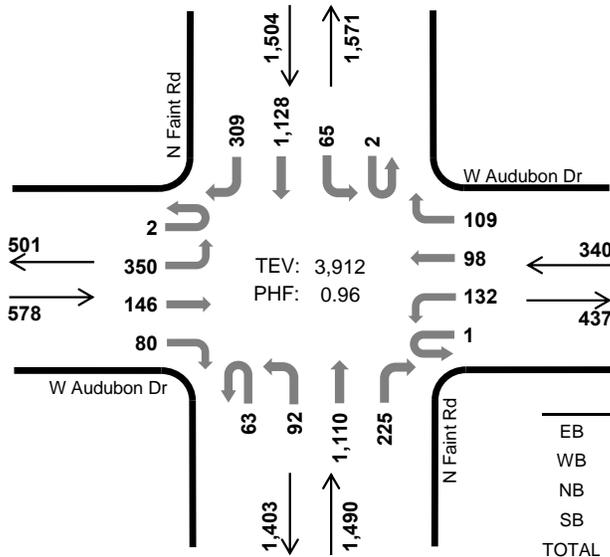
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Faint Rd W Audubon Dr



Peak Hour

Date: 11/15/2022
Count Period: 11:00 AM to 1:00 PM
Peak Hour: 11:45 AM to 12:45 PM



	HV %:	PHF
EB	1.0%	0.86
WB	0.0%	0.86
NB	2.7%	0.91
SB	2.9%	0.91
TOTAL	2.3%	0.96

Two-Hour Count Summaries

Interval Start	W Audubon Dr Eastbound				W Audubon Dr Westbound				N Faint Rd Northbound				N Faint Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:00 AM	0	64	19	16	0	22	10	12	11	14	234	51	0	15	295	66	829	0	
11:15 AM	0	69	27	25	0	22	32	10	7	16	283	38	0	11	199	97	836	0	
11:30 AM	1	63	25	18	0	25	36	22	10	18	238	42	1	14	355	80	948	0	
11:45 AM	0	91	43	15	0	34	20	22	18	14	256	41	0	17	302	92	965	3,578	
12:00 PM	2	114	35	18	0	28	21	29	19	25	267	50	1	21	288	83	1,001	3,750	
12:15 PM	0	62	34	24	0	36	19	32	16	27	278	69	1	17	244	70	929	3,843	
12:30 PM	0	83	34	23	1	34	38	26	10	26	309	65	0	10	294	64	1,017	3,912	
12:45 PM	0	79	30	19	0	43	24	23	8	25	254	61	0	27	272	83	948	3,895	
Count Total	3	625	247	158	1	244	200	176	99	165	2,119	417	3	132	2,249	635	7,473	0	
Peak Hour	All	2	350	146	80	1	132	98	109	63	92	1,110	225	2	65	1,128	309	3,912	0
	HV	0	1	3	2	0	0	0	0	0	5	31	4	0	2	35	6	89	0
	HV%	0%	0%	2%	3%	0%	0%	0%	0%	0%	5%	3%	2%	0%	3%	3%	2%	2%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
11:00 AM	1	0	13	6	20	0	0	0	0	0	0	1	3	0	4
11:15 AM	2	1	5	12	20	0	0	0	0	0	0	1	1	0	2
11:30 AM	0	0	9	14	23	0	0	0	5	5	0	2	2	0	4
11:45 AM	3	0	7	7	17	0	0	0	0	0	0	0	0	0	0
12:00 PM	1	0	15	15	31	1	1	0	0	2	1	0	3	0	4
12:15 PM	2	0	11	9	22	0	0	0	0	0	1	2	4	1	8
12:30 PM	0	0	7	12	19	0	0	0	0	0	2	1	2	1	6
12:45 PM	1	0	12	8	21	0	1	0	0	1	1	1	1	1	4
Count Total	10	1	79	83	173	1	2	0	5	8	5	8	16	3	32
Peak Hour	6	0	40	43	89	1	1	0	0	2	4	3	9	2	18

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	W Audubon Dr				W Audubon Dr				N Faint Rd				N Faint Rd				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:00 AM	0	1	0	0	0	0	0	0	0	0	13	0	0	0	6	0	20	0	
11:15 AM	0	1	0	1	0	1	0	0	0	0	5	0	0	0	11	1	20	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	14	0	23	0	
11:45 AM	0	0	2	1	0	0	0	0	0	0	1	5	1	0	1	4	2	17	80
12:00 PM	0	1	0	0	0	0	0	0	0	0	2	13	0	0	1	11	3	31	91
12:15 PM	0	0	1	1	0	0	0	0	0	0	1	9	1	0	0	8	1	22	93
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	4	2	0	0	12	0	19	89
12:45 PM	0	1	0	0	0	0	0	0	0	0	1	10	1	0	0	8	0	21	93
Count Total	0	4	3	3	0	1	0	0	0	0	6	68	5	0	2	74	7	173	0
Peak Hour	0	1	3	2	0	0	0	0	0	0	5	31	4	0	2	35	6	89	0
Two-Hour Count Summaries - Bikes																			
Interval Start	W Audubon Dr			W Audubon Dr			N Faint Rd			N Faint Rd			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	7
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	1	0	0	0	1	1	0	0	0	0	0	0	5	0	0	0	8	0
Peak Hour	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																			

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Dr				W Audubon Dr				N Faint Rd				N Faint Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	2	0	1	0	0	0	0	0	1	0	0	6	1	12	0
4:15 PM	0	0	0	2	0	0	0	0	0	0	5	1	0	0	5	0	13	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	2	5	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	3	0	6	36
5:00 PM	0	0	0	0	0	0	1	1	0	0	1	2	0	0	2	0	7	31
5:15 PM	0	1	0	2	0	0	0	0	0	0	2	0	0	0	2	0	7	25
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	23
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	20
Count Total	0	1	1	6	0	1	1	2	0	0	16	4	0	0	21	3	56	0
Peak Hour	0	1	0	2	0	0	1	2	0	0	7	2	0	0	8	0	23	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Dr			W Audubon Dr			N Faint Rd			N Faint Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

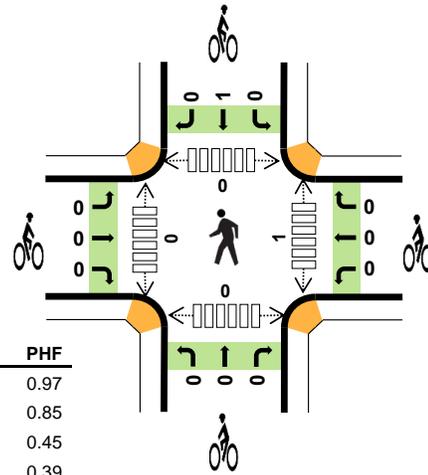
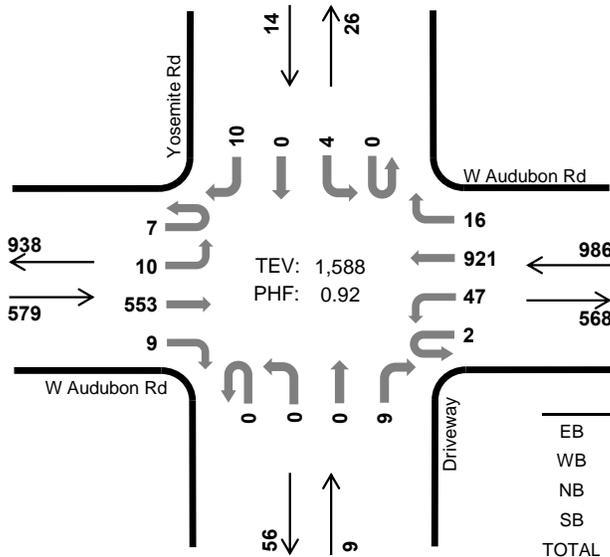
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Yosemite Rd W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	1.9%	0.97
WB	1.1%	0.85
NB	0.0%	0.45
SB	0.0%	0.39
TOTAL	1.4%	0.92

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				Driveway Northbound				Yosemite Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	3	0	91	0	0	5	116	1	0	1	0	0	0	0	0	0	217	0	
7:15 AM	0	2	122	1	0	8	141	2	0	0	0	4	0	2	0	1	283	0	
7:30 AM	1	0	139	5	0	6	190	2	0	0	0	1	0	1	0	3	348	0	
7:45 AM	0	5	133	2	1	20	266	3	0	0	0	3	0	0	0	0	433	1,281	
8:00 AM	2	4	143	1	1	14	239	4	0	0	0	5	0	3	0	6	422	1,486	
8:15 AM	4	1	138	1	0	7	226	7	0	0	0	0	0	0	0	1	385	1,588	
8:30 AM	0	8	135	1	0	7	177	3	0	1	0	2	0	1	0	0	335	1,575	
8:45 AM	1	1	111	3	0	12	134	4	0	0	0	3	0	5	0	1	275	1,417	
Count Total	11	21	1,012	14	2	79	1,489	26	0	2	0	18	0	12	0	12	2,698	0	
Peak Hour	All	7	10	553	9	2	47	921	16	0	0	0	9	0	4	0	10	1,588	0
	HV	0	0	9	2	0	0	11	0	0	0	0	0	0	0	0	0	22	0
	HV%	0%	0%	2%	22%	0%	0%	1%	0%	-	-	-	0%	-	0%	-	0%	1%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	4	0	0	6	0	0	0	1	1	0	0	0	0	0
7:15 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	4	2	0	0	6	0	0	0	0	0	1	0	0	0	1
7:45 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	7	0	0	11	0	0	0	1	1	0	0	0	0	0
8:15 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
8:30 AM	3	2	1	0	6	0	0	0	1	1	0	0	0	0	0
8:45 AM	1	2	0	1	4	0	0	0	0	0	0	0	0	0	0
Count Total	19	20	1	1	41	0	0	0	3	3	1	0	0	0	1
Peak Hour	11	11	0	0	22	0	0	0	1	1	1	0	0	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				Driveway				Yosemite Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
7:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	2	2	0	0	2	0	0	0	0	0	0	0	0	0	6	0
7:45 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	18
8:00 AM	0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	11	23
8:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	22
8:30 AM	0	1	2	0	0	1	1	0	0	0	0	1	0	0	0	0	6	22
8:45 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	4	23
Count Total	0	1	16	2	0	1	18	1	0	0	0	1	0	1	0	0	41	0
Peak Hour	0	0	9	2	0	0	11	0	0	0	0	0	0	0	0	0	22	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Rd			W Audubon Rd			Driveway			Yosemite Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Count Total	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0		

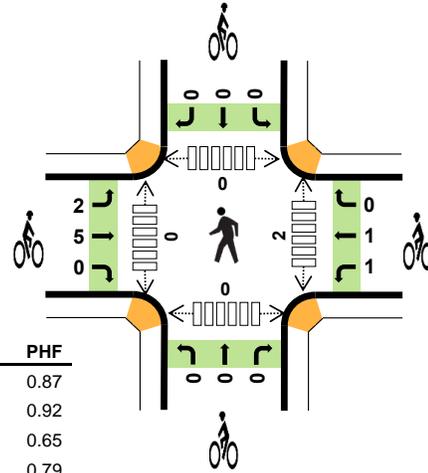
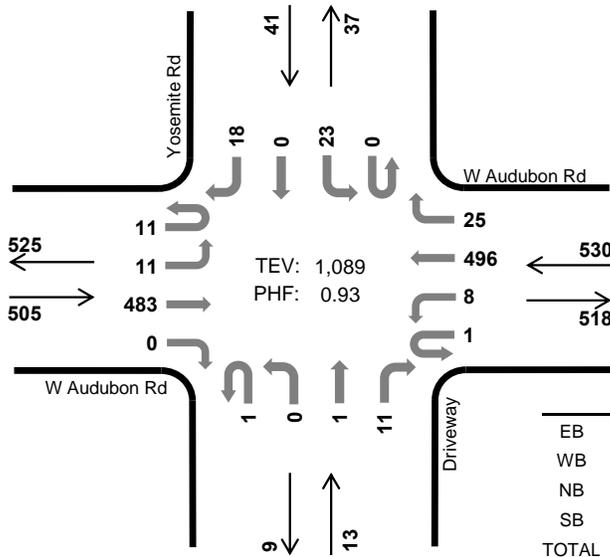
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Yosemite Rd W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 11:00 AM to 1:00 PM
Peak Hour: 11:15 AM to 12:15 PM



	HV %:	PHF
EB	0.8%	0.87
WB	1.7%	0.92
NB	15.4%	0.65
SB	0.0%	0.79
TOTAL	1.4%	0.93

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				Driveway Northbound				Yosemite Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:00 AM	4	4	93	0	0	2	91	2	0	0	0	2	0	1	0	3	202	0	
11:15 AM	2	2	116	0	0	2	132	10	1	0	0	4	0	7	0	6	282	0	
11:30 AM	4	4	98	0	0	3	121	4	0	0	0	2	0	6	0	3	245	0	
11:45 AM	3	4	127	0	1	1	115	6	0	0	0	2	0	4	0	6	269	998	
12:00 PM	2	1	142	0	0	2	128	5	0	0	1	3	0	6	0	3	293	1,089	
12:15 PM	4	2	104	0	0	3	95	5	0	0	0	5	0	7	0	0	225	1,032	
12:30 PM	5	2	132	1	1	5	109	12	0	2	0	3	0	5	0	4	281	1,068	
12:45 PM	2	4	117	2	0	4	115	6	0	0	0	3	0	5	1	3	262	1,061	
Count Total	26	23	929	3	2	22	906	50	1	2	1	24	0	41	1	28	2,059	0	
Peak Hour	All	11	11	483	0	1	8	496	25	1	0	1	11	0	23	0	18	1,089	0
	HV	0	1	3	0	1	1	6	1	0	0	0	2	0	0	0	0	15	0
	HV%	0%	9%	1%	-	100%	13%	1%	4%	0%	-	0%	18%	-	0%	-	0%	1%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
11:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:15 AM	2	0	1	0	3	0	0	0	0	0	1	0	0	0	1
11:30 AM	0	1	0	0	1	5	1	0	0	6	0	0	0	0	0
11:45 AM	2	2	1	0	5	2	0	0	0	2	1	0	0	0	1
12:00 PM	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0
12:15 PM	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0
12:30 PM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
12:45 PM	2	1	0	0	3	0	0	0	1	1	0	0	0	0	0
Count Total	12	12	2	0	26	7	2	0	1	10	2	0	0	0	2
Peak Hour	4	9	2	0	15	7	2	0	0	9	2	0	0	0	2

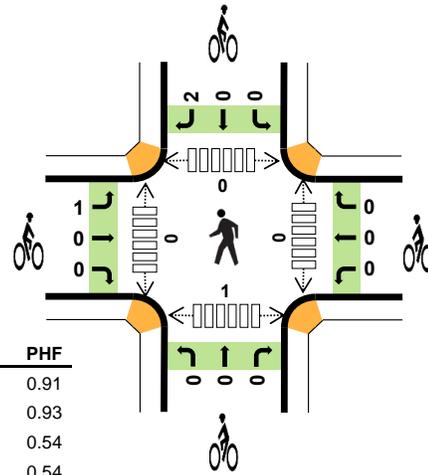
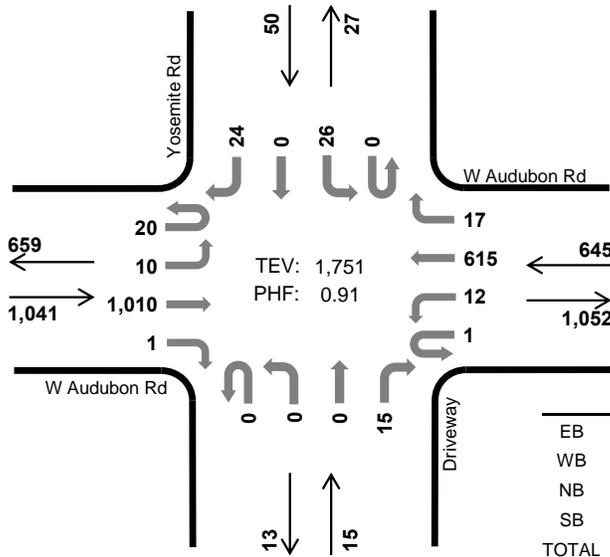
Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				Driveway				Yosemite Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:15 AM	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0
11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
11:45 AM	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	5	10
12:00 PM	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	6	15
12:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	16
12:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	18
12:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	16
Count Total	0	1	11	0	1	1	9	1	0	0	0	2	0	0	0	0	26	0
Peak Hour	0	1	3	0	1	1	6	1	0	0	0	2	0	0	0	0	15	0
Two-Hour Count Summaries - Bikes																		
Interval Start	W Audubon Rd			W Audubon Rd			Driveway			Yosemite Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0	0
11:45 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	8
12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	9	9
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2
Count Total	2	5	0	1	1	0	0	0	0	0	0	0	0	0	1	10	0	0
Peak Hour	2	5	0	1	1	0	0	0	0	0	0	0	0	0	0	9	0	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

Yosemite Rd W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.91
WB	0.2%	0.93
NB	0.0%	0.54
SB	0.0%	0.54
TOTAL	0.1%	0.91

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				Driveway Northbound				Yosemite Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	5	1	158	1	0	3	145	9	0	0	0	8	0	6	0	5	341	0	
4:15 PM	3	6	195	0	0	1	153	8	0	0	0	3	0	4	0	5	378	0	
4:30 PM	9	2	212	0	0	4	157	4	0	1	0	5	0	11	0	8	413	0	
4:45 PM	6	3	228	0	0	0	140	7	0	0	0	2	0	5	0	1	392	1,524	
5:00 PM	9	4	273	1	0	4	155	3	0	0	0	7	0	11	0	12	479	1,662	
5:15 PM	3	2	275	0	1	8	158	6	0	0	0	2	0	5	0	6	466	1,750	
5:30 PM	2	1	234	0	0	0	162	1	0	0	0	4	0	5	0	5	414	1,751	
5:45 PM	6	3	193	0	0	4	123	2	0	2	0	2	0	6	0	2	343	1,702	
Count Total	43	22	1,768	2	1	24	1,193	40	0	3	0	33	0	53	0	44	3,226	0	
Peak Hour	All	20	10	1,010	1	1	12	615	17	0	0	0	15	0	26	0	24	1,751	0
	HV	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	HV%	0%	0%	0%	0%	0%	8%	0%	0%	-	-	-	0%	-	0%	-	0%	0%	0

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

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

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				Driveway				Yosemite Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	6	0	0	1	3	0	0	0	0	0	0	0	0	0	10	0
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Rd			W Audubon Rd			Driveway			Yosemite Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
Count Total	1	0	0	0	0	2	0	0	0	0	0	0	0	2	0	5	0
Peak Hour	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0

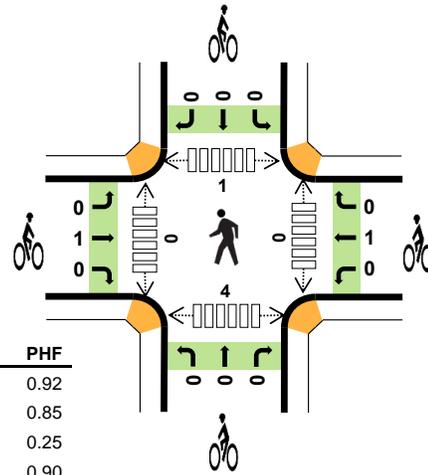
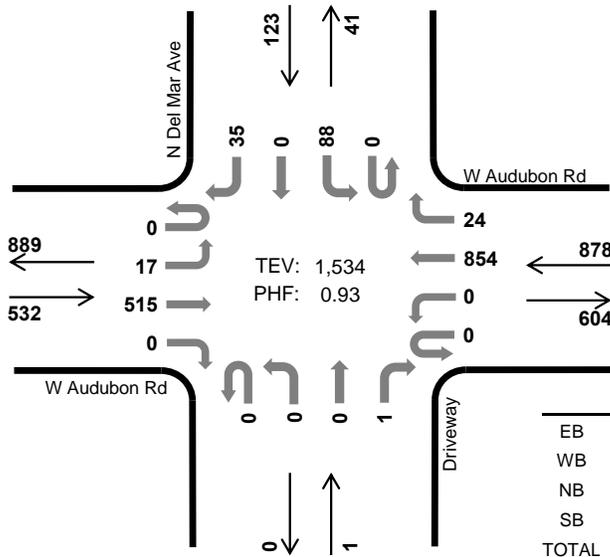
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Del Mar Ave W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	0.8%	0.92
WB	1.3%	0.85
NB	0.0%	0.25
SB	0.8%	0.90
TOTAL	1.0%	0.93

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				Driveway Northbound				N Del Mar Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	6	78	0	0	0	109	4	0	0	0	0	0	18	0	5	220	0	
7:15 AM	0	1	96	0	0	0	137	2	0	0	0	0	0	30	0	6	272	0	
7:30 AM	0	3	123	1	0	0	176	0	0	0	0	0	0	27	0	11	341	0	
7:45 AM	0	2	121	0	0	0	252	5	0	0	0	0	0	26	0	8	414	1,247	
8:00 AM	0	4	138	0	0	0	232	3	0	0	0	0	0	21	0	6	404	1,431	
8:15 AM	0	3	119	0	0	0	210	6	0	0	0	1	0	22	0	12	373	1,532	
8:30 AM	0	8	137	0	0	0	160	10	0	0	0	0	0	19	0	9	343	1,534	
8:45 AM	0	2	100	0	0	0	117	8	0	0	0	0	0	20	0	13	260	1,380	
Count Total	0	29	912	1	0	0	1,393	38	0	0	0	1	0	183	0	70	2,627	0	
Peak Hour	All	0	17	515	0	0	0	854	24	0	0	0	1	0	88	0	35	1,534	0
	HV	0	1	3	0	0	0	11	0	0	0	0	0	0	1	0	0	16	0
	HV%	-	6%	1%	-	-	-	1%	0%	-	-	-	0%	-	1%	-	0%	1%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	2	0	1	6	0	1	0	0	1	0	0	0	0	0
7:15 AM	1	1	0	1	3	0	0	0	0	0	0	0	0	1	1
7:30 AM	1	1	0	1	3	0	0	0	0	0	0	0	0	1	1
7:45 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
8:00 AM	2	7	0	1	10	0	0	0	0	0	0	0	0	1	2
8:15 AM	0	2	0	0	2	1	0	0	0	1	0	0	0	0	1
8:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1
8:45 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1
Count Total	10	16	0	4	30	1	2	0	0	3	0	1	3	6	10
Peak Hour	4	11	0	1	16	1	1	0	0	2	0	0	1	4	5

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				Driveway				N Del Mar Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	2	0	0	0	1	1	0	0	0	0	0	0	0	1	6	0
7:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	3	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	3	0
7:45 AM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3	15
8:00 AM	0	0	2	0	0	0	7	0	0	0	0	0	0	0	1	0	10	19
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	18
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	16
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	15
Count Total	0	2	8	0	0	0	15	1	0	0	0	0	0	0	3	0	30	0
Peak Hour	0	1	3	0	0	0	11	0	0	0	0	0	0	0	1	0	16	0

Two-Hour Count Summaries - Bikes																		
Interval Start	W Audubon Rd			W Audubon Rd			Driveway			N Del Mar Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0

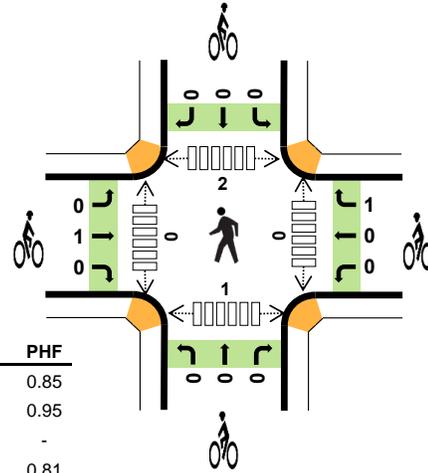
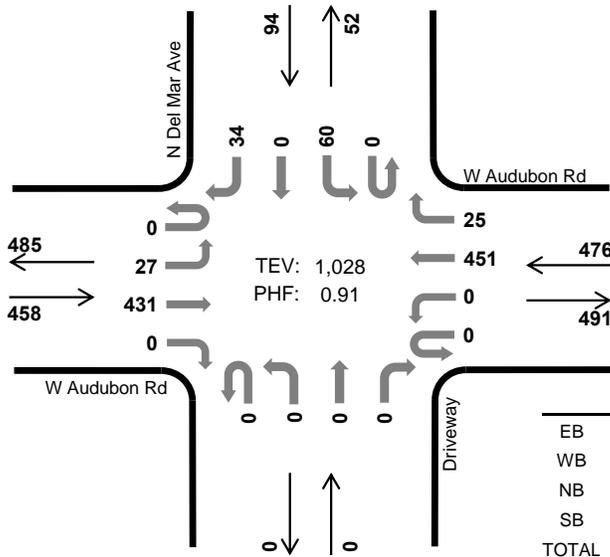
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Del Mar Ave W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 11:00 AM to 1:00 PM
Peak Hour: 11:15 AM to 12:15 PM



	HV %:	PHF
EB	1.1%	0.85
WB	1.1%	0.95
NB	-	-
SB	4.3%	0.81
TOTAL	1.4%	0.91

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				Driveway Northbound				N Del Mar Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:00 AM	0	2	83	0	0	0	86	2	0	0	0	0	0	12	0	7	192	0	
11:15 AM	0	9	103	0	0	0	116	6	0	0	0	0	0	15	0	14	263	0	
11:30 AM	0	6	92	0	0	0	105	6	0	0	0	0	0	15	0	5	229	0	
11:45 AM	0	5	108	0	0	0	116	2	0	0	0	0	0	17	0	5	253	937	
12:00 PM	0	7	128	0	0	0	114	11	0	0	0	0	0	13	0	10	283	1,028	
12:15 PM	0	9	102	0	0	0	86	10	0	0	0	0	0	11	0	2	220	985	
12:30 PM	0	6	116	0	0	0	103	8	0	0	0	0	0	14	0	11	258	1,014	
12:45 PM	0	7	109	0	0	0	93	10	0	0	0	0	0	17	0	6	242	1,003	
Count Total	0	51	841	0	0	0	819	55	0	0	0	0	0	114	0	60	1,940	0	
Peak Hour	All	0	27	431	0	0	0	451	25	0	0	0	0	0	60	0	34	1,028	0
	HV	0	2	3	0	0	0	3	2	0	0	0	0	0	1	0	3	14	0
	HV%	-	7%	1%	-	-	-	1%	8%	-	-	-	-	-	2%	-	9%	1%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
11:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:15 AM	1	1	0	2	4	0	0	0	0	0	0	0	1	1	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	3	0	0	1	4	1	1	0	0	2	0	0	0	0	0
12:00 PM	1	4	0	1	6	0	0	0	0	0	0	0	1	0	1
12:15 PM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0
12:30 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0
12:45 PM	2	0	0	0	2	1	1	0	0	2	1	0	0	2	3
Count Total	10	8	0	4	22	2	5	0	0	7	1	0	2	3	6
Peak Hour	5	5	0	4	14	1	1	0	0	2	0	0	2	1	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				Driveway				N Del Mar Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	4	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	9
12:00 PM	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	1	6	14
12:15 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	14
12:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
12:45 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13
Count Total	0	3	7	0	0	0	6	2	0	0	0	0	0	1	0	3	22	0
Peak Hour	0	2	3	0	0	0	3	2	0	0	0	0	0	1	0	3	14	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Rd			W Audubon Rd			Driveway			N Del Mar Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	5
12:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	5
Count Total	0	2	0	0	0	4	1	0	0	0	0	0	0	0	0	7	0
Peak Hour	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0

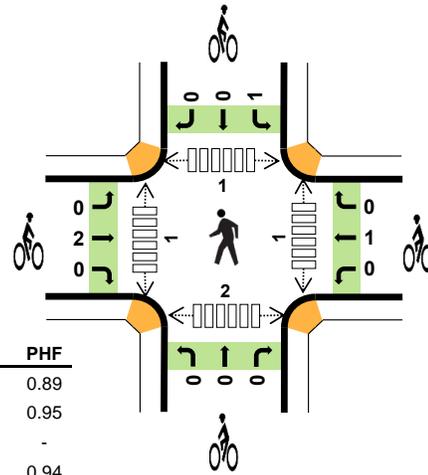
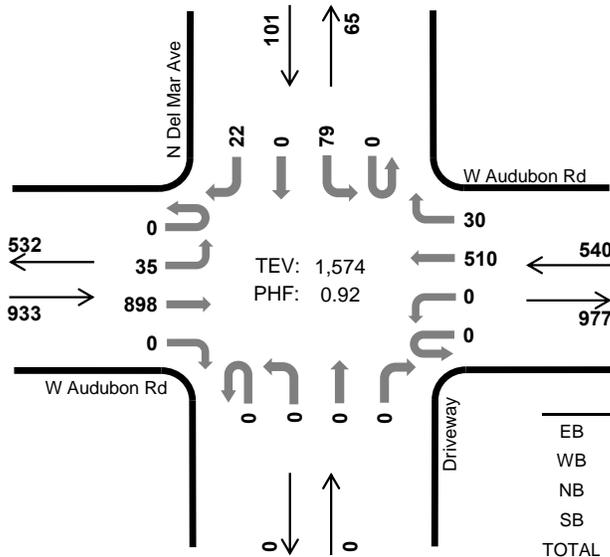
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Del Mar Ave W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.1%	0.89
WB	0.0%	0.95
NB	-	-
SB	2.0%	0.94
TOTAL	0.2%	0.92

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				Driveway Northbound				N Del Mar Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	6	145	1	0	0	132	5	0	0	0	0	0	11	0	6	306	0	
4:15 PM	0	11	177	0	0	0	126	8	0	0	0	0	0	20	0	7	349	0	
4:30 PM	0	9	182	0	0	0	137	13	0	0	0	0	0	19	0	2	362	0	
4:45 PM	0	6	207	0	0	0	118	5	0	0	0	0	0	20	0	5	361	1,378	
5:00 PM	0	16	246	0	0	0	131	7	0	0	0	0	0	19	0	7	426	1,498	
5:15 PM	0	3	248	0	0	0	136	6	0	0	0	0	0	21	0	6	420	1,569	
5:30 PM	0	10	197	0	0	0	125	12	0	0	0	0	0	19	0	4	367	1,574	
5:45 PM	0	10	177	0	0	0	95	8	0	0	0	0	0	14	0	7	311	1,524	
Count Total	0	71	1,579	1	0	0	1,000	64	0	0	0	0	0	143	0	44	2,902	0	
Peak Hour	All	0	35	898	0	0	0	510	30	0	0	0	0	0	79	0	22	1,574	0
	HV	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	3	0
	HV%	-	0%	0%	-	-	-	0%	0%	-	-	-	-	-	1%	-	5%	0%	0

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

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

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				Driveway				N Del Mar Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	1	0	0	0	0	0	2	0	1	6	0
4:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	1	2	0	0	0	3	2	0	0	0	0	0	4	0	2	14	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	3	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Rd			W Audubon Rd			Driveway			N Del Mar Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	5
Count Total	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	7	0
Peak Hour	0	2	0	0	1	0	0	0	0	0	0	1	0	0	0	4	0

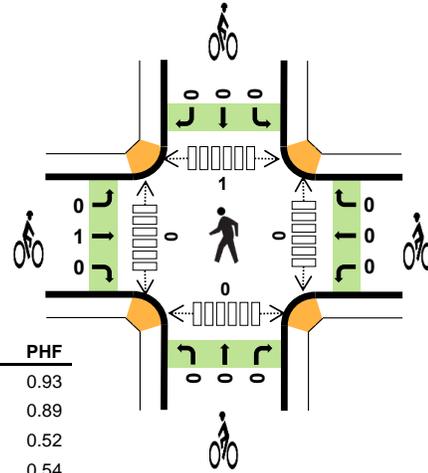
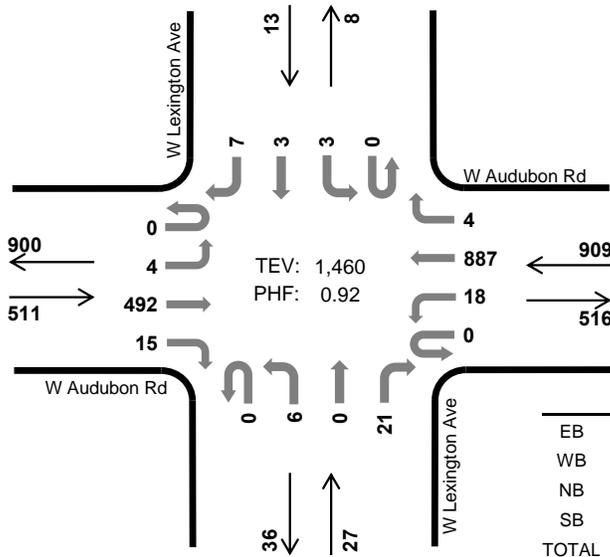
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

W Lexington Ave W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	1.2%	0.93
WB	0.9%	0.89
NB	7.4%	0.52
SB	0.0%	0.54
TOTAL	1.1%	0.92

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				W Lexington Ave Northbound				W Lexington Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	78	2	0	4	110	0	0	2	0	7	0	1	0	1	205	0	
7:15 AM	0	1	83	4	0	3	141	0	0	2	0	1	0	0	0	2	237	0	
7:30 AM	0	0	120	6	0	5	188	0	0	0	0	7	0	0	2	3	331	0	
7:45 AM	0	2	121	1	0	2	254	0	0	4	0	9	0	1	0	1	395	1,168	
8:00 AM	0	1	130	6	0	8	225	3	0	0	0	4	0	2	1	3	383	1,346	
8:15 AM	0	1	121	2	0	3	220	1	0	2	0	1	0	0	0	0	351	1,460	
8:30 AM	0	1	131	0	0	5	153	3	0	1	1	2	0	0	0	1	298	1,427	
8:45 AM	0	3	96	2	0	5	127	2	0	0	1	4	0	1	3	1	245	1,277	
Count Total	0	9	880	23	0	35	1,418	9	0	11	2	35	0	5	6	12	2,445	0	
Peak Hour	All	0	4	492	15	0	18	887	4	0	6	0	21	0	3	3	7	1,460	0
	HV	0	0	6	0	0	2	5	1	0	0	0	2	0	0	0	0	16	0
	HV%	-	0%	1%	0%	-	11%	1%	25%	-	0%	-	10%	-	0%	0%	0%	1%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	1	0	4	0	1	0	0	1	0	0	1	0	1
7:15 AM	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1
7:30 AM	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0
8:00 AM	2	4	1	0	7	1	0	0	0	1	0	0	1	0	1
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	2	0	0	2	0	1	0	0	1	1	0	0	0	1
8:45 AM	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0
Count Total	9	15	4	0	28	1	2	0	0	3	1	0	3	0	4
Peak Hour	6	8	2	0	16	1	0	0	0	1	0	0	1	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				W Lexington Ave				W Lexington Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	4	0
7:15 AM	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	3	0
7:45 AM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	14
8:00 AM	0	0	2	0	0	1	2	1	0	0	0	1	0	0	0	0	7	17
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	16
8:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	15
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	14
Count Total	0	0	8	1	0	4	10	1	0	0	0	4	0	0	0	0	28	0
Peak Hour	0	0	6	0	0	2	5	1	0	0	0	2	0	0	0	0	16	0

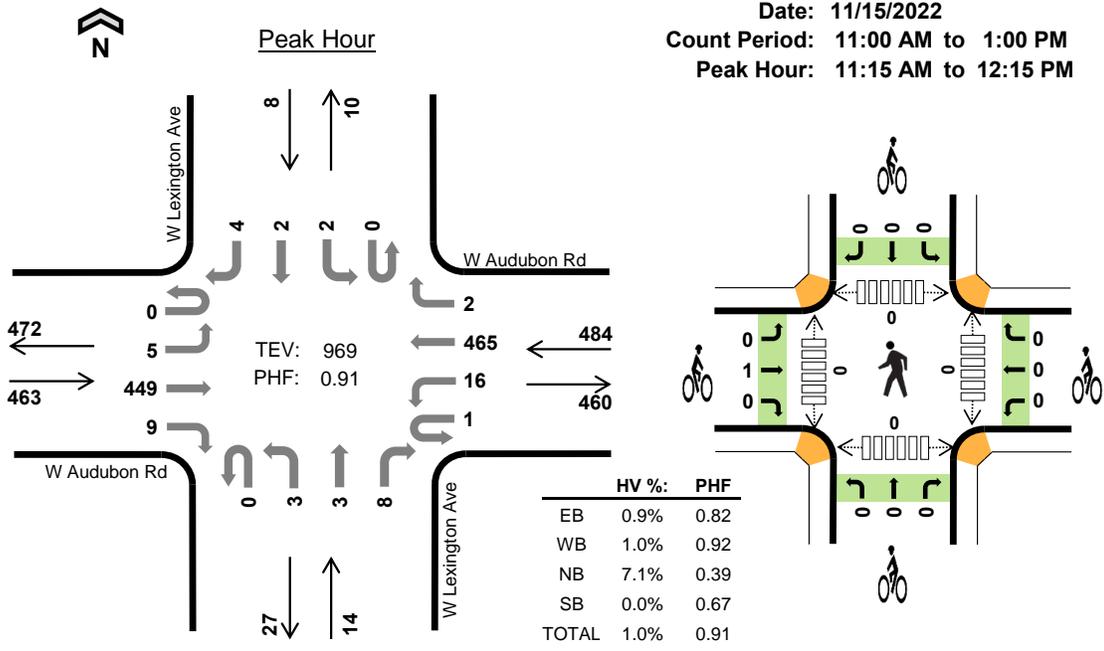
Two-Hour Count Summaries - Bikes																
Interval Start	W Audubon Rd			W Audubon Rd			W Lexington Ave			W Lexington Ave			15-min Total	Rolling One Hour		
	Eastbound			Westbound			Northbound			Southbound						
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0

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

W Lexington Ave W Audubon Rd



Date: 11/15/2022
Count Period: 11:00 AM to 1:00 PM
Peak Hour: 11:15 AM to 12:15 PM



Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				W Lexington Ave Northbound				W Lexington Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:00 AM	0	1	75	3	0	9	88	0	0	0	1	1	0	0	0	1	179	0	
11:15 AM	0	1	110	2	1	5	124	1	0	1	3	5	0	0	0	3	256	0	
11:30 AM	0	2	95	1	0	3	103	1	0	2	0	1	0	0	1	1	210	0	
11:45 AM	0	1	108	2	0	2	122	0	0	0	0	1	0	1	0	0	237	882	
12:00 PM	0	1	136	4	0	6	116	0	0	0	0	1	0	1	1	0	266	969	
12:15 PM	0	2	108	5	0	3	79	0	0	0	0	2	0	0	0	2	201	914	
12:30 PM	0	1	110	2	0	6	106	2	0	2	0	2	0	3	0	2	236	940	
12:45 PM	0	1	114	4	0	3	92	1	0	0	0	2	0	0	2	0	219	922	
Count Total	0	10	856	23	1	37	830	5	0	5	4	15	0	5	4	9	1,804	0	
Peak Hour	All	0	5	449	9	1	16	465	2	0	3	3	8	0	2	2	4	969	0
	HV	0	0	4	0	0	1	4	0	0	0	0	1	0	0	0	0	10	0
	HV%	-	0%	1%	0%	0%	6%	1%	0%	-	0%	0%	13%	-	0%	0%	0%	1%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0
11:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:45 AM	1	1	1	0	3	1	0	0	0	1	0	0	0	0	0
12:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	5	0	0	6	0	0	0	0	0	0	0	0	1	1
12:30 PM	2	1	0	0	3	0	3	0	0	3	0	0	0	1	1
12:45 PM	3	0	0	0	3	1	1	0	0	2	0	0	0	2	2
Count Total	10	11	1	0	22	2	4	0	0	6	0	0	0	4	4
Peak Hour	4	5	1	0	10	1	0	0	0	1	0	0	0	0	0

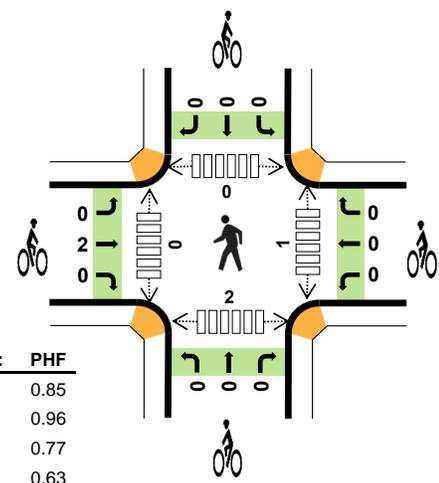
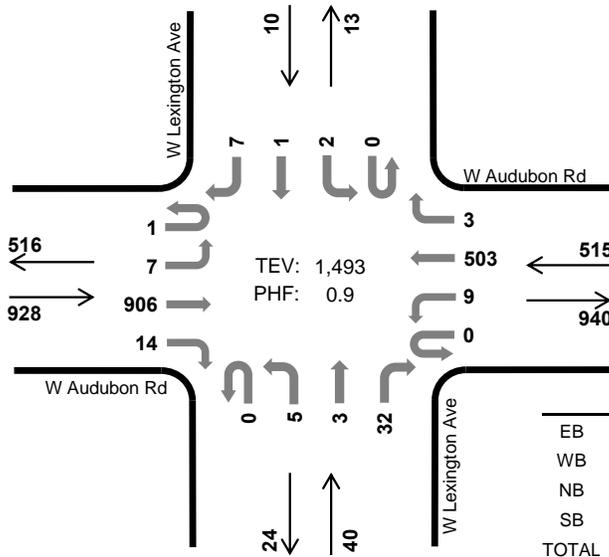
Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				W Lexington Ave				W Lexington Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	4	0	
11:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
11:45 AM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	3	8	
12:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	10	
12:15 PM	0	0	1	0	0	1	4	0	0	0	0	0	0	0	0	6	12	
12:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3	14	
12:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	14	
Count Total	0	0	10	0	0	2	9	0	0	0	0	1	0	0	0	22	0	
Peak Hour	0	0	4	0	0	1	4	0	0	0	0	1	0	0	0	10	0	
Two-Hour Count Summaries - Bikes																		
Interval Start	W Audubon Rd			W Audubon Rd			W Lexington Ave			W Lexington Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1		
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
12:30 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	4		
12:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	5		
Count Total	0	2	0	0	0	4	0	0	0	0	0	0	0	0	6	0		
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

W Lexington Ave W Audubon Rd



Peak Hour

Date: 11/15/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.85
WB	0.4%	0.96
NB	0.0%	0.77
SB	0.0%	0.63
TOTAL	0.1%	0.90

Two-Hour Count Summaries

Interval Start	W Audubon Rd Eastbound				W Audubon Rd Westbound				W Lexington Ave Northbound				W Lexington Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	2	162	4	0	4	135	0	0	0	1	3	0	1	0	1	313	0	
4:15 PM	0	1	175	2	0	6	123	0	0	1	0	9	0	1	0	2	320	0	
4:30 PM	0	3	184	4	0	6	135	1	0	2	0	5	0	0	0	1	341	0	
4:45 PM	0	2	199	5	0	2	117	0	0	2	0	11	0	1	1	2	342	1,316	
5:00 PM	0	1	268	3	0	4	126	2	0	2	1	5	0	0	0	2	414	1,417	
5:15 PM	1	1	241	3	0	1	132	1	0	1	1	9	0	1	0	1	393	1,490	
5:30 PM	0	3	198	3	0	2	128	0	0	0	1	7	0	0	0	2	344	1,493	
5:45 PM	0	3	175	1	0	2	99	1	0	2	0	5	0	0	0	2	290	1,441	
Count Total	1	16	1,602	25	0	27	995	5	0	10	4	54	0	4	1	13	2,757	0	
Peak Hour	All	1	7	906	14	0	9	503	3	0	5	3	32	0	2	1	7	1,493	0
	HV	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0
	HV%	0%	0%	0%	0%	-	11%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	0%	0

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

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

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Audubon Rd				W Audubon Rd				W Lexington Ave				W Lexington Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	3	0	0	1	5	0	0	0	0	0	0	0	0	0	9	0
Peak Hour	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Audubon Rd			W Audubon Rd			W Lexington Ave			W Lexington Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	5
Count Total	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	0
Peak Hour	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

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

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Nees Ave				W Nees Ave				Driveway				W Audubon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0
7:30 AM	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0
7:45 AM	0	2	3	0	0	0	2	0	0	0	0	1	0	0	0	1	9	21
8:00 AM	0	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	8	26
8:15 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	27
8:30 AM	0	2	1	0	0	0	1	1	0	0	0	0	0	0	0	0	7	29
8:45 AM	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	6	26
Count Total	0	10	12	0	0	0	8	2	0	0	0	1	0	0	0	14	47	0
Peak Hour	0	7	6	0	0	0	4	2	0	0	0	1	0	0	0	9	29	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Nees Ave			W Nees Ave			Driveway			W Audubon Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3	0
Peak Hour	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

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

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Nees Ave				W Nees Ave				Driveway				W Audubon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
11:15 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
11:30 AM	0	1	1	0	0	0	3	0	0	0	0	0	0	0	0	3	8	0
11:45 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	2	5	18
12:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	5	21	
12:15 PM	0	1	2	0	0	0	4	0	0	0	0	0	0	0	4	11	29	
12:30 PM	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	2	5	26
12:45 PM	0	2	1	0	0	0	2	0	0	0	0	1	0	0	0	0	6	27
Count Total	0	8	5	0	0	0	15	1	0	0	0	2	0	0	0	14	45	0
Peak Hour	0	5	3	0	0	0	8	0	0	0	0	2	0	0	0	9	27	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Nees Ave			W Nees Ave			Driveway			W Audubon Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
11:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
11:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	2	4			
12:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	5			
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	3	7			
12:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	6			
Count Total	2	1	0	0	4	0	0	0	0	0	0	3	10	0			
Peak Hour	1	0	0	0	2	0	0	0	0	0	0	3	6	0			

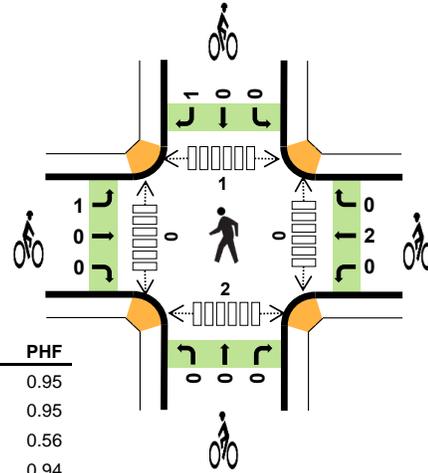
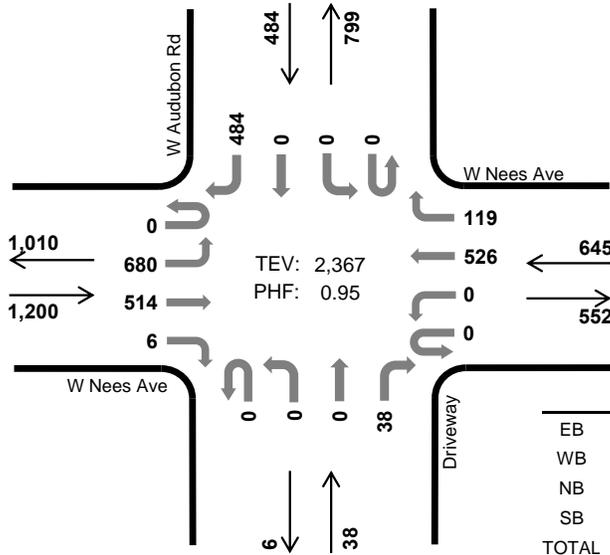
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

W Audubon Rd W Nees Ave



Peak Hour

Date: 11/15/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.1%	0.95
WB	0.6%	0.95
NB	0.0%	0.56
SB	1.0%	0.94
TOTAL	0.4%	0.95

Two-Hour Count Summaries

Interval Start	W Nees Ave Eastbound				W Nees Ave Westbound				Driveway Northbound				W Audubon Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	124	123	0	0	0	146	15	0	0	0	7	0	0	0	132	547	0	
4:15 PM	0	150	126	2	0	0	125	16	0	0	0	10	0	0	0	117	546	0	
4:30 PM	0	159	144	0	0	0	132	25	0	0	0	4	0	0	0	121	585	0	
4:45 PM	0	158	110	4	0	0	129	23	0	0	0	9	0	0	0	114	547	2,225	
5:00 PM	0	182	124	2	0	0	132	35	0	0	0	17	0	0	0	129	621	2,299	
5:15 PM	0	181	136	0	0	0	133	36	0	0	0	8	0	0	0	120	614	2,367	
5:30 PM	0	160	126	0	0	0	143	25	0	0	0	3	0	0	0	124	581	2,363	
5:45 PM	0	151	95	4	0	0	120	8	0	0	0	10	0	0	0	93	481	2,297	
Count Total	0	1,265	984	12	0	0	1,060	183	0	0	0	68	0	0	0	950	4,522	0	
Peak Hour	All	0	680	514	6	0	0	526	119	0	0	0	38	0	0	0	484	2,367	0
	HV	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0	5	10	0
	HV%	-	0%	0%	0%	-	-	1%	1%	-	-	-	0%	-	-	-	1%	0%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	1	0	2	6	0	0	0	0	0	0	0	0	2	2
4:15 PM	0	1	0	0	1	1	0	0	0	1	0	0	1	2	3
4:30 PM	1	1	0	3	5	0	0	0	1	1	0	0	1	1	2
4:45 PM	0	2	0	2	4	0	2	0	0	2	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	4	6	0	7	17	2	2	0	1	5	0	0	3	6	9
Peak Hour	1	4	0	5	10	1	2	0	1	4	0	0	1	2	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Nees Ave				W Nees Ave				Driveway				W Audubon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	2	6	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	5	0
4:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	4	16
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	11
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	2	2	0	0	0	5	1	0	0	0	0	0	0	0	7	17	0
Peak Hour	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0	5	10	0

Two-Hour Count Summaries - Bikes																	
Interval Start	W Nees Ave			W Nees Ave			Driveway			W Audubon Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
4:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	4	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	1	1	0	0	0	2	0	0	0	0	0	0	1	5	0	0	0
Peak Hour	1	0	0	0	0	2	0	0	0	0	0	0	1	4	0	0	0

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

**APPENDIX B – EXISTING CONDITIONS INTERSECTION
LEVEL OF SERVICE AND QUEUING WORKSHEETS**

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Existing Conditions No Build
 Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	332	204	47	235	234	80	54	1000	270	145	1947	722
Future Volume (veh/h)	332	204	47	235	234	80	54	1000	270	145	1947	722
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		0.99	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	365	224	52	276	275	94	57	1064	287	165	2212	820
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	544	243	323	470	207	209	1951	605	209	1974	613
Arrive On Green	0.12	0.15	0.15	0.09	0.13	0.13	0.06	0.38	0.38	0.06	0.39	0.39
Sat Flow, veh/h	3456	3554	1585	3456	3554	1563	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	365	224	52	276	275	94	57	1064	287	165	2212	820
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1563	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	15.6	8.5	2.8	11.8	10.9	5.6	2.4	24.4	20.5	7.1	58.0	58.0
Cycle Q Clear(g_c), s	15.6	8.5	2.8	11.8	10.9	5.6	2.4	24.4	20.5	7.1	58.0	58.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	409	544	243	323	470	207	209	1951	605	209	1974	613
V/C Ratio(X)	0.89	0.41	0.21	0.85	0.59	0.45	0.27	0.55	0.47	0.79	1.12	1.34
Avail Cap(c_a), veh/h	440	988	441	417	964	424	209	1951	605	214	1974	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.2	57.4	24.3	67.0	61.2	27.0	67.3	36.2	35.0	69.5	46.0	46.0
Incr Delay (d2), s/veh	18.2	1.2	1.0	10.7	2.7	3.7	0.3	1.1	2.6	16.0	61.6	162.9
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	7.8	3.9	1.8	5.6	5.1	3.4	1.0	10.1	8.3	3.5	34.6	49.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	58.6	25.3	77.6	63.9	30.7	67.6	37.3	37.6	85.5	107.6	208.9
LnGrp LOS	F	E	C	E	E	C	E	D	D	F	F	F
Approach Vol, veh/h		641			645			1408			3197	
Approach Delay, s/veh		70.0			65.0			38.6			132.5	
Approach LOS		E			E			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	64.0	23.6	25.1	15.8	63.6	19.9	28.9				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	* 5.9				
Max Green Setting (Gmax), s	8.7	58.0	19.1	40.7	9.3	* 57	18.1	* 42				
Max Q Clear Time (g_c+I1), s	4.4	60.0	17.6	12.9	9.1	26.4	13.8	10.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.2	0.0	19.1	0.2	3.2				

Intersection Summary

HCM 6th Ctrl Delay	95.8
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
 2: River Park PI/Yosemite Road & Audubon Drive/ Audubon Drive

Existing Conditions No Build
 Timing Plan: Weekday AM Peak

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖		↔		↖	↗	
Traffic Vol, veh/h	17	553	9	49	921	16	0	0	9	4	0	10
Future Vol, veh/h	17	553	9	49	921	16	0	0	9	4	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	120	-	-	210	-	100	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	85	85	85	45	45	45	39	39	39
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	570	9	58	1084	19	0	0	20	10	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1103	0	0	579	0	0	1269	1830	291	1522	1815	542
Stage 1	-	-	-	-	-	-	611	611	-	1200	1200	-
Stage 2	-	-	-	-	-	-	658	1219	-	322	615	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	629	-	-	991	-	-	125	76	706	81	77	485
Stage 1	-	-	-	-	-	-	448	482	-	196	256	-
Stage 2	-	-	-	-	-	-	420	251	-	664	480	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	629	-	-	991	-	-	111	69	705	73	70	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	69	-	73	70	-
Stage 1	-	-	-	-	-	-	435	468	-	190	241	-
Stage 2	-	-	-	-	-	-	375	236	-	626	466	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.4			10.3			26.9		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	705	629	-	-	991	-	-	73	485
HCM Lane V/C Ratio	0.028	0.028	-	-	0.058	-	-	0.14	0.053
HCM Control Delay (s)	10.3	10.9	-	-	8.9	-	-	62.2	12.8
HCM Lane LOS	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.2	-	-	0.5	0.2

HCM 6th TWSC
3: Audubon Drive & N Del Mar Avenue

Existing Conditions No Build
Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	17	515	854	24	88	35
Future Vol, veh/h	17	515	854	24	88	35
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	85	85	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	560	1005	28	98	39

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1034	0	-	0	1616 1020
Stage 1	-	-	-	-	1020 -
Stage 2	-	-	-	-	596 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	672	-	-	-	114 287
Stage 1	-	-	-	-	348 -
Stage 2	-	-	-	-	550 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	671	-	-	-	109 287
Mov Cap-2 Maneuver	-	-	-	-	235 -
Stage 1	-	-	-	-	334 -
Stage 2	-	-	-	-	549 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	27.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	671	-	-	-	235	287
HCM Lane V/C Ratio	0.028	-	-	-	0.416	0.136
HCM Control Delay (s)	10.5	0	-	-	30.8	19.5
HCM Lane LOS	B	A	-	-	D	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9	0.5

HCM 6th TWSC
4: W Lexington Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday AM Peak

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	492	15	18	887	4	6	0	21	3	3	7
Future Vol, veh/h	4	492	15	18	887	4	6	0	21	3	3	7
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	89	89	89	52	52	52	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	529	16	20	997	4	12	0	40	6	6	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1002	0	0	545	0	0	1594	1587	537	1605	1593	1000
Stage 1	-	-	-	-	-	-	545	545	-	1040	1040	-
Stage 2	-	-	-	-	-	-	1049	1042	-	565	553	-
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	691	-	-	1024	-	-	86	108	544	85	107	295
Stage 1	-	-	-	-	-	-	523	519	-	278	307	-
Stage 2	-	-	-	-	-	-	275	307	-	510	514	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	690	-	-	1024	-	-	76	102	544	76	102	295
Mov Cap-2 Maneuver	-	-	-	-	-	-	76	102	-	76	102	-
Stage 1	-	-	-	-	-	-	520	516	-	276	293	-
Stage 2	-	-	-	-	-	-	247	293	-	469	511	-

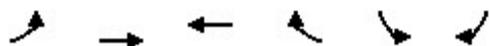
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			25.2			36		
HCM LOS							D			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	690	-	-	1024	-	-	140
HCM Lane V/C Ratio	0.226	0.006	-	-	0.02	-	-	0.172
HCM Control Delay (s)	25.2	10.2	-	-	8.6	0	-	36
HCM Lane LOS	D	B	-	-	A	A	-	E
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.6

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	449	303	611	25	0	792
Future Volume (vph)	449	303	611	25	0	792
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	1.00	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	3539	3539	1548		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	3539	3539	1548		2787
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.87	0.87
Adj. Flow (vph)	473	319	664	27	0	910
RTOR Reduction (vph)	0	0	0	9	0	153
Lane Group Flow (vph)	473	319	664	18	0	757
Confl. Peds. (#/hr)	1			1		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	38.9	38.9	61.8	61.8		38.9
Effective Green, g (s)	38.9	38.9	61.8	61.8		38.9
Actuated g/C Ratio	0.35	0.35	0.55	0.55		0.35
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	614	1229	1952	854		967
v/s Ratio Prot	0.27		c0.19			c0.27
v/s Ratio Perm		0.09		0.01		0.00
v/c Ratio	0.77	0.26	0.34	0.02		0.78
Uniform Delay, d1	32.6	26.2	13.8	11.4		32.8
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	6.1	0.1	0.5	0.0		4.3
Delay (s)	38.7	26.4	14.3	11.4		37.1
Level of Service	D	C	B	B		D
Approach Delay (s)		33.7	14.2		37.1	
Approach LOS		C	B		D	
Intersection Summary						
HCM 2000 Control Delay			29.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			112.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			57.6%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Existing Conditions No Build
 Timing Plan: Weekday Midday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	 
Traffic Volume (veh/h)	352	146	80	133	98	109	155	1110	225	67	1128	309
Future Volume (veh/h)	352	146	80	133	98	109	155	1110	225	67	1128	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	409	170	93	155	114	127	170	1220	247	74	1240	340
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	673	295	200	423	184	216	1814	561	176	1769	548
Arrive On Green	0.13	0.19	0.19	0.06	0.12	0.12	0.06	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	3456	3554	1559	3456	3554	1549	3456	5106	1580	3456	5106	1581
Grp Volume(v), veh/h	409	170	93	155	114	127	170	1220	247	74	1240	340
Grp Sat Flow(s),veh/h/ln	1728	1777	1559	1728	1777	1549	1728	1702	1580	1728	1702	1581
Q Serve(g_s), s	17.5	6.1	7.7	6.6	4.4	7.6	7.3	30.4	17.9	3.1	31.4	10.6
Cycle Q Clear(g_c), s	17.5	6.1	7.7	6.6	4.4	7.6	7.3	30.4	17.9	3.1	31.4	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	673	295	200	423	184	216	1814	561	176	1769	548
V/C Ratio(X)	0.89	0.25	0.31	0.77	0.27	0.69	0.79	0.67	0.44	0.42	0.70	0.62
Avail Cap(c_a), veh/h	555	1249	548	279	964	420	316	1814	561	191	1769	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	51.8	52.4	69.7	60.1	26.3	69.3	41.0	36.9	69.0	42.3	6.4
Incr Delay (d2), s/veh	13.4	0.5	1.4	5.3	0.8	10.3	4.5	2.0	2.5	0.6	2.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	2.8	3.1	3.1	2.0	3.3	3.3	12.8	7.3	1.4	13.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.4	52.2	53.8	75.0	60.9	36.5	73.8	43.0	39.4	69.6	44.7	11.6
LnGrp LOS	E	D	D	E	E	D	E	D	D	E	D	B
Approach Vol, veh/h		672			396			1637			1654	
Approach Delay, s/veh		67.8			58.6			45.6			39.0	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	58.0	25.8	23.2	14.3	59.3	14.6	34.3				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6	5.9	* 5.9				
Max Green Setting (Gmax), s	13.7	48.0	24.1	40.7	8.3	* 53	12.1	* 53				
Max Q Clear Time (g_c+I1), s	9.3	33.4	19.5	9.6	5.1	32.4	8.6	9.7				
Green Ext Time (p_c), s	0.1	12.3	0.4	2.4	0.0	15.6	0.1	3.1				

Intersection Summary

HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	483	0	9	496	25	1	1	11	23	0	18
Future Vol, veh/h	22	483	0	9	496	25	1	1	11	23	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	120	-	-	210	-	100	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	92	92	92	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	555	0	10	539	27	2	2	17	29	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	566	0	0	555	0	0	895	1191	280	890	1164	270
Stage 1	-	-	-	-	-	-	605	605	-	559	559	-
Stage 2	-	-	-	-	-	-	290	586	-	331	605	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1002	-	-	1011	-	-	235	186	717	237	193	728
Stage 1	-	-	-	-	-	-	451	486	-	481	509	-
Stage 2	-	-	-	-	-	-	694	495	-	656	486	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1002	-	-	1011	-	-	222	179	716	223	186	728
Mov Cap-2 Maneuver	-	-	-	-	-	-	222	179	-	223	186	-
Stage 1	-	-	-	-	-	-	440	474	-	469	504	-
Stage 2	-	-	-	-	-	-	666	490	-	621	474	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.1			12.3			17.7		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	511	1002	-	-	1011	-	-	223	728
HCM Lane V/C Ratio	0.039	0.025	-	-	0.01	-	-	0.131	0.031
HCM Control Delay (s)	12.3	8.7	-	-	8.6	-	-	23.6	10.1
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4	0.1

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	27	431	451	25	60	34
Future Vol, veh/h	27	431	451	25	60	34
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	95	95	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	507	475	26	74	42

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	503	0	-	0	1061 490
Stage 1	-	-	-	-	490 -
Stage 2	-	-	-	-	571 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1061	-	-	-	248 578
Stage 1	-	-	-	-	616 -
Stage 2	-	-	-	-	565 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1059	-	-	-	237 577
Mov Cap-2 Maneuver	-	-	-	-	371 -
Stage 1	-	-	-	-	589 -
Stage 2	-	-	-	-	564 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1059	-	-	-	371	577
HCM Lane V/C Ratio	0.03	-	-	-	0.2	0.073
HCM Control Delay (s)	8.5	0	-	-	17.1	11.7
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.2

HCM 6th TWSC
4: W Lexington Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday Midday Peak

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	449	9	17	465	2	3	3	8	2	2	4
Future Vol, veh/h	5	449	9	17	465	2	3	3	8	2	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	39	39	39	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	548	11	18	505	2	8	8	21	3	3	6

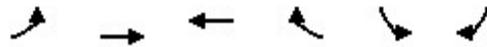
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	507	0	0	559	0	0	1113	1109	554	1122	1113	506
Stage 1	-	-	-	-	-	-	566	566	-	542	542	-
Stage 2	-	-	-	-	-	-	547	543	-	580	571	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	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	1058	-	-	1012	-	-	186	210	532	183	208	566
Stage 1	-	-	-	-	-	-	509	507	-	525	520	-
Stage 2	-	-	-	-	-	-	521	520	-	500	505	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1058	-	-	1012	-	-	178	203	532	167	202	566
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	203	-	167	202	-
Stage 1	-	-	-	-	-	-	506	504	-	522	507	-
Stage 2	-	-	-	-	-	-	500	507	-	471	502	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			18.6			18.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	1058	-	-	1012	-	-	276
HCM Lane V/C Ratio	0.12	0.006	-	-	0.018	-	-	0.043
HCM Control Delay (s)	18.6	8.4	-	-	8.6	0	-	18.6
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1

HCM Signalized Intersection Capacity Analysis
5: W Nees Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday Midday Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	380	462	480	54	0	366
Future Volume (vph)	380	462	480	54	0	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	1.00	0.95	0.95	1.00		0.88
Frbp, ped/bikes	1.00	1.00	1.00	0.98		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	3539	3539	1548		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	3539	3539	1548		2787
Peak-hour factor, PHF	0.96	0.96	0.95	0.95	0.80	0.80
Adj. Flow (vph)	396	481	505	57	0	458
RTOR Reduction (vph)	0	0	0	39	0	229
Lane Group Flow (vph)	396	481	505	18	0	229
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	17.9	17.9	13.3	13.3		17.9
Effective Green, g (s)	17.9	17.9	13.3	13.3		17.9
Actuated g/C Ratio	0.42	0.42	0.31	0.31		0.42
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	745	1490	1107	484		1173
v/s Ratio Prot	c0.22		c0.14			0.08
v/s Ratio Perm		0.14		0.01		0.00
v/c Ratio	0.53	0.32	0.46	0.04		0.20
Uniform Delay, d1	9.2	8.2	11.7	10.1		7.8
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.8	0.1	0.4	0.0		0.1
Delay (s)	10.0	8.4	12.1	10.2		7.9
Level of Service	A	A	B	B		A
Approach Delay (s)		9.1	11.9		7.9	
Approach LOS		A	B		A	
Intersection Summary						
HCM 2000 Control Delay			9.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			42.5		Sum of lost time (s)	11.9
Intersection Capacity Utilization			43.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Existing Conditions No Build
 Timing Plan: Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	573	360	125	158	152	197	164	1928	433	100	1202	375
Future Volume (veh/h)	573	360	125	158	152	197	164	1928	433	100	1202	375
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		0.99	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	644	404	140	198	190	246	171	2008	451	108	1292	403
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	681	1107	494	238	651	288	254	2011	624	156	1886	585
Arrive On Green	0.20	0.31	0.31	0.07	0.18	0.18	0.07	0.39	0.39	0.05	0.37	0.37
Sat Flow, veh/h	3456	3554	1585	3456	3554	1572	3456	5106	1585	3456	5106	1584
Grp Volume(v), veh/h	644	404	140	198	190	246	171	2008	451	108	1292	403
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1572	1728	1702	1585	1728	1702	1584
Q Serve(g_s), s	32.4	15.5	8.6	10.0	8.1	26.7	8.5	69.2	42.4	5.4	37.6	19.4
Cycle Q Clear(g_c), s	32.4	15.5	8.6	10.0	8.1	26.7	8.5	69.2	42.4	5.4	37.6	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	681	1107	494	238	651	288	254	2011	624	156	1886	585
V/C Ratio(X)	0.95	0.37	0.28	0.83	0.29	0.85	0.67	1.00	0.72	0.69	0.69	0.69
Avail Cap(c_a), veh/h	709	1145	511	355	781	346	254	2011	624	163	1886	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.7	47.1	24.7	80.9	62.0	69.6	79.4	53.3	45.2	82.8	46.9	12.3
Incr Delay (d2), s/veh	20.7	0.5	0.7	6.4	0.6	20.1	5.5	19.8	7.1	9.2	2.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	7.0	3.4	4.6	3.7	12.3	3.9	32.4	17.8	2.6	15.9	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.4	47.6	25.4	87.3	62.6	89.7	85.0	73.1	52.3	92.0	48.9	18.8
LnGrp LOS	F	D	C	F	E	F	F	E	D	F	D	B
Approach Vol, veh/h		1188			634			2630			1803	
Approach Delay, s/veh		68.2			80.8			70.3			44.8	
Approach LOS		E			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	71.0	40.6	37.5	14.7	75.6	18.0	60.1				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	5.3				
Max Green Setting (Gmax), s	12.7	65.0	36.1	38.7	8.3	* 69	18.1	56.7				
Max Q Clear Time (g_c+I1), s	10.5	39.6	34.4	28.7	7.4	71.2	12.0	17.5				
Green Ext Time (p_c), s	0.1	20.6	0.3	2.7	0.0	0.0	0.2	7.0				

Intersection Summary

HCM 6th Ctrl Delay	63.6
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
 2: River Park PI/Yosemite Road & Audubon Drive/ Audubon Drive

Existing Conditions No Build
 Timing Plan: Weekday PM Peak

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑		↙	↑↑	↗		↔		↙	↗	
Traffic Vol, veh/h	30	1010	1	13	615	17	0	0	15	26	0	24
Future Vol, veh/h	30	1010	1	13	615	17	0	0	15	26	0	24
Conflicting Peds, #/hr	0	0	1	1	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									
Storage Length	120	-	-	210	-	100	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	93	93	93	54	54	54	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	1110	1	14	661	18	0	0	28	48	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	679	0	0	1112	0	0	1537	1885	557	1310	1867	331
Stage 1	-	-	-	-	-	-	1178	1178	-	689	689	-
Stage 2	-	-	-	-	-	-	359	707	-	621	1178	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	909	-	-	624	-	-	79	70	474	117	72	665
Stage 1	-	-	-	-	-	-	203	263	-	402	445	-
Stage 2	-	-	-	-	-	-	632	436	-	442	263	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	909	-	-	623	-	-	70	66	474	105	68	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	66	-	105	68	-
Stage 1	-	-	-	-	-	-	195	253	-	388	435	-
Stage 2	-	-	-	-	-	-	577	426	-	401	253	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			13.1			39.2		
HCM LOS							B			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	474	909	-	-	623	-	-	105	665
HCM Lane V/C Ratio	0.059	0.036	-	-	0.022	-	-	0.459	0.067
HCM Control Delay (s)	13.1	9.1	-	-	10.9	-	-	65.5	10.8
HCM Lane LOS	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	2	0.2

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	35	898	510	30	79	22
Future Vol, veh/h	35	898	510	30	79	22
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	1009	537	32	84	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	570	0	-	0	1642 555
Stage 1	-	-	-	-	554 -
Stage 2	-	-	-	-	1088 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1002	-	-	-	110 531
Stage 1	-	-	-	-	575 -
Stage 2	-	-	-	-	323 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1001	-	-	-	100 530
Mov Cap-2 Maneuver	-	-	-	-	225 -
Stage 1	-	-	-	-	523 -
Stage 2	-	-	-	-	323 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	26.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1001	-	-	-	225	530
HCM Lane V/C Ratio	0.039	-	-	-	0.374	0.044
HCM Control Delay (s)	8.7	0	-	-	30.2	12.1
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6	0.1

HCM 6th TWSC
4: W Lexington Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday PM Peak

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	906	14	9	503	3	5	3	32	2	1	7
Future Vol, veh/h	8	906	14	9	503	3	5	3	32	2	1	7
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	96	96	96	77	77	77	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1066	16	9	524	3	6	4	42	3	2	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	527	0	0	1084	0	0	1644	1639	1077	1660	1646	526
Stage 1	-	-	-	-	-	-	1094	1094	-	544	544	-
Stage 2	-	-	-	-	-	-	550	545	-	1116	1102	-
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	1040	-	-	643	-	-	80	100	266	78	99	552
Stage 1	-	-	-	-	-	-	259	290	-	523	519	-
Stage 2	-	-	-	-	-	-	519	519	-	252	287	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1040	-	-	642	-	-	76	97	265	62	96	552
Mov Cap-2 Maneuver	-	-	-	-	-	-	76	97	-	62	96	-
Stage 1	-	-	-	-	-	-	256	287	-	518	509	-
Stage 2	-	-	-	-	-	-	497	509	-	208	284	-

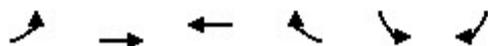
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			32.1			26.8		
HCM LOS							D			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	184	1040	-	-	642	-	-	181
HCM Lane V/C Ratio	0.282	0.009	-	-	0.015	-	-	0.088
HCM Control Delay (s)	32.1	8.5	-	-	10.7	0	-	26.8
HCM Lane LOS	D	A	-	-	B	A	-	D
HCM 95th %tile Q(veh)	1.1	0	-	-	0	-	-	0.3

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	680	514	526	119	0	484
Future Volume (vph)	680	514	526	119	0	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	1.00	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	3539	3539	1546		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	3539	3539	1546		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.94	0.94
Adj. Flow (vph)	716	541	554	125	0	515
RTOR Reduction (vph)	0	0	0	75	0	171
Lane Group Flow (vph)	716	541	554	50	0	344
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	30.6	30.6	28.1	28.1		30.6
Effective Green, g (s)	30.6	30.6	28.1	28.1		30.6
Actuated g/C Ratio	0.44	0.44	0.40	0.40		0.44
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	773	1547	1420	620		1218
v/s Ratio Prot	c0.40		c0.16			0.12
v/s Ratio Perm		0.15		0.03		0.00
v/c Ratio	0.93	0.35	0.39	0.08		0.28
Uniform Delay, d1	18.6	13.1	14.9	13.0		12.7
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	17.1	0.2	0.8	0.3		0.2
Delay (s)	35.8	13.3	15.7	13.2		12.8
Level of Service	D	B	B	B		B
Approach Delay (s)		26.1	15.2		12.8	
Approach LOS		C	B		B	
Intersection Summary						
HCM 2000 Control Delay			20.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			70.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			67.1%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday AM Peak

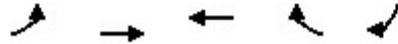
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	365	224	52	276	275	94	57	1064	287	165	2213	820
v/c Ratio	0.82	0.36	0.13	0.76	0.52	0.26	0.29	0.43	0.31	0.68	0.83	0.76
Control Delay	78.6	54.9	0.7	79.3	61.2	1.7	71.8	26.7	3.9	81.6	34.8	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.6	54.9	0.7	79.3	61.2	1.7	71.8	26.7	3.9	81.6	34.8	16.1
Queue Length 50th (ft)	180	105	0	137	136	0	27	237	0	81	657	233
Queue Length 95th (ft)	#251	127	0	175	146	0	53	344	61	#136	#964	519
Internal Link Dist (ft)		1403			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	464	983	554	414	960	537	199	2503	925	248	2675	1082
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.23	0.09	0.67	0.29	0.18	0.29	0.43	0.31	0.67	0.83	0.76

Intersection Summary

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

Queues
5: W Nees Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	473	319	664	27	910
v/c Ratio	0.77	0.26	0.34	0.03	0.82
Control Delay	40.6	25.5	15.8	7.6	30.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	25.5	15.8	7.6	30.7
Queue Length 50th (ft)	298	85	133	2	257
Queue Length 95th (ft)	362	102	212	19	278
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	853	1706	1951	862	1451
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.19	0.34	0.03	0.63
Intersection Summary					

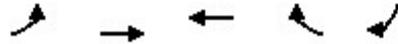
Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday Midday Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	409	170	93	155	114	127	170	1220	247	74	1240	340
v/c Ratio	0.83	0.21	0.21	0.64	0.21	0.37	0.65	0.49	0.28	0.40	0.52	0.37
Control Delay	77.1	45.4	4.3	79.9	53.4	9.7	78.9	29.1	6.0	75.0	32.1	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	45.4	4.3	79.9	53.4	9.7	78.9	29.1	6.0	75.0	32.1	4.8
Queue Length 50th (ft)	202	78	0	77	56	0	84	245	9	37	265	0
Queue Length 95th (ft)	244	84	22	110	68	45	124	424	77	64	458	73
Internal Link Dist (ft)		1403			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	555	1243	621	276	960	512	313	2509	882	190	2402	915
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.14	0.15	0.56	0.12	0.25	0.54	0.49	0.28	0.39	0.52	0.37
Intersection Summary												

Queues
5: W Nees Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	396	481	505	57	458
v/c Ratio	0.54	0.33	0.46	0.11	0.34
Control Delay	12.9	9.3	14.5	5.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	9.3	14.5	5.3	2.7
Queue Length 50th (ft)	65	37	47	0	4
Queue Length 95th (ft)	153	77	112	21	20
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1323	2645	2604	1155	2155
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.18	0.19	0.05	0.21
Intersection Summary					

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday PM Peak

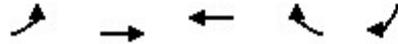
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	644	404	140	198	190	246	171	2008	451	108	1292	403
v/c Ratio	0.94	0.48	0.29	0.71	0.44	0.73	0.69	0.80	0.50	0.60	0.54	0.42
Control Delay	91.8	58.8	7.8	92.4	73.5	34.4	94.9	41.2	17.5	95.3	35.1	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.8	58.8	7.8	92.4	73.5	34.4	94.9	41.2	17.5	95.3	35.1	4.2
Queue Length 50th (ft)	379	217	0	117	111	84	101	688	164	63	370	0
Queue Length 95th (ft)	#478	237	52	141	120	123	145	#968	329	#106	517	76
Internal Link Dist (ft)		1403			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	704	1140	604	353	778	475	247	2509	896	181	2412	952
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.35	0.23	0.56	0.24	0.52	0.69	0.80	0.50	0.60	0.54	0.42

Intersection Summary

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

Queues
5: W Nees Avenue & Audubon Drive

Existing Conditions No Build
Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	716	541	554	125	515
v/c Ratio	0.93	0.35	0.39	0.18	0.38
Control Delay	39.4	13.8	16.0	3.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	13.8	16.0	3.7	6.1
Queue Length 50th (ft)	276	76	87	0	30
Queue Length 95th (ft)	#493	111	126	29	62
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	783	1567	1420	695	1381
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.91	0.35	0.39	0.18	0.37

Intersection Summary

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

**APPENDIX C – FUTURE (2040) CONDITIONS INTERSECTION
LEVEL OF SERVICE AND QUEUING WORKSHEETS**

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions No Build
 Timing Plan: Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	291	67	336	334	114	77	1428	386	207	2781	1031
Future Volume (veh/h)	474	291	67	336	334	114	77	1428	386	207	2781	1031
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		0.99	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	521	320	74	395	393	134	82	1519	411	235	3160	1172
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	655	292	279	598	264	178	1985	616	279	2158	670
Arrive On Green	0.10	0.18	0.18	0.08	0.17	0.17	0.05	0.39	0.39	0.08	0.42	0.42
Sat Flow, veh/h	3456	3554	1585	3456	3554	1568	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	521	320	74	395	393	134	82	1519	411	235	3160	1172
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1568	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	15.1	12.1	4.3	12.1	15.5	8.0	3.5	38.8	32.1	10.1	63.4	63.4
Cycle Q Clear(g_c), s	15.1	12.1	4.3	12.1	15.5	8.0	3.5	38.8	32.1	10.1	63.4	63.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	655	292	279	598	264	178	1985	616	279	2158	670
V/C Ratio(X)	1.50	0.49	0.25	1.42	0.66	0.51	0.46	0.77	0.67	0.84	1.46	1.75
Avail Cap(c_a), veh/h	348	1019	454	279	948	418	184	1985	616	306	2158	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	54.8	26.7	69.0	58.3	26.7	69.1	39.9	37.8	68.0	43.3	43.3
Incr Delay (d2), s/veh	238.6	1.3	1.1	207.5	2.9	3.5	0.7	2.9	5.6	16.0	211.5	343.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	5.5	2.4	13.3	7.2	3.3	1.5	16.3	13.2	5.0	67.5	87.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	306.0	56.2	27.8	276.4	61.2	30.3	69.8	42.8	43.5	84.0	254.8	386.7
LnGrp LOS	F	E	C	F	E	C	E	D	D	F	F	F
Approach Vol, veh/h		915			922			2012			4567	
Approach Delay, s/veh		196.1			148.9			44.0			279.8	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	69.4	21.0	30.5	18.8	64.6	18.0	33.5				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	* 5.9				
Max Green Setting (Gmax), s	8.0	63.4	15.1	40.0	13.3	* 58	12.1	* 43				
Max Q Clear Time (g_c+I1), s	5.5	65.4	17.1	17.5	12.1	40.8	14.1	14.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7	0.1	15.3	0.0	4.6				

Intersection Summary

HCM 6th Ctrl Delay	200.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
 2: River Park PI/Yosemite Road & Audubon Drive/ Audubon Drive

Future Conditions No Build
 Timing Plan: Weekday AM Peak

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕		↖	↕	
Traffic Vol, veh/h	24	790	13	70	1315	23	0	0	13	6	0	14
Future Vol, veh/h	24	790	13	70	1315	23	0	0	13	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	120	-	-	210	-	100	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	85	85	85	45	45	45	39	39	39
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	814	13	82	1547	27	0	0	29	15	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1574	0	0	827	0	0	1809	2609	415	2169	2588	774
Stage 1	-	-	-	-	-	-	871	871	-	1711	1711	-
Stage 2	-	-	-	-	-	-	938	1738	-	458	877	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	415	-	-	800	-	-	49	24	586	26	25	341
Stage 1	-	-	-	-	-	-	312	367	-	94	144	-
Stage 2	-	-	-	-	-	-	284	140	-	552	364	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	415	-	-	800	-	-	39	20	585	22	21	341
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	20	-	22	21	-
Stage 1	-	-	-	-	-	-	293	345	-	88	129	-
Stage 2	-	-	-	-	-	-	228	126	-	493	342	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.5			11.5			113.1		
HCM LOS							B			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	585	415	-	-	800	-	-	22	341
HCM Lane V/C Ratio	0.049	0.06	-	-	0.103	-	-	0.699	0.105
HCM Control Delay (s)	11.5	14.2	-	-	10	-	-	337.8	16.8
HCM Lane LOS	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.3	-	-	2	0.3

HCM 6th TWSC
3: Audubon Drive & N Del Mar Avenue

Future Conditions No Build
Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	9.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	24	736	1220	34	126	50
Future Vol, veh/h	24	736	1220	34	126	50
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	85	85	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	800	1435	40	140	56

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1476	0	-	0	2308 1456
Stage 1	-	-	-	-	1456 -
Stage 2	-	-	-	-	852 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	456	-	-	-	~ 42 159
Stage 1	-	-	-	-	214 -
Stage 2	-	-	-	-	418 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	456	-	-	-	~ 38 159
Mov Cap-2 Maneuver	-	-	-	-	~ 135 -
Stage 1	-	-	-	-	192 -
Stage 2	-	-	-	-	418 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	119.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	456	-	-	-	135	159
HCM Lane V/C Ratio	0.057	-	-	-	1.037	0.349
HCM Control Delay (s)	13.4	0	-	-	151.9	39.3
HCM Lane LOS	B	A	-	-	F	E
HCM 95th %tile Q(veh)	0.2	-	-	-	7.6	1.4

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

HCM 6th TWSC
4: W Lexington Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday AM Peak

Intersection												
Int Delay, s/veh	10.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	703	21	26	1267	6	9	0	30	4	4	10
Future Vol, veh/h	6	703	21	26	1267	6	9	0	30	4	4	10
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	89	89	89	52	52	52	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	756	23	29	1424	7	17	0	58	7	7	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1432	0	0	779	0	0	2279	2270	768	2296	2278	1429
Stage 1	-	-	-	-	-	-	780	780	-	1487	1487	-
Stage 2	-	-	-	-	-	-	1499	1490	-	809	791	-
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	474	-	-	838	-	-	28	40	402	27	40	165
Stage 1	-	-	-	-	-	-	388	406	-	155	188	-
Stage 2	-	-	-	-	-	-	152	187	-	374	401	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	474	-	-	838	-	-	18	33	402	20	33	165
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	33	-	20	33	-
Stage 1	-	-	-	-	-	-	383	401	-	153	156	-
Stage 2	-	-	-	-	-	-	107	155	-	316	396	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			244.8			185.7		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	68	474	-	-	838	-	-	47
HCM Lane V/C Ratio	1.103	0.014	-	-	0.035	-	-	0.709
HCM Control Delay (s)	244.8	12.7	-	-	9.5	0	-	185.7
HCM Lane LOS	F	B	-	-	A	A	-	F
HCM 95th %tile Q(veh)	5.8	0	-	-	0.1	-	-	2.8

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	641	433	873	36	0	1131
Future Volume (vph)	641	433	873	36	0	1131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	1.00	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	3539	3539	1549		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	3539	3539	1549		2787
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.87	0.87
Adj. Flow (vph)	675	456	949	39	0	1300
RTOR Reduction (vph)	0	0	0	18	0	19
Lane Group Flow (vph)	675	456	949	21	0	1281
Confl. Peds. (#/hr)	1			1		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	38.0	38.0	25.7	25.7		38.0
Effective Green, g (s)	38.0	38.0	25.7	25.7		38.0
Actuated g/C Ratio	0.51	0.51	0.34	0.34		0.51
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	896	1793	1212	530		1412
v/s Ratio Prot	0.38		c0.27			c0.45
v/s Ratio Perm		0.13		0.01		0.01
v/c Ratio	0.75	0.25	0.78	0.04		0.91
Uniform Delay, d1	14.8	10.5	22.1	16.4		16.9
Progression Factor	1.00	1.00	1.00	1.00		0.97
Incremental Delay, d2	3.7	0.1	5.1	0.1		3.1
Delay (s)	18.5	10.6	27.2	16.6		19.5
Level of Service	B	B	C	B		B
Approach Delay (s)		15.3	26.8		19.5	
Approach LOS		B	C		B	
Intersection Summary						
HCM 2000 Control Delay			20.2		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			73.6%		ICU Level of Service	D
Analysis Period (min)			15			
c	Critical Lane Group					

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions No Build
 Timing Plan: Weekday Midday Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	503	209	114	190	140	156	221	1585	321	96	1611	441
Future Volume (veh/h)	503	209	114	190	140	156	221	1585	321	96	1611	441
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	585	243	133	221	163	181	243	1742	353	105	1770	485
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	833	366	267	522	229	256	1808	559	182	1712	530
Arrive On Green	0.17	0.23	0.23	0.08	0.15	0.15	0.07	0.35	0.35	0.05	0.34	0.34
Sat Flow, veh/h	3456	3554	1561	3456	3554	1556	3456	5106	1580	3456	5106	1581
Grp Volume(v), veh/h	585	243	133	221	163	181	243	1742	353	105	1770	485
Grp Sat Flow(s),veh/h/ln	1728	1777	1561	1728	1777	1556	1728	1702	1580	1728	1702	1581
Q Serve(g_s), s	25.3	8.4	10.7	9.5	6.2	11.9	10.5	50.2	27.9	4.5	50.3	19.8
Cycle Q Clear(g_c), s	25.3	8.4	10.7	9.5	6.2	11.9	10.5	50.2	27.9	4.5	50.3	19.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	833	366	267	522	229	256	1808	559	182	1712	530
V/C Ratio(X)	1.00	0.29	0.36	0.83	0.31	0.79	0.95	0.96	0.63	0.58	1.03	0.91
Avail Cap(c_a), veh/h	583	1175	516	362	948	415	256	1808	559	184	1712	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	47.2	48.1	68.2	57.2	30.8	69.2	47.5	40.3	69.4	49.9	9.6
Incr Delay (d2), s/veh	38.2	0.5	1.4	8.2	0.8	13.3	42.3	14.2	5.3	2.8	31.0	22.9
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	14.1	3.8	4.3	4.4	2.8	5.3	6.1	23.0	11.5	2.0	25.5	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.5	47.7	49.5	76.4	58.0	44.1	111.5	61.7	45.6	72.2	80.8	32.5
LnGrp LOS	F	D	D	E	E	D	F	E	D	E	F	C
Approach Vol, veh/h		961			565			2338			2360	
Approach Delay, s/veh		80.1			60.8			64.4			70.5	
Approach LOS		F			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	56.3	31.2	27.4	14.6	59.1	17.5	41.0				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6	5.9	* 5.9				
Max Green Setting (Gmax), s	11.1	50.1	25.3	40.0	8.0	* 53	15.7	* 50				
Max Q Clear Time (g_c+I1), s	12.5	52.3	27.3	13.9	6.5	52.2	11.5	12.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.4	0.0	0.9	0.2	4.4				
Intersection Summary												
HCM 6th Ctrl Delay				68.8								
HCM 6th LOS				E								
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕		↖	↕	
Traffic Vol, veh/h	31	690	0	13	708	36	1	1	16	33	0	26
Future Vol, veh/h	31	690	0	13	708	36	1	1	16	33	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	120	-	-	210	-	100	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	92	92	92	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	793	0	14	770	39	2	2	25	42	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	809	0	0	793	0	0	1278	1702	399	1270	1663	385
Stage 1	-	-	-	-	-	-	865	865	-	798	798	-
Stage 2	-	-	-	-	-	-	413	837	-	472	865	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	812	-	-	824	-	-	123	91	601	125	96	613
Stage 1	-	-	-	-	-	-	315	369	-	346	396	-
Stage 2	-	-	-	-	-	-	587	380	-	542	369	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	812	-	-	824	-	-	111	86	600	113	90	613
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	86	-	113	90	-
Stage 1	-	-	-	-	-	-	301	353	-	331	389	-
Stage 2	-	-	-	-	-	-	546	374	-	494	353	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			15.2			35.4		
HCM LOS							C			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	381	812	-	-	824	-	-	113	613
HCM Lane V/C Ratio	0.073	0.044	-	-	0.017	-	-	0.37	0.054
HCM Control Delay (s)	15.2	9.6	-	-	9.4	-	-	54.5	11.2
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	1.5	0.2

HCM 6th TWSC
3: Audubon Drive & N Del Mar Avenue

Future Conditions No Build
Timing Plan: Weekday Midday Peak

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	39	616	644	36	86	49
Future Vol, veh/h	39	616	644	36	86	49
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	95	95	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	725	678	38	106	60

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	718	0	-	0	1516 699
Stage 1	-	-	-	-	699 -
Stage 2	-	-	-	-	817 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	883	-	-	-	131 440
Stage 1	-	-	-	-	493 -
Stage 2	-	-	-	-	434 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	881	-	-	-	119 439
Mov Cap-2 Maneuver	-	-	-	-	255 -
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	433 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	881	-	-	-	255	439
HCM Lane V/C Ratio	0.052	-	-	-	0.416	0.138
HCM Control Delay (s)	9.3	0	-	-	28.8	14.5
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.9	0.5

HCM 6th TWSC
4: W Lexington Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday Midday Peak

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	641	13	24	664	3	4	4	11	3	3	6
Future Vol, veh/h	7	641	13	24	664	3	4	4	11	3	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	39	39	39	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	782	16	26	722	3	10	10	28	4	4	9

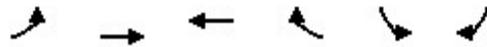
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	725	0	0	798	0	0	1590	1585	790	1603	1592	724
Stage 1	-	-	-	-	-	-	808	808	-	776	776	-
Stage 2	-	-	-	-	-	-	782	777	-	827	816	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	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	878	-	-	824	-	-	87	108	390	85	107	426
Stage 1	-	-	-	-	-	-	375	394	-	390	407	-
Stage 2	-	-	-	-	-	-	387	407	-	366	391	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	878	-	-	824	-	-	78	101	390	69	100	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	101	-	69	100	-
Stage 1	-	-	-	-	-	-	371	390	-	386	385	-
Stage 2	-	-	-	-	-	-	355	385	-	327	387	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			37.1			35.2		
HCM LOS							E			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	160	878	-	-	824	-	-	137
HCM Lane V/C Ratio	0.304	0.01	-	-	0.032	-	-	0.131
HCM Control Delay (s)	37.1	9.1	-	-	9.5	0	-	35.2
HCM Lane LOS	E	A	-	-	A	A	-	E
HCM 95th %tile Q(veh)	1.2	0	-	-	0.1	-	-	0.4

HCM Signalized Intersection Capacity Analysis
 5: W Nees Avenue & Audubon Drive

Future Conditions No Build
 Timing Plan: Weekday Midday Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	543	660	686	77	0	523
Future Volume (vph)	543	660	686	77	0	523
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	1.00	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	3539	3539	1548		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	3539	3539	1548		2787
Peak-hour factor, PHF	0.96	0.96	0.95	0.95	0.80	0.80
Adj. Flow (vph)	566	688	722	81	0	654
RTOR Reduction (vph)	0	0	0	53	0	107
Lane Group Flow (vph)	566	688	722	28	0	547
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	21.9	21.9	17.9	17.9		21.9
Effective Green, g (s)	21.9	21.9	17.9	17.9		21.9
Actuated g/C Ratio	0.43	0.43	0.35	0.35		0.43
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	758	1516	1239	542		1194
v/s Ratio Prot	c0.32		c0.20			0.19
v/s Ratio Perm		0.19		0.02		0.01
v/c Ratio	0.75	0.45	0.58	0.05		0.46
Uniform Delay, d1	12.3	10.4	13.6	11.0		10.4
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	4.2	0.3	0.8	0.0		0.3
Delay (s)	16.4	10.6	14.3	11.0		10.7
Level of Service	B	B	B	B		B
Approach Delay (s)		13.2	14.0		10.7	
Approach LOS		B	B		B	
Intersection Summary						
HCM 2000 Control Delay			12.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			51.1		Sum of lost time (s)	11.9
Intersection Capacity Utilization			58.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions No Build
 Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 		
Traffic Volume (veh/h)	818	514	179	226	217	281	234	2754	618	143	1717	536
Future Volume (veh/h)	818	514	179	226	217	281	234	2754	618	143	1717	536
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		0.99	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	919	578	201	282	271	351	244	2869	644	154	1846	576
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	486	1046	467	326	882	391	258	1951	605	184	1865	579
Arrive On Green	0.14	0.29	0.29	0.09	0.25	0.25	0.07	0.38	0.38	0.05	0.37	0.37
Sat Flow, veh/h	3456	3554	1585	3456	3554	1575	3456	5106	1585	3456	5106	1584
Grp Volume(v), veh/h	919	578	201	282	271	351	244	2869	644	154	1846	576
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1575	1728	1702	1585	1728	1702	1584
Q Serve(g_s), s	21.1	20.6	11.7	12.1	9.3	32.3	10.5	57.3	57.3	6.6	53.9	34.3
Cycle Q Clear(g_c), s	21.1	20.6	11.7	12.1	9.3	32.3	10.5	57.3	57.3	6.6	53.9	34.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	1046	467	326	882	391	258	1951	605	184	1865	579
V/C Ratio(X)	1.89	0.55	0.43	0.86	0.31	0.90	0.95	1.47	1.06	0.84	0.99	1.00
Avail Cap(c_a), veh/h	486	1080	482	357	948	420	258	1951	605	184	1865	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	44.6	25.0	67.0	45.9	54.6	69.1	46.4	46.4	70.3	47.3	18.9
Incr Delay (d2), s/veh	408.5	1.2	1.5	16.9	0.5	22.8	40.9	214.7	54.7	25.7	18.5	36.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.8	9.2	4.6	6.0	4.2	15.1	6.1	62.2	31.1	3.5	25.0	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	472.9	45.8	26.4	83.9	46.4	77.3	110.0	261.1	101.0	96.0	65.8	55.2
LnGrp LOS	F	D	C	F	D	E	F	F	F	F	E	E
Approach Vol, veh/h		1698			904			3757			2576	
Approach Delay, s/veh		274.7			70.1			223.8			65.3	
Approach LOS		F			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	60.8	27.0	42.5	14.7	63.6	20.1	49.4				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	5.3				
Max Green Setting (Gmax), s	10.6	54.8	21.1	40.0	8.0	* 57	15.5	45.6				
Max Q Clear Time (g_c+I1), s	12.5	55.9	23.1	34.3	8.6	59.3	14.1	22.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.6	0.0	0.0	0.1	8.8				

Intersection Summary

HCM 6th Ctrl Delay	172.2
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
 2: River Park PI/Yosemite Road & Audubon Drive/ Audubon Drive

Future Conditions No Build
 Timing Plan: Weekday PM Peak

Intersection												
Int Delay, s/veh	17.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖		↔		↖	↗	
Traffic Vol, veh/h	43	1443	1	19	878	24	0	0	21	37	0	34
Future Vol, veh/h	43	1443	1	19	878	24	0	0	21	37	0	34
Conflicting Peds, #/hr	0	0	1	1	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									
Storage Length	120	-	-	210	-	100	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	93	93	93	54	54	54	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	1586	1	20	944	26	0	0	39	69	0	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	970	0	0	1588	0	0	2194	2692	795	1871	2666	472
Stage 1	-	-	-	-	-	-	1682	1682	-	984	984	-
Stage 2	-	-	-	-	-	-	512	1010	-	887	1682	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	706	-	-	410	-	-	25	21	330	~44	22	538
Stage 1	-	-	-	-	-	-	98	149	-	267	325	-
Stage 2	-	-	-	-	-	-	513	316	-	305	149	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	706	-	-	410	-	-	20	19	330	~35	19	538
Mov Cap-2 Maneuver	-	-	-	-	-	-	20	19	-	~35	19	-
Stage 1	-	-	-	-	-	-	91	139	-	249	309	-
Stage 2	-	-	-	-	-	-	431	301	-	251	139	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			17.4			\$ 367.4		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	330	706	-	-	410	-	-	35	538
HCM Lane V/C Ratio	0.118	0.067	-	-	0.05	-	-	1.958	0.117
HCM Control Delay (s)	17.4	10.5	-	-	14.2	-	-	\$ 693.5	12.6
HCM Lane LOS	C	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.2	-	-	7.6	0.4

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

HCM 6th TWSC
3: Audubon Drive & N Del Mar Avenue

Future Conditions No Build
Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	8.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	50	1283	728	43	113	31
Future Vol, veh/h	50	1283	728	43	113	31
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	1442	766	45	120	33

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	812	0	-	0	2345 791
Stage 1	-	-	-	-	790 -
Stage 2	-	-	-	-	1555 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	814	-	-	-	~ 40 390
Stage 1	-	-	-	-	447 -
Stage 2	-	-	-	-	192 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	813	-	-	-	~ 26 389
Mov Cap-2 Maneuver	-	-	-	-	~ 117 -
Stage 1	-	-	-	-	292 -
Stage 2	-	-	-	-	192 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	129.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	813	-	-	-	117	389
HCM Lane V/C Ratio	0.069	-	-	-	1.027	0.085
HCM Control Delay (s)	9.8	0	-	-	161.4	15.1
HCM Lane LOS	A	A	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	6.9	0.3

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

HCM 6th TWSC
4: W Lexington Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday PM Peak

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	1294	20	13	718	4	7	4	46	3	1	10
Future Vol, veh/h	11	1294	20	13	718	4	7	4	46	3	1	10
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	96	96	96	77	77	77	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	1522	24	14	748	4	9	5	60	5	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	752	0	0	1548	0	0	2349	2342	1537	2372	2352	750
Stage 1	-	-	-	-	-	-	1562	1562	-	778	778	-
Stage 2	-	-	-	-	-	-	787	780	-	1594	1574	-
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	858	-	-	428	-	-	25	36	143	24	36	411
Stage 1	-	-	-	-	-	-	140	173	-	389	407	-
Stage 2	-	-	-	-	-	-	385	406	-	134	170	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	858	-	-	427	-	-	22	33	143	12	33	411
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	33	-	12	33	-
Stage 1	-	-	-	-	-	-	138	170	-	383	384	-
Stage 2	-	-	-	-	-	-	348	383	-	74	167	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			196.1			141.7		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	75	858	-	-	427	-	-	46
HCM Lane V/C Ratio	0.987	0.015	-	-	0.032	-	-	0.483
HCM Control Delay (s)	196.1	9.3	-	-	13.7	0	-	141.7
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	5.2	0	-	-	0.1	-	-	1.8

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday PM Peak

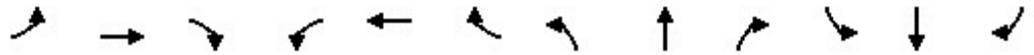


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	971	734	751	170	0	691
Future Volume (vph)	971	734	751	170	0	691
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	1.00	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	3539	3539	1544		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	3539	3539	1544		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.94	0.94
Adj. Flow (vph)	1022	773	791	179	0	735
RTOR Reduction (vph)	0	0	0	83	0	15
Lane Group Flow (vph)	1022	773	791	96	0	720
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	54.0	54.0	24.7	24.7		54.0
Effective Green, g (s)	54.0	54.0	24.7	24.7		54.0
Actuated g/C Ratio	0.60	0.60	0.27	0.27		0.60
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1062	2123	971	423		1672
v/s Ratio Prot	c0.58		c0.22			0.26
v/s Ratio Perm		0.22		0.06		0.00
v/c Ratio	0.96	0.36	0.81	0.23		0.43
Uniform Delay, d1	17.0	9.2	30.5	25.3		9.7
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	19.2	0.1	7.5	1.2		0.2
Delay (s)	36.2	9.3	38.0	26.5		9.9
Level of Service	D	A	D	C		A
Approach Delay (s)		24.6	35.9		9.9	
Approach LOS		C	D		A	
Intersection Summary						
HCM 2000 Control Delay			24.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.92			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			84.0%		ICU Level of Service	E
Analysis Period (min)			15			

c Critical Lane Group

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions No Build
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	521	320	74	395	393	134	82	1519	411	235	3160	1172
v/c Ratio	0.79	0.32	0.13	1.43	0.64	0.33	0.45	0.77	0.51	0.80	1.47	1.31
Control Delay	66.4	45.0	1.5	259.9	61.5	5.6	76.9	43.0	10.1	87.9	247.4	171.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	45.0	1.5	259.9	61.5	5.6	76.9	43.0	10.1	87.9	247.4	171.0
Queue Length 50th (ft)	231	134	0	~268	194	0	40	473	59	118	~1549	~1236
Queue Length 95th (ft)	#482	186	m3	#348	206	25	71	534	157	#171	#1563	#1446
Internal Link Dist (ft)		1403			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	662	1014	567	276	943	531	183	1984	811	304	2149	897
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.32	0.13	1.43	0.42	0.25	0.45	0.77	0.51	0.77	1.47	1.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

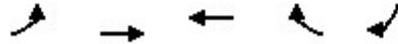
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
5: W Nees Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	675	456	949	39	1300
v/c Ratio	0.75	0.25	0.78	0.07	0.92
Control Delay	21.0	10.7	28.3	9.4	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	10.7	28.3	9.4	20.9
Queue Length 50th (ft)	228	57	210	3	419
Queue Length 95th (ft)	360	83	#285	23	m331
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	920	1840	1210	548	1445
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.25	0.78	0.07	0.90

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.

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions No Build
Timing Plan: Weekday Midday Peak

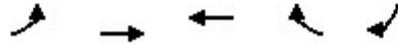
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	585	243	133	221	163	181	243	1742	353	105	1770	485
v/c Ratio	0.88	0.26	0.26	0.72	0.29	0.53	0.79	0.79	0.44	0.56	0.87	0.55
Control Delay	73.2	43.3	6.8	79.4	54.4	25.6	84.3	40.8	13.3	81.1	47.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	43.3	6.8	79.4	54.4	25.6	84.3	40.8	13.3	81.1	47.3	7.6
Queue Length 50th (ft)	280	105	1	109	81	64	119	498	72	52	562	28
Queue Length 95th (ft)	#398	120	42	146	93	112	#214	#720	190	86	#779	139
Internal Link Dist (ft)		1403			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	668	1170	604	359	943	495	308	2213	804	187	2037	886
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.21	0.22	0.62	0.17	0.37	0.79	0.79	0.44	0.56	0.87	0.55

Intersection Summary

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

Queues
5: W Nees Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	566	688	722	81	654
v/c Ratio	0.75	0.46	0.59	0.14	0.52
Control Delay	22.1	12.4	15.9	3.9	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	12.4	15.9	3.9	10.1
Queue Length 50th (ft)	138	74	97	0	53
Queue Length 95th (ft)	#333	136	141	21	93
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	851	1701	1751	807	1406
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	0.40	0.41	0.10	0.47

Intersection Summary

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

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions No Build
Timing Plan: Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	919	578	201	283	271	351	244	2869	644	154	1846	576
v/c Ratio	1.91	0.71	0.41	0.83	0.40	0.83	1.01	1.27	0.76	0.65	0.82	0.62
Control Delay	448.4	57.2	12.8	87.1	53.7	47.3	127.6	162.1	28.2	80.4	41.3	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	448.4	57.2	12.8	87.1	53.7	47.3	127.6	162.1	28.2	80.4	41.3	11.9
Queue Length 50th (ft)	~708	278	31	141	124	191	~126	~1305	332	76	568	100
Queue Length 95th (ft)	#829	306	90	170	135	228	#221	#1486	563	#143	#775	266
Internal Link Dist (ft)		1403			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	482	1075	593	354	943	531	242	2253	847	237	2248	927
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.91	0.54	0.34	0.80	0.29	0.66	1.01	1.27	0.76	0.65	0.82	0.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

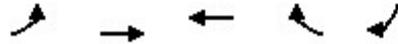
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Queues
5: W Nees Avenue & Audubon Drive

Future Conditions No Build
Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	1022	773	791	179	735
v/c Ratio	0.96	0.36	0.81	0.35	0.44
Control Delay	38.7	9.8	38.6	12.5	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	9.8	38.6	12.5	10.5
Queue Length 50th (ft)	504	108	220	28	113
Queue Length 95th (ft)	#823	143	#294	80	156
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1062	2123	971	507	1669
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.96	0.36	0.81	0.35	0.44

Intersection Summary

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

**APPENDIX D – EXISTING CONDITIONS WITH PROPOSED
IMPROVEMENTS INTERSECTION
LEVEL OF SERVICE AND QUEUING WORKSHEETS**

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Existing Build Conditions
 Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (veh/h)	332	204	47	235	234	80	54	1000	270	145	1947	722
Future Volume (veh/h)	332	204	47	235	234	80	54	1000	270	145	1947	722
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		0.99	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	365	224	52	276	275	94	57	1064	287	165	2212	820
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	302	256	323	470	207	209	1951	605	209	1974	613
Arrive On Green	0.13	0.16	0.16	0.09	0.13	0.13	0.06	0.38	0.38	0.06	0.39	0.39
Sat Flow, veh/h	3456	1870	1585	3456	3554	1563	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	365	224	52	276	275	94	57	1064	287	165	2212	820
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1563	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	15.5	17.1	2.8	11.8	10.9	5.7	2.4	24.4	20.5	7.1	58.0	58.0
Cycle Q Clear(g_c), s	15.5	17.1	2.8	11.8	10.9	5.7	2.4	24.4	20.5	7.1	58.0	58.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	302	256	323	470	207	209	1951	605	209	1974	613
V/C Ratio(X)	0.83	0.74	0.20	0.85	0.59	0.45	0.27	0.55	0.47	0.79	1.12	1.34
Avail Cap(c_a), veh/h	440	520	441	417	964	424	209	1951	605	214	1974	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	59.9	24.3	67.0	61.2	27.8	67.3	36.2	35.0	69.5	46.0	46.0
Incr Delay (d2), s/veh	12.1	8.2	0.9	10.7	2.7	3.7	0.3	1.1	2.6	16.0	61.6	162.9
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	7.5	8.7	1.7	5.6	5.1	3.4	1.0	10.1	8.3	3.5	34.6	49.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	68.1	25.2	77.6	63.9	31.4	67.6	37.3	37.6	85.5	107.6	208.9
LnGrp LOS	E	E	C	E	E	C	E	D	D	F	F	F
Approach Vol, veh/h		641			645			1408			3197	
Approach Delay, s/veh		69.2			65.1			38.6			132.5	
Approach LOS		E			E			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	64.0	24.9	25.1	15.8	63.6	19.9	30.1				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	* 5.9				
Max Green Setting (Gmax), s	8.7	58.0	19.1	40.7	9.3	* 57	18.1	* 42				
Max Q Clear Time (g_c+I1), s	4.4	60.0	17.5	12.9	9.1	26.4	13.8	19.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.2	0.0	19.1	0.2	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			95.8									
HCM 6th LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

3: Audubon Drive & N Del Mar Avenue

Existing Build Conditions
Timing Plan: Weekday AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	515	854	24	88	35
Future Volume (vph)	17	515	854	24	88	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1549	1770	1583
Flt Permitted	0.18	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	328	1863	1863	1549	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.85	0.85	0.90	0.90
Adj. Flow (vph)	18	560	1005	28	98	39
RTOR Reduction (vph)	0	0	0	5	0	34
Lane Group Flow (vph)	18	560	1005	23	98	5
Confl. Peds. (#/hr)				1		
Confl. Bikes (#/hr)				1		
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	38.4	38.4	38.4	38.4	6.8	6.8
Effective Green, g (s)	38.4	38.4	38.4	38.4	6.8	6.8
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.12	0.12
Clearance Time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	228	1296	1296	1077	218	195
v/s Ratio Prot		0.30	c0.54			
v/s Ratio Perm	0.05			0.02	c0.06	0.00
v/c Ratio	0.08	0.43	0.78	0.02	0.45	0.02
Uniform Delay, d1	2.7	3.7	5.6	2.6	22.5	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2	3.0	0.0	1.5	0.1
Delay (s)	2.9	3.9	8.5	2.6	23.9	21.3
Level of Service	A	A	A	A	C	C
Approach Delay (s)		3.9	8.4		23.2	
Approach LOS		A	A		C	
Intersection Summary						
HCM 2000 Control Delay			8.0		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			55.2		Sum of lost time (s)	10.0
Intersection Capacity Utilization			59.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Existing Build Conditions
Timing Plan: Weekday AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑	↑↑	↔		↔↔
Traffic Volume (vph)	449	303	611	25	0	792
Future Volume (vph)	449	303	611	25	0	792
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	0.97	0.95	0.95	1.00		0.88
Frbp, ped/bikes	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3433	3539	3539	1562		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3433	3539	3539	1562		2787
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.87	0.87
Adj. Flow (vph)	473	319	664	27	0	910
RTOR Reduction (vph)	0	0	0	9	0	155
Lane Group Flow (vph)	473	319	664	18	0	755
Confl. Peds. (#/hr)	1			1		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	38.0	38.0	62.7	62.7		38.0
Effective Green, g (s)	38.0	38.0	62.7	62.7		38.0
Actuated g/C Ratio	0.34	0.34	0.56	0.56		0.34
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1164	1200	1981	874		945
v/s Ratio Prot	0.14		c0.19			c0.27
v/s Ratio Perm		0.09		0.01		0.00
v/c Ratio	0.41	0.27	0.34	0.02		0.80
Uniform Delay, d1	28.4	26.9	13.4	11.0		33.5
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.3	0.1	0.5	0.0		4.9
Delay (s)	28.6	27.0	13.8	11.0		38.5
Level of Service	C	C	B	B		D
Approach Delay (s)		28.0	13.7		38.5	
Approach LOS		C	B		D	

Intersection Summary

HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: 2 [Existing Build_AM_Yosemite Rd (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]				
South: Yosemite Road														
3	L2	1	0.0	1	0.0	0.018	9.2	LOS A	0.1	2.4	0.65	0.53	0.65	25.1
8	T1	1	0.0	1	0.0	0.018	4.4	LOS A	0.1	2.4	0.65	0.53	0.65	22.4
18	R2	9	0.0	10	0.0	0.018	5.0	LOS A	0.1	2.4	0.65	0.53	0.65	21.1
Approach		11	0.0	12	0.0	0.018	5.3	LOS A	0.1	2.4	0.65	0.53	0.65	21.5
East: Audubon Drive														
1	L2	49	2.0	53	2.0	0.896	10.7	LOS B	28.8	731.6	0.69	0.36	0.69	22.6
6	T1	921	2.0	1001	2.0	0.896	5.2	LOS A	28.8	731.6	0.69	0.36	0.69	28.7
16	R2	16	2.0	17	2.0	0.896	5.0	LOS A	28.8	731.6	0.69	0.36	0.69	23.2
Approach		986	2.0	1072	2.0	0.896	5.5	LOS A	28.8	731.6	0.69	0.36	0.69	28.3
North: Yosemite Road														
7	L2	4	0.0	4	0.0	0.047	15.4	LOS B	0.3	7.6	0.91	0.79	0.91	19.1
4	T1	1	0.0	1	0.0	0.047	10.6	LOS B	0.3	7.6	0.91	0.79	0.91	15.5
14	R2	10	0.0	11	0.0	0.047	11.2	LOS B	0.3	7.6	0.91	0.79	0.91	16.7
Approach		15	0.0	16	0.0	0.047	12.3	LOS B	0.3	7.6	0.91	0.79	0.91	17.3
West: Audubon Drive														
5	L2	17	2.0	18	2.0	0.554	10.4	LOS B	5.4	137.7	0.39	0.43	0.39	23.0
2	T1	553	2.0	601	2.0	0.554	5.0	LOS A	5.4	137.7	0.39	0.43	0.39	30.8
12	R2	9	2.0	10	2.0	0.554	4.7	LOS A	5.4	137.7	0.39	0.43	0.39	25.2
Approach		579	2.0	629	2.0	0.554	5.1	LOS A	5.4	137.7	0.39	0.43	0.39	30.5
All Vehicles		1591	2.0	1729	2.0	0.896	5.4	LOS A	28.8	731.6	0.59	0.39	0.59	28.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Existing Build_AM_Lexington Ave (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]				
South: Lexington Avenue														
3	L2	6	0.0	7	0.0	0.040	8.7	LOS A	0.2	5.1	0.59	0.55	0.59	16.7
8	T1	1	0.0	1	0.0	0.040	3.8	LOS A	0.2	5.1	0.59	0.55	0.59	22.5
18	R2	21	0.0	23	0.0	0.040	4.5	LOS A	0.2	5.1	0.59	0.55	0.59	21.2
Approach		28	0.0	30	0.0	0.040	5.3	LOS A	0.2	5.1	0.59	0.55	0.59	20.4
East: Audubon Drive														
1	L2	18	2.0	20	2.0	0.818	10.1	LOS B	17.8	452.0	0.34	0.36	0.34	24.8
6	T1	887	2.0	964	2.0	0.818	4.6	LOS A	17.8	452.0	0.34	0.36	0.34	26.1
16	R2	4	2.0	4	2.0	0.818	4.4	LOS A	17.8	452.0	0.34	0.36	0.34	25.6
Approach		909	2.0	988	2.0	0.818	4.7	LOS A	17.8	452.0	0.34	0.36	0.34	26.1
North: Lexington Avenue														
7	L2	3	0.0	3	0.0	0.031	14.0	LOS B	0.2	4.6	0.82	0.70	0.82	20.3
4	T1	3	0.0	3	0.0	0.031	9.1	LOS A	0.2	4.6	0.82	0.70	0.82	16.9
14	R2	7	0.0	8	0.0	0.031	9.8	LOS A	0.2	4.6	0.82	0.70	0.82	15.1
Approach		13	0.0	14	0.0	0.031	10.6	LOS B	0.2	4.6	0.82	0.70	0.82	16.9
West: Audubon Drive														
5	L2	4	2.0	4	2.0	0.468	8.5	LOS A	3.8	96.4	0.21	0.37	0.21	21.5
2	T1	492	2.0	535	2.0	0.468	3.4	LOS A	3.8	96.4	0.21	0.37	0.21	33.0
12	R2	15	2.0	16	2.0	0.468	2.9	LOS A	3.8	96.4	0.21	0.37	0.21	24.7
Approach		511	2.0	555	2.0	0.468	3.4	LOS A	3.8	96.4	0.21	0.37	0.21	32.7
All Vehicles		1461	1.9	1588	1.9	0.818	4.3	LOS A	17.8	452.0	0.30	0.37	0.30	27.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Existing Build Conditions
 Timing Plan: Weekday Midday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (veh/h)	352	146	80	133	98	109	155	1110	225	67	1128	309
Future Volume (veh/h)	352	146	80	133	98	109	155	1110	225	67	1128	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	409	170	93	155	114	127	170	1220	247	74	1240	340
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	354	295	200	423	184	216	1814	561	176	1769	548
Arrive On Green	0.13	0.19	0.19	0.06	0.12	0.12	0.06	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	3456	1870	1559	3456	3554	1549	3456	5106	1580	3456	5106	1581
Grp Volume(v), veh/h	409	170	93	155	114	127	170	1220	247	74	1240	340
Grp Sat Flow(s),veh/h/ln	1728	1870	1559	1728	1777	1549	1728	1702	1580	1728	1702	1581
Q Serve(g_s), s	17.5	12.2	7.7	6.6	4.4	7.6	7.3	30.4	17.9	3.1	31.4	10.6
Cycle Q Clear(g_c), s	17.5	12.2	7.7	6.6	4.4	7.6	7.3	30.4	17.9	3.1	31.4	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	354	295	200	423	184	216	1814	561	176	1769	548
V/C Ratio(X)	0.89	0.48	0.31	0.77	0.27	0.69	0.79	0.67	0.44	0.42	0.70	0.62
Avail Cap(c_a), veh/h	555	657	548	279	964	420	316	1814	561	191	1769	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	54.2	52.4	69.7	60.1	26.3	69.3	41.0	36.9	69.0	42.3	6.4
Incr Delay (d2), s/veh	13.4	2.4	1.4	5.3	0.8	10.3	4.5	2.0	2.5	0.6	2.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	5.9	3.1	3.1	2.0	3.3	3.3	12.8	7.3	1.4	13.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.4	56.6	53.8	75.0	60.9	36.5	73.8	43.0	39.4	69.6	44.7	11.6
LnGrp LOS	E	E	D	E	E	D	E	D	D	E	D	B
Approach Vol, veh/h		672			396			1637			1654	
Approach Delay, s/veh		68.9			58.6			45.6			39.0	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	58.0	25.8	23.2	14.3	59.3	14.6	34.3				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6	5.9	* 5.9				
Max Green Setting (Gmax), s	13.7	48.0	24.1	40.7	8.3	* 53	12.1	* 53				
Max Q Clear Time (g_c+I1), s	9.3	33.4	19.5	9.6	5.1	32.4	8.6	14.2				
Green Ext Time (p_c), s	0.1	12.3	0.4	2.4	0.0	15.6	0.1	2.9				

Intersection Summary

HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

3: Audubon Drive & N Del Mar Avenue

Existing Build Conditions
Timing Plan: Weekday Midday Peak

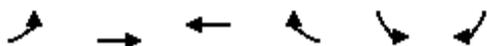


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	431	451	25	60	34
Future Volume (vph)	27	431	451	25	60	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1768	1863	1863	1550	1770	1583
Flt Permitted	0.48	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	902	1863	1863	1550	1770	1583
Peak-hour factor, PHF	0.85	0.85	0.95	0.95	0.81	0.81
Adj. Flow (vph)	32	507	475	26	74	42
RTOR Reduction (vph)	0	0	0	10	0	36
Lane Group Flow (vph)	32	507	475	16	74	6
Confl. Peds. (#/hr)	2			2		
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	23.9	23.9	23.9	23.9	6.0	6.0
Effective Green, g (s)	23.9	23.9	23.9	23.9	6.0	6.0
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.15	0.15
Clearance Time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	540	1115	1115	928	266	238
v/s Ratio Prot		c0.27	0.26			
v/s Ratio Perm	0.04			0.01	c0.04	0.00
v/c Ratio	0.06	0.45	0.43	0.02	0.28	0.03
Uniform Delay, d1	3.3	4.4	4.3	3.2	15.0	14.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.3	0.3	0.0	0.6	0.0
Delay (s)	3.4	4.7	4.6	3.2	15.6	14.5
Level of Service	A	A	A	A	B	B
Approach Delay (s)		4.6	4.5		15.2	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay			5.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.42			
Actuated Cycle Length (s)			39.9		Sum of lost time (s)	10.0
Intersection Capacity Utilization			38.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Existing Build Conditions
Timing Plan: Weekday Midday Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↰	↑↑	↑↑	↱		↱↱
Traffic Volume (vph)	380	462	480	54	0	366
Future Volume (vph)	380	462	480	54	0	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	0.97	0.95	0.95	1.00		0.88
Frbp, ped/bikes	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3433	3539	3539	1562		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3433	3539	3539	1562		2787
Peak-hour factor, PHF	0.96	0.96	0.95	0.95	0.80	0.80
Adj. Flow (vph)	396	481	505	57	0	458
RTOR Reduction (vph)	0	0	0	38	0	248
Lane Group Flow (vph)	396	481	505	19	0	210
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	14.0	14.0	12.3	12.3		14.0
Effective Green, g (s)	14.0	14.0	12.3	12.3		14.0
Actuated g/C Ratio	0.37	0.37	0.33	0.33		0.37
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1278	1317	1157	510		1037
v/s Ratio Prot	0.12		c0.14			0.07
v/s Ratio Perm		c0.14		0.01		0.00
v/c Ratio	0.31	0.37	0.44	0.04		0.20
Uniform Delay, d1	8.4	8.6	9.9	8.6		8.0
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.2	0.3	0.0		0.1
Delay (s)	8.5	8.8	10.2	8.6		8.1
Level of Service	A	A	B	A		A
Approach Delay (s)		8.7	10.1		8.1	
Approach LOS		A	B		A	

Intersection Summary

HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	37.6	Sum of lost time (s)	11.9
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

 **Site: 2 [Existing Build_MID_Yosemite Rd (Site Folder: General)]**

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]				
South: Yosemite Road														
3	L2	1	0.0	1	0.0	0.019	8.8	LOS A	0.1	2.5	0.61	0.51	0.61	25.6
8	T1	1	0.0	1	0.0	0.019	4.0	LOS A	0.1	2.5	0.61	0.51	0.61	23.1
18	R2	11	0.0	12	0.0	0.019	4.6	LOS A	0.1	2.5	0.61	0.51	0.61	21.4
Approach		13	0.0	14	0.0	0.019	4.9	LOS A	0.1	2.5	0.61	0.51	0.61	21.8
East: Audubon Drive														
1	L2	9	2.0	10	2.0	0.484	10.0	LOS B	4.0	102.2	0.21	0.39	0.21	25.8
6	T1	496	2.0	539	2.0	0.484	4.5	LOS A	4.0	102.2	0.21	0.39	0.21	32.4
16	R2	25	2.0	27	2.0	0.484	4.3	LOS A	4.0	102.2	0.21	0.39	0.21	26.6
Approach		530	2.0	576	2.0	0.484	4.6	LOS A	4.0	102.2	0.21	0.39	0.21	32.1
North: Yosemite Road														
7	L2	23	0.0	25	0.0	0.060	8.8	LOS A	0.3	7.8	0.61	0.62	0.61	23.5
4	T1	1	0.0	1	0.0	0.060	3.9	LOS A	0.3	7.8	0.61	0.62	0.61	20.8
14	R2	18	0.0	20	0.0	0.060	4.6	LOS A	0.3	7.8	0.61	0.62	0.61	20.2
Approach		42	0.0	46	0.0	0.060	6.9	LOS A	0.3	7.8	0.61	0.62	0.61	21.9
West: Audubon Drive														
5	L2	22	2.0	24	2.0	0.469	10.1	LOS B	4.0	100.5	0.26	0.41	0.26	23.8
2	T1	483	2.0	525	2.0	0.469	4.6	LOS A	4.0	100.5	0.26	0.41	0.26	31.9
12	R2	1	2.0	1	2.0	0.469	4.4	LOS A	4.0	100.5	0.26	0.41	0.26	26.1
Approach		506	2.0	550	2.0	0.469	4.9	LOS A	4.0	100.5	0.26	0.41	0.26	31.5
All Vehicles		1091	1.9	1186	1.9	0.484	4.8	LOS A	4.0	102.2	0.25	0.41	0.25	31.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Existing Build_MID_Lexington Ave (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]				
South: Lexington Avenue														
3	L2	3	0.0	3	0.0	0.019	8.2	LOS A	0.1	2.4	0.56	0.49	0.56	17.2
8	T1	3	0.0	3	0.0	0.019	3.4	LOS A	0.1	2.4	0.56	0.49	0.56	23.2
18	R2	8	0.0	9	0.0	0.019	4.0	LOS A	0.1	2.4	0.56	0.49	0.56	21.6
Approach		14	0.0	15	0.0	0.019	4.8	LOS A	0.1	2.4	0.56	0.49	0.56	21.0
East: Audubon Drive														
1	L2	17	2.0	18	2.0	0.435	9.8	LOS A	3.5	87.9	0.13	0.39	0.13	26.3
6	T1	465	2.0	505	2.0	0.435	4.4	LOS A	3.5	87.9	0.13	0.39	0.13	27.7
16	R2	2	2.0	2	2.0	0.435	4.1	LOS A	3.5	87.9	0.13	0.39	0.13	27.2
Approach		484	2.0	526	2.0	0.435	4.6	LOS A	3.5	87.9	0.13	0.39	0.13	27.7
North: Lexington Avenue														
7	L2	2	0.0	2	0.0	0.011	8.4	LOS A	0.1	1.4	0.57	0.48	0.57	25.2
4	T1	2	0.0	2	0.0	0.011	3.5	LOS A	0.1	1.4	0.57	0.48	0.57	22.7
14	R2	4	0.0	4	0.0	0.011	4.2	LOS A	0.1	1.4	0.57	0.48	0.57	19.7
Approach		8	0.0	9	0.0	0.011	5.1	LOS A	0.1	1.4	0.57	0.48	0.57	22.0
West: Audubon Drive														
5	L2	5	2.0	5	2.0	0.422	8.4	LOS A	3.1	78.0	0.17	0.37	0.17	21.7
2	T1	449	2.0	488	2.0	0.422	3.3	LOS A	3.1	78.0	0.17	0.37	0.17	33.3
12	R2	9	2.0	10	2.0	0.422	2.9	LOS A	3.1	78.0	0.17	0.37	0.17	25.0
Approach		463	2.0	503	2.0	0.422	3.4	LOS A	3.1	78.0	0.17	0.37	0.17	33.0
All Vehicles		969	2.0	1053	2.0	0.435	4.0	LOS A	3.5	87.9	0.16	0.38	0.16	29.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Existing Build Conditions
 Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (veh/h)	573	360	125	158	152	197	164	1928	433	100	1202	375
Future Volume (veh/h)	573	360	125	158	152	197	164	1928	433	100	1202	375
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		0.99	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	644	404	140	198	190	246	171	2008	451	108	1292	403
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	681	582	494	238	651	288	254	2011	624	156	1886	585
Arrive On Green	0.20	0.31	0.31	0.07	0.18	0.18	0.07	0.39	0.39	0.05	0.37	0.37
Sat Flow, veh/h	3456	1870	1585	3456	3554	1572	3456	5106	1585	3456	5106	1584
Grp Volume(v), veh/h	644	404	140	198	190	246	171	2008	451	108	1292	403
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1572	1728	1702	1585	1728	1702	1584
Q Serve(g_s), s	32.4	33.4	8.6	10.0	8.1	26.7	8.5	69.2	42.4	5.4	37.6	19.4
Cycle Q Clear(g_c), s	32.4	33.4	8.6	10.0	8.1	26.7	8.5	69.2	42.4	5.4	37.6	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	681	582	494	238	651	288	254	2011	624	156	1886	585
V/C Ratio(X)	0.95	0.69	0.28	0.83	0.29	0.85	0.67	1.00	0.72	0.69	0.69	0.69
Avail Cap(c_a), veh/h	709	603	511	355	781	346	254	2011	624	163	1886	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.7	53.2	24.7	80.9	62.0	69.6	79.4	53.3	45.2	82.8	46.9	12.3
Incr Delay (d2), s/veh	20.7	4.6	0.7	6.4	0.6	20.1	5.5	19.8	7.1	9.2	2.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	16.4	3.4	4.6	3.7	12.3	3.9	32.4	17.8	2.6	15.9	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.4	57.8	25.4	87.3	62.6	89.7	85.0	73.1	52.3	92.0	48.9	18.8
LnGrp LOS	F	E	C	F	E	F	F	E	D	F	D	B
Approach Vol, veh/h		1188			634			2630			1803	
Approach Delay, s/veh		71.7			80.8			70.3			44.8	
Approach LOS		E			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	71.0	40.6	37.5	14.7	75.6	18.0	60.1				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	5.3				
Max Green Setting (Gmax), s	12.7	65.0	36.1	38.7	8.3	* 69	18.1	56.7				
Max Q Clear Time (g_c+I1), s	10.5	39.6	34.4	28.7	7.4	71.2	12.0	35.4				
Green Ext Time (p_c), s	0.1	20.6	0.3	2.7	0.0	0.0	0.2	5.7				
Intersection Summary												
HCM 6th Ctrl Delay			64.3									
HCM 6th LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

3: Audubon Drive & N Del Mar Avenue

Existing Build Conditions
Timing Plan: Weekday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	35	898	510	30	79	22
Future Volume (vph)	35	898	510	30	79	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4	5.4	5.4	4.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1769	1863	1863	1549	1768	1550
Flt Permitted	0.43	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	797	1863	1863	1549	1768	1550
Peak-hour factor, PHF	0.89	0.89	0.95	0.95	0.94	0.94
Adj. Flow (vph)	39	1009	537	32	84	23
RTOR Reduction (vph)	0	0	0	11	0	19
Lane Group Flow (vph)	39	1009	537	21	84	4
Confl. Peds. (#/hr)	1			1	1	1
Confl. Bikes (#/hr)				1		
Turn Type	Perm	NA	NA	Perm	D.Pm	Perm
Protected Phases		2!	6!			
Permitted Phases	2!			6	6!	4
Actuated Green, G (s)	39.0	39.0	39.0	39.0	39.0	9.8
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	9.8
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.66	0.17
Clearance Time (s)	5.4	5.4	5.4	5.4	5.4	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	528	1235	1235	1027	1172	258
v/s Ratio Prot		c0.54	0.29			
v/s Ratio Perm	0.05			0.01	0.05	c0.00
v/c Ratio	0.07	0.82	0.43	0.02	0.07	0.01
Uniform Delay, d1	3.5	7.3	4.7	3.4	3.5	20.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	4.3	0.2	0.0	0.0	0.0
Delay (s)	3.6	11.6	4.9	3.4	3.5	20.5
Level of Service	A	B	A	A	A	C
Approach Delay (s)		11.3	4.8		7.2	
Approach LOS		B	A		A	
Intersection Summary						
HCM 2000 Control Delay			8.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			58.8		Sum of lost time (s)	10.0
Intersection Capacity Utilization			65.1%		ICU Level of Service	C
Analysis Period (min)			15			
! Phase conflict between lane groups.						
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Existing Build Conditions
Timing Plan: Weekday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	680	514	526	119	0	484
Future Volume (vph)	680	514	526	119	0	484
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3433	3539	3539	1561		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3433	3539	3539	1561		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.94	0.94
Adj. Flow (vph)	716	541	554	125	0	515
RTOR Reduction (vph)	0	0	0	66	0	193
Lane Group Flow (vph)	716	541	554	59	0	322
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	25.4	25.4	33.3	33.3		25.4
Effective Green, g (s)	25.4	25.4	33.3	33.3		25.4
Actuated g/C Ratio	0.36	0.36	0.48	0.48		0.36
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1245	1284	1683	742		1011
v/s Ratio Prot	c0.21		c0.16			0.11
v/s Ratio Perm		0.15		0.04		0.00
v/c Ratio	0.58	0.42	0.33	0.08		0.32
Uniform Delay, d1	18.0	16.8	11.4	10.0		16.1
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.7	0.3	0.5	0.2		0.2
Delay (s)	18.7	17.0	11.9	10.2		16.3
Level of Service	B	B	B	B		B
Approach Delay (s)		18.0	11.6		16.3	
Approach LOS		B	B		B	
Intersection Summary						
HCM 2000 Control Delay			15.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.44			
Actuated Cycle Length (s)			70.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			48.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

Site: 2 [Existing Build_PM Yosemite Rd (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] ft				
South: Yosemite Road														
3	L2	1	0.0	1	0.0	0.077	20.0	LOS C	0.5	13.4	0.99	0.88	0.99	16.6
8	T1	1	0.0	1	0.0	0.077	15.2	LOS B	0.5	13.4	0.99	0.88	0.99	12.8
18	R2	15	0.0	16	0.0	0.077	15.9	LOS B	0.5	13.4	0.99	0.88	0.99	14.7
Approach		17	0.0	18	0.0	0.077	16.1	LOS B	0.5	13.4	0.99	0.88	0.99	14.8
East: Audubon Drive														
1	L2	13	2.0	14	2.0	0.600	10.2	LOS B	7.2	182.2	0.36	0.40	0.36	24.7
6	T1	615	2.0	668	2.0	0.600	4.7	LOS A	7.2	182.2	0.36	0.40	0.36	31.2
16	R2	17	2.0	18	2.0	0.600	4.5	LOS A	7.2	182.2	0.36	0.40	0.36	25.5
Approach		645	2.0	701	2.0	0.600	4.8	LOS A	7.2	182.2	0.36	0.40	0.36	30.9
North: Yosemite Road														
7	L2	26	0.0	28	0.0	0.086	10.1	LOS B	0.5	12.0	0.70	0.70	0.70	22.5
4	T1	1	0.0	1	0.0	0.086	5.2	LOS A	0.5	12.0	0.70	0.70	0.70	19.5
14	R2	24	0.0	26	0.0	0.086	5.9	LOS A	0.5	12.0	0.70	0.70	0.70	19.4
Approach		51	0.0	55	0.0	0.086	8.0	LOS A	0.5	12.0	0.70	0.70	0.70	20.9
West: Audubon Drive														
5	L2	30	2.0	33	2.0	0.974	15.1	LOS B	53.0	1346.1	1.00	0.46	1.03	19.9
2	T1	1010	2.0	1098	2.0	0.974	9.6	LOS A	53.0	1346.1	1.00	0.46	1.03	26.7
12	R2	1	2.0	1	2.0	0.974	9.4	LOS A	53.0	1346.1	1.00	0.46	1.03	21.5
Approach		1041	2.0	1132	2.0	0.974	9.8	LOS A	53.0	1346.1	1.00	0.46	1.03	26.5
All Vehicles		1754	1.9	1907	1.9	0.974	8.0	LOS A	53.0	1346.1	0.75	0.45	0.77	27.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Existing Build_PM_Lexington Ave (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] ft				
South: Lexington Avenue														
3	L2	5	0.0	5	0.0	0.096	14.5	LOS B	0.6	14.7	0.84	0.79	0.84	13.0
8	T1	3	0.0	3	0.0	0.096	9.7	LOS A	0.6	14.7	0.84	0.79	0.84	16.4
18	R2	32	0.0	35	0.0	0.096	10.3	LOS B	0.6	14.7	0.84	0.79	0.84	17.4
Approach		40	0.0	43	0.0	0.096	10.8	LOS B	0.6	14.7	0.84	0.79	0.84	16.9
East: Audubon Drive														
1	L2	9	2.0	10	2.0	0.466	9.9	LOS A	4.0	101.4	0.17	0.38	0.17	26.1
6	T1	503	2.0	547	2.0	0.466	4.4	LOS A	4.0	101.4	0.17	0.38	0.17	27.4
16	R2	3	2.0	3	2.0	0.466	4.2	LOS A	4.0	101.4	0.17	0.38	0.17	26.9
Approach		515	2.0	560	2.0	0.466	4.5	LOS A	4.0	101.4	0.17	0.38	0.17	27.4
North: Lexington Avenue														
7	L2	2	0.0	2	0.0	0.014	8.7	LOS A	0.1	1.8	0.59	0.50	0.59	25.2
4	T1	1	0.0	1	0.0	0.014	3.8	LOS A	0.1	1.8	0.59	0.50	0.59	22.6
14	R2	7	0.0	8	0.0	0.014	4.5	LOS A	0.1	1.8	0.59	0.50	0.59	19.4
Approach		10	0.0	11	0.0	0.014	5.3	LOS A	0.1	1.8	0.59	0.50	0.59	21.1
West: Audubon Drive														
5	L2	8	2.0	9	2.0	0.836	8.6	LOS A	18.5	470.3	0.37	0.34	0.37	20.5
2	T1	906	2.0	985	2.0	0.836	3.5	LOS A	18.5	470.3	0.37	0.34	0.37	31.5
12	R2	14	2.0	15	2.0	0.836	3.1	LOS A	18.5	470.3	0.37	0.34	0.37	23.4
Approach		928	2.0	1009	2.0	0.836	3.6	LOS A	18.5	470.3	0.37	0.34	0.37	31.3
All Vehicles		1493	1.9	1623	1.9	0.836	4.1	LOS A	18.5	470.3	0.31	0.37	0.31	29.2

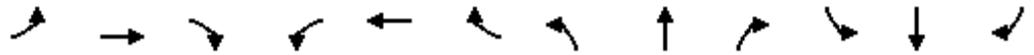
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Queues

1: N Friant Road & Audubon Drive/Audubon Drive

Existing Build Conditions

Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	365	224	52	276	275	94	57	1064	287	165	2213	820
v/c Ratio	0.77	0.66	0.12	0.76	0.52	0.26	0.29	0.43	0.31	0.68	0.84	0.76
Control Delay	73.6	65.6	0.6	79.3	61.2	1.7	71.8	27.5	3.9	81.6	36.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.6	65.6	0.6	79.3	61.2	1.7	71.8	27.5	3.9	81.6	36.2	16.6
Queue Length 50th (ft)	177	210	0	137	136	0	27	243	0	81	678	241
Queue Length 95th (ft)	#251	265	0	175	146	0	53	344	61	#136	#964	519
Internal Link Dist (ft)		514			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	489	517	554	414	960	537	199	2463	914	248	2635	1074
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.43	0.09	0.67	0.29	0.18	0.29	0.43	0.31	0.67	0.84	0.76

Intersection Summary

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

Queues
3: Audubon Drive & N Del Mar Avenue

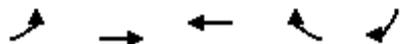
Existing Build Conditions
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	18	560	1005	28	98	39
v/c Ratio	0.07	0.40	0.72	0.02	0.31	0.12
Control Delay	4.5	5.3	10.7	2.4	27.1	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	5.3	10.7	2.4	27.1	10.1
Queue Length 50th (ft)	2	72	196	1	33	0
Queue Length 95th (ft)	9	144	361	7	76	23
Internal Link Dist (ft)		2110	307		199	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	262	1490	1490	1242	890	816
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.38	0.67	0.02	0.11	0.05
Intersection Summary						

Queues
5: W Nees Avenue & Audubon Drive

Existing Build Conditions
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	473	319	664	27	910
v/c Ratio	0.41	0.27	0.34	0.03	0.84
Control Delay	28.5	26.3	15.2	7.3	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	26.3	15.2	7.3	32.2
Queue Length 50th (ft)	132	86	130	2	261
Queue Length 95th (ft)	153	105	206	18	285
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1655	1706	1980	883	1451
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.19	0.34	0.03	0.63
Intersection Summary					

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Existing Build Conditions
Timing Plan: Weekday Midday Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	409	170	93	155	114	127	170	1220	247	74	1240	340
v/c Ratio	0.83	0.41	0.21	0.64	0.21	0.37	0.65	0.49	0.28	0.40	0.52	0.37
Control Delay	77.1	49.9	4.3	79.9	53.4	9.7	78.9	29.1	6.0	75.0	32.1	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	49.9	4.3	79.9	53.4	9.7	78.9	29.1	6.0	75.0	32.1	4.8
Queue Length 50th (ft)	202	157	0	77	56	0	84	245	9	37	265	0
Queue Length 95th (ft)	244	172	22	110	68	45	124	424	77	64	458	73
Internal Link Dist (ft)		524			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	555	654	621	276	960	512	313	2509	882	190	2402	915
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.26	0.15	0.56	0.12	0.25	0.54	0.49	0.28	0.39	0.52	0.37
Intersection Summary												

Queues
3: Audubon Drive & N Del Mar Avenue

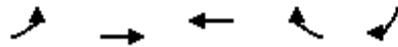
Existing Build Conditions
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	32	507	475	26	74	42
v/c Ratio	0.05	0.42	0.39	0.03	0.21	0.12
Control Delay	4.6	6.4	6.2	2.1	16.0	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	6.4	6.2	2.1	16.0	7.1
Queue Length 50th (ft)	3	54	50	0	13	0
Queue Length 95th (ft)	10	104	104	6	41	16
Internal Link Dist (ft)		2110	307		199	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	888	1838	1838	1528	1122	1019
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.28	0.26	0.02	0.07	0.04
Intersection Summary						

Queues
5: W Nees Avenue & Audubon Drive

Existing Build Conditions
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	396	481	505	57	458
v/c Ratio	0.31	0.37	0.44	0.10	0.37
Control Delay	9.6	10.0	12.0	4.4	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	10.0	12.0	4.4	3.1
Queue Length 50th (ft)	27	35	40	0	4
Queue Length 95th (ft)	61	76	89	17	21
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	2822	2910	2866	1277	2332
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.17	0.18	0.04	0.20
Intersection Summary					

Queues
19: Audubon Drive

Existing Build Conditions
Timing Plan: Weekday Midday Peak

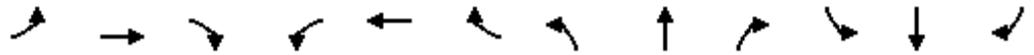
Lane Group
Lane Group Flow (vph)
v/c Ratio
Control Delay
Queue Delay
Total Delay
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)
Turn Bay Length (ft)
Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn
Storage Cap Reductn
Reduced v/c Ratio
Intersection Summary

Queues

1: N Friant Road & Audubon Drive/Audubon Drive

Existing Build Conditions

Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	644	404	140	198	190	246	171	2008	451	108	1292	403
v/c Ratio	0.94	0.84	0.27	0.71	0.38	0.67	0.69	0.84	0.52	0.60	0.56	0.43
Control Delay	91.8	76.9	8.2	92.4	68.9	29.9	94.9	45.3	18.9	95.3	37.9	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.8	76.9	8.2	92.4	68.9	29.9	94.9	45.3	18.9	95.3	37.9	4.5
Queue Length 50th (ft)	379	446	3	117	107	81	101	740	178	63	398	0
Queue Length 95th (ft)	#478	528	55	141	120	123	145	#968	329	#106	517	76
Internal Link Dist (ft)		536			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	704	600	602	353	778	475	247	2404	868	181	2308	929
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.67	0.23	0.56	0.24	0.52	0.69	0.84	0.52	0.60	0.56	0.43

Intersection Summary

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

Queues
3: Audubon Drive & N Del Mar Avenue

Existing Build Conditions
Timing Plan: Weekday PM Peak



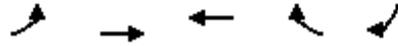
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	39	1009	537	32	84	23
v/c Ratio	0.07	0.82	0.44	0.03	0.07	0.08
Control Delay	5.3	16.6	7.1	2.5	4.8	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	16.6	7.1	2.5	4.8	10.5
Queue Length 50th (ft)	3	169	58	0	7	0
Queue Length 95th (ft)	21	#712	225	11	36	16
Internal Link Dist (ft)		2110	307		199	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	637	1489	1489	1244	1412	665
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.68	0.36	0.03	0.06	0.03

Intersection Summary

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

Queues
5: W Nees Avenue & Audubon Drive

Existing Build Conditions
Timing Plan: Weekday PM Peak

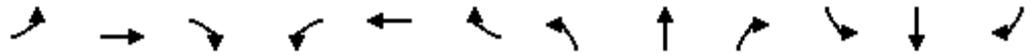


Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	716	541	554	125	515
v/c Ratio	0.58	0.42	0.33	0.15	0.44
Control Delay	19.3	17.1	13.2	3.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	17.1	13.2	3.5	7.1
Queue Length 50th (ft)	123	88	74	0	35
Queue Length 95th (ft)	150	111	126	29	62
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1520	1567	1685	808	1381
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.35	0.33	0.15	0.37
Intersection Summary					

**APPENDIX E – FUTURE (2040) CONDITIONS WITH PROPOSED
IMPROVEMENTS INTERSECTION
LEVEL OF SERVICE AND QUEUING WORKSHEETS**

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Future Build Conditions
 Timing Plan: Weekday AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔	↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	474	291	67	336	334	114	77	1428	386	207	2781	1031
Future Volume (veh/h)	474	291	67	336	334	114	77	1428	386	207	2781	1031
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		0.99	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	521	320	74	395	393	134	82	1519	411	235	3160	1172
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	394	334	279	598	264	178	1985	616	279	2158	670
Arrive On Green	0.13	0.21	0.21	0.08	0.17	0.17	0.05	0.39	0.39	0.08	0.42	0.42
Sat Flow, veh/h	3456	1870	1585	3456	3554	1568	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	521	320	74	395	393	134	82	1519	411	235	3160	1172
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1568	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	19.0	24.4	4.3	12.1	15.5	8.4	3.5	38.8	32.1	10.1	63.4	63.4
Cycle Q Clear(g_c), s	19.0	24.4	4.3	12.1	15.5	8.4	3.5	38.8	32.1	10.1	63.4	63.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	439	394	334	279	598	264	178	1985	616	279	2158	670
V/C Ratio(X)	1.19	0.81	0.22	1.42	0.66	0.51	0.46	0.77	0.67	0.84	1.46	1.75
Avail Cap(c_a), veh/h	439	536	454	279	948	418	184	1985	616	306	2158	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.5	56.4	26.7	69.0	58.3	29.2	69.1	39.9	37.8	68.0	43.3	43.3
Incr Delay (d2), s/veh	105.2	10.6	0.8	207.5	2.9	3.5	0.7	2.9	5.6	16.0	211.5	343.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	12.6	2.3	13.3	7.2	3.4	1.5	16.3	13.2	5.0	67.5	87.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.7	67.0	27.5	276.4	61.2	32.8	69.8	42.8	43.5	84.0	254.8	386.7
LnGrp LOS	F	E	C	F	E	C	E	D	D	F	F	F
Approach Vol, veh/h		915			922			2012			4567	
Approach Delay, s/veh		122.9			149.3			44.0			279.8	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	69.4	24.9	30.5	18.8	64.6	18.0	37.5				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	* 5.9				
Max Green Setting (Gmax), s	8.0	63.4	15.1	40.0	13.3	* 58	12.1	* 43				
Max Q Clear Time (g_c+I1), s	5.5	65.4	21.0	17.5	12.1	40.8	14.1	26.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7	0.1	15.3	0.0	3.6				

Intersection Summary

HCM 6th Ctrl Delay	192.1
HCM 6th LOS	F

Notes

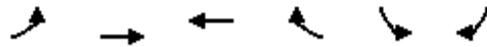
- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

3: Audubon Drive & N Del Mar Avenue

Future Build Conditions

Timing Plan: Weekday AM Peak



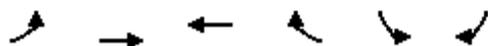
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	736	1220	34	126	50
Future Volume (vph)	24	736	1220	34	126	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1547	1770	1583
Flt Permitted	0.03	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	64	1863	1863	1547	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.85	0.85	0.90	0.90
Adj. Flow (vph)	26	800	1435	40	140	56
RTOR Reduction (vph)	0	0	0	3	0	50
Lane Group Flow (vph)	26	800	1435	37	140	6
Confl. Peds. (#/hr)				1		
Confl. Bikes (#/hr)				1		
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	116.1	116.1	116.1	116.1	16.5	16.5
Effective Green, g (s)	116.1	116.1	116.1	116.1	16.5	16.5
Actuated g/C Ratio	0.81	0.81	0.81	0.81	0.12	0.12
Clearance Time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	52	1516	1516	1259	204	183
v/s Ratio Prot		0.43	c0.77			
v/s Ratio Perm	0.41			0.02	c0.08	0.00
v/c Ratio	0.50	0.53	0.95	0.03	0.69	0.04
Uniform Delay, d1	4.2	4.3	10.7	2.5	60.6	56.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	0.3	12.5	0.0	9.2	0.1
Delay (s)	11.5	4.7	23.2	2.5	69.8	56.1
Level of Service	B	A	C	A	E	E
Approach Delay (s)		4.9	22.7		65.9	
Approach LOS		A	C		E	
Intersection Summary						
HCM 2000 Control Delay			20.2		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.91			
Actuated Cycle Length (s)			142.6		Sum of lost time (s)	10.0
Intersection Capacity Utilization			79.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Future Build Conditions

Timing Plan: Weekday AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	641	433	873	36	0	1131
Future Volume (vph)	641	433	873	36	0	1131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3433	3539	3539	1563		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3433	3539	3539	1563		2787
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.87	0.87
Adj. Flow (vph)	675	456	949	39	0	1300
RTOR Reduction (vph)	0	0	0	19	0	22
Lane Group Flow (vph)	675	456	949	20	0	1278
Confl. Peds. (#/hr)	1			1		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	37.3	37.3	26.4	26.4		37.3
Effective Green, g (s)	37.3	37.3	26.4	26.4		37.3
Actuated g/C Ratio	0.50	0.50	0.35	0.35		0.50
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1707	1760	1245	550		1386
v/s Ratio Prot	0.20		c0.27			c0.45
v/s Ratio Perm		0.13		0.01		0.01
v/c Ratio	0.40	0.26	0.76	0.04		0.92
Uniform Delay, d1	11.8	10.9	21.5	16.0		17.5
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.1	4.5	0.1		10.5
Delay (s)	12.0	11.0	26.0	16.1		28.0
Level of Service	B	B	C	B		C
Approach Delay (s)		11.6	25.6		28.0	
Approach LOS		B	C		C	
Intersection Summary						
HCM 2000 Control Delay			21.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			73.6%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

Site: 2 [Future Build_AM_Yosemite Rd (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]				
South: Yosemite Road														
3	L2	1	0.0	1	0.0	0.032	12.3	LOS B	0.2	4.6	0.78	0.66	0.78	22.0
8	T1	1	0.0	1	0.0	0.032	7.5	LOS A	0.2	4.6	0.78	0.66	0.78	18.5
18	R2	13	0.0	14	0.0	0.032	8.1	LOS A	0.2	4.6	0.78	0.66	0.78	18.8
Approach		15	0.0	16	0.0	0.032	8.4	LOS A	0.2	4.6	0.78	0.66	0.78	19.0
East: Audubon Drive														
1	L2	70	2.0	76	2.0	0.082	10.0	LOS B	0.4	10.4	0.16	0.61	0.16	22.1
6	T1	1315	2.0	1429	2.0	1.034	27.7	LOS F	157.6	4002.9	1.00	0.45	1.14	16.9
16	R2	23	2.0	25	2.0	1.034	27.6	LOS F	157.6	4002.9	1.00	0.45	1.14	13.1
Approach		1408	2.0	1530	2.0	1.034	26.8	LOS C	157.6	4002.9	0.96	0.46	1.10	17.0
North: Yosemite Road														
7	L2	6	0.0	7	0.0	0.170	36.0	LOS D	1.1	27.2	1.00	1.00	1.00	11.1
4	T1	1	0.0	1	0.0	0.170	31.2	LOS C	1.1	27.2	1.00	1.00	1.00	8.1
14	R2	14	0.0	15	0.0	0.170	31.8	LOS C	1.1	27.2	1.00	1.00	1.00	10.3
Approach		21	0.0	23	0.0	0.170	33.0	LOS C	1.1	27.2	1.00	1.00	1.00	10.4
West: Audubon Drive														
5	L2	24	2.0	26	2.0	0.031	10.5	LOS B	0.1	3.5	0.26	0.61	0.26	21.7
2	T1	790	2.0	859	2.0	0.658	5.1	LOS A	6.7	169.4	0.45	0.45	0.45	30.5
12	R2	13	2.0	14	2.0	0.658	5.1	LOS A	6.7	169.4	0.45	0.45	0.45	24.8
Approach		827	2.0	899	2.0	0.658	5.3	LOS A	6.7	169.4	0.44	0.45	0.44	30.2
All Vehicles		2271	2.0	2468	2.0	1.034	18.9	LOS B	157.6	4002.9	0.77	0.46	0.86	20.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Future Build_AM_Lexington Ave (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] ft				
South: Lexington Avenue														
3	L2	9	0.0	10	0.0	0.072	11.0	LOS B	0.4	10.0	0.72	0.68	0.72	15.0
8	T1	1	0.0	1	0.0	0.072	6.2	LOS A	0.4	10.0	0.72	0.68	0.72	19.4
18	R2	30	0.0	33	0.0	0.072	6.8	LOS A	0.4	10.0	0.72	0.68	0.72	19.4
Approach		40	0.0	43	0.0	0.072	7.7	LOS A	0.4	10.0	0.72	0.68	0.72	18.5
East: Audubon Drive														
1	L2	26	2.0	28	2.0	0.030	9.9	LOS A	0.2	3.8	0.12	0.62	0.12	22.3
6	T1	1267	2.0	1377	2.0	0.999	13.4	LOS B	104.8	2662.4	1.00	0.31	1.03	19.9
16	R2	6	2.0	7	2.0	0.999	13.3	LOS B	104.8	2662.4	1.00	0.31	1.03	19.5
Approach		1299	2.0	1412	2.0	0.999	13.3	LOS B	104.8	2662.4	0.98	0.32	1.02	19.9
North: Lexington Avenue														
7	L2	4	0.0	4	0.0	0.138	33.1	LOS C	1.0	24.7	1.00	0.96	1.00	11.9
4	T1	4	0.0	4	0.0	0.138	28.3	LOS C	1.0	24.7	1.00	0.96	1.00	8.8
14	R2	10	0.0	11	0.0	0.138	28.9	LOS C	1.0	24.7	1.00	0.96	1.00	8.3
Approach		18	0.0	20	0.0	0.138	29.7	LOS C	1.0	24.7	1.00	0.96	1.00	9.3
West: Audubon Drive														
5	L2	6	2.0	7	2.0	0.007	8.5	LOS A	0.0	0.8	0.17	0.61	0.17	19.6
2	T1	703	2.0	764	2.0	0.571	3.4	LOS A	5.3	135.0	0.26	0.38	0.26	32.5
12	R2	21	2.0	23	2.0	0.571	3.2	LOS A	5.3	135.0	0.26	0.38	0.26	24.1
Approach		730	2.0	793	2.0	0.571	3.5	LOS A	5.3	135.0	0.26	0.38	0.26	32.2
All Vehicles		2087	1.9	2268	1.9	0.999	9.9	LOS A	104.8	2662.4	0.73	0.35	0.75	22.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions Build
 Timing Plan: Weekday Midday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (veh/h)	503	209	114	190	140	156	221	1585	321	96	1611	441
Future Volume (veh/h)	503	209	114	190	140	156	221	1585	321	96	1611	441
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	585	243	133	221	163	181	243	1742	353	105	1770	485
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	438	366	267	522	229	256	1808	559	182	1712	530
Arrive On Green	0.17	0.23	0.23	0.08	0.15	0.15	0.07	0.35	0.35	0.05	0.34	0.34
Sat Flow, veh/h	3456	1870	1561	3456	3554	1556	3456	5106	1580	3456	5106	1581
Grp Volume(v), veh/h	585	243	133	221	163	181	243	1742	353	105	1770	485
Grp Sat Flow(s),veh/h/ln	1728	1870	1561	1728	1777	1556	1728	1702	1580	1728	1702	1581
Q Serve(g_s), s	25.3	17.2	10.7	9.5	6.2	11.9	10.5	50.2	27.9	4.5	50.3	19.8
Cycle Q Clear(g_c), s	25.3	17.2	10.7	9.5	6.2	11.9	10.5	50.2	27.9	4.5	50.3	19.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	438	366	267	522	229	256	1808	559	182	1712	530
V/C Ratio(X)	1.00	0.55	0.36	0.83	0.31	0.79	0.95	0.96	0.63	0.58	1.03	0.91
Avail Cap(c_a), veh/h	583	618	516	362	948	415	256	1808	559	184	1712	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	50.5	48.1	68.2	57.2	30.8	69.2	47.5	40.3	69.4	49.9	9.6
Incr Delay (d2), s/veh	38.2	2.6	1.4	8.2	0.8	13.3	42.3	14.2	5.3	2.8	31.0	22.9
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	14.1	8.3	4.3	4.4	2.8	5.3	6.1	23.0	11.5	2.0	25.5	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.5	53.1	49.5	76.4	58.0	44.1	111.5	61.7	45.6	72.2	80.8	32.5
LnGrp LOS	F	D	D	E	E	D	F	E	D	E	F	C
Approach Vol, veh/h		961			565			2338			2360	
Approach Delay, s/veh		81.5			60.8			64.4			70.5	
Approach LOS		F			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	56.3	31.2	27.4	14.6	59.1	17.5	41.0				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6	5.9	* 5.9				
Max Green Setting (Gmax), s	11.1	50.1	25.3	40.0	8.0	* 53	15.7	* 50				
Max Q Clear Time (g_c+I1), s	12.5	52.3	27.3	13.9	6.5	52.2	11.5	19.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.4	0.0	0.9	0.2	4.1				

Intersection Summary

HCM 6th Ctrl Delay	69.0
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

3: Audubon Drive & N Del Mar Avenue

Future Conditions Build
Timing Plan: Weekday Midday Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↑	↗	↖	↗
Traffic Volume (vph)	39	616	644	36	86	49
Future Volume (vph)	39	616	644	36	86	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1769	1863	1863	1550	1770	1583
Flt Permitted	0.33	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	605	1863	1863	1550	1770	1583
Peak-hour factor, PHF	0.85	0.85	0.95	0.95	0.81	0.81
Adj. Flow (vph)	46	725	678	38	106	60
RTOR Reduction (vph)	0	0	0	13	0	50
Lane Group Flow (vph)	46	725	678	25	106	10
Confl. Peds. (#/hr)	2			2		
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	21.8	21.8	21.8	21.8	6.2	6.2
Effective Green, g (s)	21.8	21.8	21.8	21.8	6.2	6.2
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.16	0.16
Clearance Time (s)	5.4	5.4	5.4	5.4	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	347	1068	1068	889	288	258
v/s Ratio Prot		c0.39	0.36			
v/s Ratio Perm	0.08			0.02	c0.06	0.01
v/c Ratio	0.13	0.68	0.63	0.03	0.37	0.04
Uniform Delay, d1	3.7	5.7	5.4	3.5	14.2	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	1.7	1.2	0.0	0.8	0.1
Delay (s)	3.9	7.4	6.7	3.5	15.0	13.4
Level of Service	A	A	A	A	B	B
Approach Delay (s)		7.2	6.5		14.4	
Approach LOS		A	A		B	

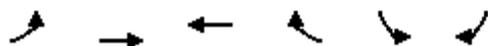
Intersection Summary

HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	38.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Future Conditions Build
Timing Plan: Weekday Midday Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑	↑↑	↗		↖↗
Traffic Volume (vph)	543	660	686	77	0	523
Future Volume (vph)	543	660	686	77	0	523
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3433	3539	3539	1563		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3433	3539	3539	1563		2787
Peak-hour factor, PHF	0.96	0.96	0.95	0.95	0.80	0.80
Adj. Flow (vph)	566	688	722	81	0	654
RTOR Reduction (vph)	0	0	0	45	0	187
Lane Group Flow (vph)	566	688	722	36	0	467
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	13.5	13.5	15.7	15.7		13.5
Effective Green, g (s)	13.5	13.5	15.7	15.7		13.5
Actuated g/C Ratio	0.33	0.33	0.39	0.39		0.33
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1144	1179	1371	605		929
v/s Ratio Prot	0.16		c0.20			0.16
v/s Ratio Perm		c0.19		0.02		0.01
v/c Ratio	0.49	0.58	0.53	0.06		0.50
Uniform Delay, d1	10.8	11.2	9.5	7.8		10.8
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.4	0.8	0.4	0.0		0.5
Delay (s)	11.2	12.0	10.0	7.8		11.3
Level of Service	B	B	A	A		B
Approach Delay (s)		11.6	9.7		11.3	
Approach LOS		B	A		B	
Intersection Summary						
HCM 2000 Control Delay			11.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			40.5		Sum of lost time (s)	11.9
Intersection Capacity Utilization			47.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

Site: 2 [Future Build_MID_Yosemite Rd (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] ft				
South: Yosemite Road														
3	L2	1	0.0	1	0.0	0.034	11.3	LOS B	0.2	4.7	0.73	0.63	0.73	22.9
8	T1	1	0.0	1	0.0	0.034	6.5	LOS A	0.2	4.7	0.73	0.63	0.73	19.6
18	R2	16	0.0	17	0.0	0.034	7.2	LOS A	0.2	4.7	0.73	0.63	0.73	19.5
Approach		18	0.0	20	0.0	0.034	7.3	LOS A	0.2	4.7	0.73	0.63	0.73	19.7
East: Audubon Drive														
1	L2	13	2.0	14	2.0	0.015	10.0	LOS B	0.1	1.8	0.17	0.61	0.17	22.1
6	T1	708	2.0	770	2.0	0.579	4.6	LOS A	5.6	141.4	0.26	0.39	0.26	32.0
16	R2	36	2.0	39	2.0	0.579	4.6	LOS A	5.6	141.4	0.26	0.39	0.26	26.1
Approach		757	2.0	823	2.0	0.579	4.7	LOS A	5.6	141.4	0.26	0.39	0.26	31.6
North: Yosemite Road														
7	L2	33	0.0	36	0.0	0.108	11.3	LOS B	0.6	15.3	0.73	0.75	0.73	21.4
4	T1	1	0.0	1	0.0	0.108	6.4	LOS A	0.6	15.3	0.73	0.75	0.73	18.2
14	R2	26	0.0	28	0.0	0.108	7.1	LOS A	0.6	15.3	0.73	0.75	0.73	18.6
Approach		60	0.0	65	0.0	0.108	9.4	LOS A	0.6	15.3	0.73	0.75	0.73	20.0
West: Audubon Drive														
5	L2	31	2.0	34	2.0	0.038	10.2	LOS B	0.2	4.8	0.22	0.60	0.22	21.9
2	T1	690	2.0	750	2.0	0.554	4.7	LOS A	5.4	136.2	0.33	0.40	0.33	31.5
12	R2	1	2.0	1	2.0	0.554	4.7	LOS A	5.4	136.2	0.33	0.40	0.33	25.7
Approach		722	2.0	785	2.0	0.554	4.9	LOS A	5.4	136.2	0.32	0.41	0.32	31.0
All Vehicles		1557	1.9	1692	1.9	0.579	5.0	LOS A	5.6	141.4	0.31	0.42	0.31	30.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Future Build_MID_Lexington Ave (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]				
South: Lexington Avenue														
3	L2	4	0.0	4	0.0	0.031	10.1	LOS B	0.2	4.2	0.67	0.59	0.67	15.9
8	T1	4	0.0	4	0.0	0.031	5.2	LOS A	0.2	4.2	0.67	0.59	0.67	20.8
18	R2	11	0.0	12	0.0	0.031	5.9	LOS A	0.2	4.2	0.67	0.59	0.67	20.2
Approach		19	0.0	21	0.0	0.031	6.6	LOS A	0.2	4.2	0.67	0.59	0.67	19.5
East: Audubon Drive														
1	L2	24	2.0	26	2.0	0.028	9.9	LOS A	0.1	3.4	0.11	0.62	0.11	22.3
6	T1	664	2.0	722	2.0	0.510	4.4	LOS A	4.6	118.0	0.16	0.38	0.16	27.7
16	R2	3	2.0	3	2.0	0.510	4.3	LOS A	4.6	118.0	0.16	0.38	0.16	27.0
Approach		691	2.0	751	2.0	0.510	4.6	LOS A	4.6	118.0	0.16	0.38	0.16	27.4
North: Lexington Avenue														
7	L2	3	0.0	3	0.0	0.020	10.5	LOS B	0.1	2.7	0.68	0.58	0.68	23.2
4	T1	3	0.0	3	0.0	0.020	5.6	LOS A	0.1	2.7	0.68	0.58	0.68	20.3
14	R2	6	0.0	7	0.0	0.020	6.3	LOS A	0.1	2.7	0.68	0.58	0.68	17.8
Approach		12	0.0	13	0.0	0.020	7.2	LOS A	0.1	2.7	0.68	0.58	0.68	19.9
West: Audubon Drive														
5	L2	7	2.0	8	2.0	0.008	8.5	LOS A	0.0	1.0	0.15	0.62	0.15	19.6
2	T1	641	2.0	697	2.0	0.513	3.4	LOS A	4.2	107.1	0.22	0.37	0.22	32.9
12	R2	13	2.0	14	2.0	0.513	3.1	LOS A	4.2	107.1	0.22	0.37	0.22	24.5
Approach		661	2.0	718	2.0	0.513	3.4	LOS A	4.2	107.1	0.22	0.38	0.22	32.6
All Vehicles		1383	2.0	1503	2.0	0.513	4.1	LOS A	4.6	118.0	0.20	0.38	0.20	29.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th Signalized Intersection Summary
 1: N Friant Road & Audubon Drive/Audubon Drive

Future Build Conditions
 Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 		
Traffic Volume (veh/h)	818	514	179	226	217	281	234	2754	618	143	1717	536
Future Volume (veh/h)	818	514	179	226	217	281	234	2754	618	143	1717	536
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		0.99	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	919	578	201	282	271	351	244	2869	644	154	1846	576
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	486	595	504	309	948	420	258	1951	605	184	1865	579
Arrive On Green	0.14	0.32	0.32	0.09	0.27	0.27	0.07	0.38	0.38	0.05	0.37	0.37
Sat Flow, veh/h	3456	1870	1585	3456	3554	1576	3456	5106	1585	3456	5106	1584
Grp Volume(v), veh/h	919	578	201	282	271	351	244	2869	644	154	1846	576
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1576	1728	1702	1585	1728	1702	1584
Q Serve(g_s), s	21.1	45.8	11.6	12.1	9.1	31.5	10.5	57.3	57.3	6.6	53.9	35.9
Cycle Q Clear(g_c), s	21.1	45.8	11.6	12.1	9.1	31.5	10.5	57.3	57.3	6.6	53.9	35.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	595	504	309	948	420	258	1951	605	184	1865	579
V/C Ratio(X)	1.89	0.97	0.40	0.91	0.29	0.84	0.95	1.47	1.06	0.84	0.99	1.00
Avail Cap(c_a), veh/h	486	595	504	309	948	420	258	1951	605	184	1865	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	50.5	24.5	67.7	43.7	51.9	69.1	46.4	46.4	70.3	47.3	20.7
Incr Delay (d2), s/veh	408.5	30.1	1.2	29.5	0.4	15.1	40.9	214.7	54.7	25.7	18.5	36.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.8	25.9	4.5	6.6	4.0	14.0	6.1	62.2	31.1	3.5	25.0	18.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	472.9	80.6	25.7	97.2	44.1	67.0	110.0	261.1	101.0	96.0	65.8	57.0
LnGrp LOS	F	F	C	F	D	E	F	F	F	F	E	E
Approach Vol, veh/h		1698			904			3757			2576	
Approach Delay, s/veh		286.4			69.5			223.8			65.7	
Approach LOS		F			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	60.8	27.0	45.3	14.7	63.6	19.3	53.0				
Change Period (Y+Rc), s	6.3	6.0	5.9	5.3	6.7	* 6.3	5.9	5.3				
Max Green Setting (Gmax), s	10.6	54.8	21.1	40.0	8.0	* 57	13.4	47.7				
Max Q Clear Time (g_c+I1), s	12.5	55.9	23.1	33.5	8.6	59.3	14.1	47.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	174.5
HCM 6th LOS	F

Notes

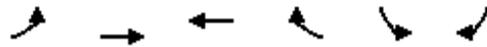
User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

3: Audubon Drive & N Del Mar Avenue

Future Build Conditions

Timing Plan: Weekday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	1283	728	43	113	31
Future Volume (vph)	50	1283	728	43	113	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	4.5	4.5	4.6	4.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1768	1863	1863	1547	1764	1547
Flt Permitted	0.33	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	616	1863	1863	1547	1764	1547
Peak-hour factor, PHF	0.89	0.89	0.95	0.95	0.94	0.94
Adj. Flow (vph)	56	1442	766	45	120	33
RTOR Reduction (vph)	0	0	0	6	0	29
Lane Group Flow (vph)	56	1442	766	39	120	4
Confl. Peds. (#/hr)	1			1	1	1
Confl. Bikes (#/hr)				1		
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	116.1	116.1	117.0	117.0	15.4	15.4
Effective Green, g (s)	116.1	116.1	117.0	117.0	15.4	15.4
Actuated g/C Ratio	0.82	0.82	0.83	0.83	0.11	0.11
Clearance Time (s)	5.4	5.4	4.5	4.5	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	505	1528	1540	1279	191	168
v/s Ratio Prot		c0.77	0.41			
v/s Ratio Perm	0.09			0.03	c0.07	0.00
v/c Ratio	0.11	0.94	0.50	0.03	0.63	0.02
Uniform Delay, d1	2.5	10.1	3.6	2.2	60.3	56.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	12.1	0.3	0.0	6.3	0.1
Delay (s)	2.6	22.2	3.9	2.2	66.6	56.4
Level of Service	A	C	A	A	E	E
Approach Delay (s)		21.5	3.8		64.4	
Approach LOS		C	A		E	
Intersection Summary						
HCM 2000 Control Delay			18.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.91			
Actuated Cycle Length (s)			141.5		Sum of lost time (s)	10.0
Intersection Capacity Utilization			82.6%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

5: W Nees Avenue & Audubon Drive

Future Build Conditions
Timing Plan: Weekday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶↶	↶↶	↶↶	↷		↷↷
Traffic Volume (vph)	971	734	751	170	0	691
Future Volume (vph)	971	734	751	170	0	691
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.3	6.3		5.6
Lane Util. Factor	0.97	0.95	0.95	1.00		0.88
Frbp, ped/bikes	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3433	3539	3539	1561		2787
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3433	3539	3539	1561		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.94	0.94
Adj. Flow (vph)	1022	773	791	179	0	735
RTOR Reduction (vph)	0	0	0	27	0	77
Lane Group Flow (vph)	1022	773	791	152	0	658
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				2		
Turn Type	Prot	NA	NA	Perm		custom
Protected Phases	5		4			2
Permitted Phases		5		4		5
Actuated Green, G (s)	27.3	27.3	26.4	26.4		27.3
Effective Green, g (s)	27.3	27.3	26.4	26.4		27.3
Actuated g/C Ratio	0.42	0.42	0.41	0.41		0.42
Clearance Time (s)	5.0	5.0	6.3	6.3		5.6
Vehicle Extension (s)	3.5	3.5	3.5	3.5		3.5
Lane Grp Cap (vph)	1441	1486	1437	634		1170
v/s Ratio Prot	c0.30		c0.22			0.23
v/s Ratio Perm		0.22		0.10		0.01
v/c Ratio	0.71	0.52	0.55	0.24		0.56
Uniform Delay, d1	15.6	14.0	14.8	12.7		14.3
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	1.7	0.4	1.5	0.9		0.7
Delay (s)	17.3	14.4	16.3	13.6		15.0
Level of Service	B	B	B	B		B
Approach Delay (s)		16.0	15.8		15.0	
Approach LOS		B	B		B	
Intersection Summary						
HCM 2000 Control Delay			15.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			65.0		Sum of lost time (s)	11.9
Intersection Capacity Utilization			57.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

Site: 2 [Future Build_PM_Yosemite Rd (Site Folder: General)]

Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] ft				
South: Yosemite Road														
3	L2	1	0.0	1	0.0	0.174	34.1	LOS C	1.2	30.0	1.00	0.99	1.00	11.5
8	T1	1	0.0	1	0.0	0.174	29.2	LOS C	1.2	30.0	1.00	0.99	1.00	8.2
18	R2	21	0.0	23	0.0	0.174	29.9	LOS C	1.2	30.0	1.00	0.99	1.00	10.6
Approach		23	0.0	25	0.0	0.174	30.0	LOS C	1.2	30.0	1.00	0.99	1.00	10.5
East: Audubon Drive														
1	L2	19	2.0	21	2.0	0.023	10.2	LOS B	0.1	2.7	0.20	0.60	0.20	22.0
6	T1	878	2.0	954	2.0	0.710	4.9	LOS A	9.0	228.9	0.41	0.41	0.41	30.8
16	R2	24	2.0	26	2.0	0.710	4.9	LOS A	9.0	228.9	0.41	0.41	0.41	25.0
Approach		921	2.0	1001	2.0	0.710	5.0	LOS A	9.0	228.9	0.41	0.41	0.41	30.5
North: Yosemite Road														
7	L2	37	0.0	40	0.0	0.169	14.5	LOS B	1.0	26.1	0.85	0.86	0.85	19.2
4	T1	1	0.0	1	0.0	0.169	9.6	LOS A	1.0	26.1	0.85	0.86	0.85	15.8
14	R2	34	0.0	37	0.0	0.169	10.3	LOS B	1.0	26.1	0.85	0.86	0.85	16.9
Approach		72	0.0	78	0.0	0.169	12.4	LOS B	1.0	26.1	0.85	0.86	0.85	18.0
West: Audubon Drive														
5	L2	43	2.0	47	2.0	0.054	10.3	LOS B	0.3	6.9	0.25	0.61	0.25	21.8
2	T1	1443	2.0	1568	2.0	1.171	86.6	LOS F	147.9	3756.2	1.00	1.15	2.03	7.4
12	R2	1	2.0	1	2.0	1.171	86.5	LOS F	147.9	3756.2	1.00	1.15	2.03	5.6
Approach		1487	2.0	1616	2.0	1.171	84.4	LOS F	147.9	3756.2	0.98	1.14	1.98	7.5
All Vehicles		2503	1.9	2721	1.9	1.171	52.6	LOS D	147.9	3756.2	0.76	0.86	1.36	10.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Future Build_PM_Lexington Ave (Site Folder: General)]

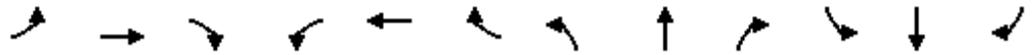
Roundabout with 1-lane approaches and circulating road
 MUTCD (FHWA 2009) example number: 2B-22
 Roundabout Guide (TRB 2010) example number: A-1
 Site Category: (None)
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed	
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist ft]					
South: Lexington Avenue															
3	L2	7	0.0	8	0.0	0.761	127.3	LOS F	6.0	150.2	1.00	1.20	1.65	2.4	
8	T1	4	0.0	4	0.0	0.761	122.2	LOS F	6.0	150.2	1.00	1.20	1.65	2.5	
18	R2	46	0.0	50	0.0	0.761	121.7	LOS F	6.0	150.2	1.00	1.20	1.65	3.9	
Approach		57	0.0	62	0.0	0.761	122.5	LOS F	6.0	150.2	1.00	1.20	1.65	3.6	
East: Audubon Drive															
1	L2	13	2.0	14	2.0	0.015	9.9	LOS A	0.1	1.9	0.14	0.61	0.14	22.2	
6	T1	718	2.0	780	2.0	0.557	4.5	LOS A	5.7	144.6	0.22	0.38	0.22	27.1	
16	R2	4	2.0	4	2.0	0.557	4.4	LOS A	5.7	144.6	0.22	0.38	0.22	26.5	
Approach		735	2.0	799	2.0	0.557	4.6	LOS A	5.7	144.6	0.22	0.38	0.22	27.0	
North: Lexington Avenue															
7	L2	3	0.0	3	0.0	0.025	14.0	LOS B	0.1	3.5	0.71	0.68	0.71	21.5	
4	T1	1	0.0	1	0.0	0.025	8.8	LOS A	0.1	3.5	0.71	0.68	0.71	17.7	
14	R2	10	0.0	11	0.0	0.025	8.4	LOS A	0.1	3.5	0.71	0.68	0.71	17.3	
Approach		14	0.0	15	0.0	0.025	9.6	LOS A	0.1	3.5	0.71	0.68	0.71	18.4	
West: Audubon Drive															
5	L2	11	2.0	12	2.0	0.013	8.4	LOS A	0.1	1.5	0.11	0.63	0.11	19.8	
2	T1	1294	2.0	1407	2.0	1.018	20.8	LOS F	207.3	5264.5	1.00	0.34	1.07	16.8	
12	R2	20	2.0	22	2.0	1.018	20.5	LOS F	207.3	5264.5	1.00	0.34	1.07	11.6	
Approach		1325	2.0	1440	2.0	1.018	20.7	LOS C	207.3	5264.5	0.99	0.35	1.06	16.7	
All Vehicles		2131	1.9	2316	1.9	1.018	17.8	LOS B	207.3	5264.5	0.72	0.38	0.78	17.6	

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Signalised Intersections.
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 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Future Build Conditions
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	521	320	74	395	393	134	82	1519	411	235	3160	1172
v/c Ratio	0.79	0.60	0.13	1.43	0.64	0.33	0.45	0.77	0.51	0.80	1.47	1.31
Control Delay	66.0	51.6	0.5	259.9	61.5	5.6	76.9	43.0	10.1	87.9	247.4	171.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	51.6	0.5	259.9	61.5	5.6	76.9	43.0	10.1	87.9	247.4	171.0
Queue Length 50th (ft)	247	271	0	~268	194	0	40	473	59	118	~1549	~1236
Queue Length 95th (ft)	#483	378	0	#348	206	25	71	534	157	#171	#1563	#1446
Internal Link Dist (ft)		517			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	662	534	567	276	943	531	183	1984	811	304	2149	897
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.60	0.13	1.43	0.42	0.25	0.45	0.77	0.51	0.77	1.47	1.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Queues
3: Audubon Drive & N Del Mar Avenue

Future Build Conditions
Timing Plan: Weekday AM Peak



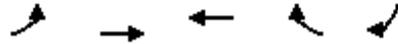
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	26	800	1435	40	140	56
v/c Ratio	0.51	0.53	0.95	0.03	0.69	0.24
Control Delay	45.3	6.2	26.3	2.3	77.6	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	6.2	26.3	2.3	77.6	15.7
Queue Length 50th (ft)	6	200	890	4	127	0
Queue Length 95th (ft)	#72	348	#1523	12	201	41
Internal Link Dist (ft)		2110	307		199	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	51	1516	1516	1262	298	313
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.53	0.95	0.03	0.47	0.18

Intersection Summary

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

Queues
5: W Nees Avenue & Audubon Drive

Future Build Conditions
Timing Plan: Weekday AM Peak



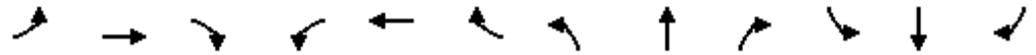
Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	675	456	949	39	1300
v/c Ratio	0.39	0.26	0.76	0.07	0.94
Control Delay	12.5	11.2	26.7	8.8	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	11.2	26.7	8.8	31.8
Queue Length 50th (ft)	93	59	205	3	292
Queue Length 95th (ft)	130	86	276	22	#433
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1739	1793	1243	568	1411
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.25	0.76	0.07	0.92

Intersection Summary

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

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Future Conditions Build
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	585	243	133	221	163	181	243	1742	353	105	1770	485
v/c Ratio	0.88	0.50	0.26	0.72	0.29	0.53	0.79	0.79	0.44	0.56	0.87	0.55
Control Delay	73.2	49.4	6.8	79.4	54.4	25.6	84.3	40.8	13.3	81.1	47.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	49.4	6.8	79.4	54.4	25.6	84.3	40.8	13.3	81.1	47.3	7.6
Queue Length 50th (ft)	280	215	1	109	81	64	119	498	72	52	562	28
Queue Length 95th (ft)	#398	250	42	146	93	112	#214	#720	190	86	#779	139
Internal Link Dist (ft)		520			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	668	616	604	359	943	495	308	2213	804	187	2037	886
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.39	0.22	0.62	0.17	0.37	0.79	0.79	0.44	0.56	0.87	0.55

Intersection Summary

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

Queues
3: Audubon Drive & N Del Mar Avenue

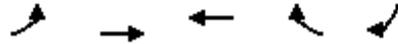
Future Conditions Build
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	46	725	678	38	106	60
v/c Ratio	0.12	0.60	0.56	0.04	0.24	0.13
Control Delay	5.5	9.0	8.4	2.4	17.3	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	9.0	8.4	2.4	17.3	6.8
Queue Length 50th (ft)	4	101	91	1	20	0
Queue Length 95th (ft)	15	195	196	9	55	19
Internal Link Dist (ft)		2110	307		199	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	474	1462	1462	1222	1155	1054
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.50	0.46	0.03	0.09	0.06
Intersection Summary						

Queues
5: W Nees Avenue & Audubon Drive

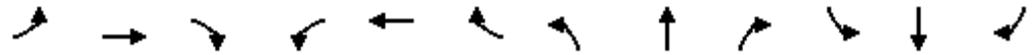
Future Conditions Build
Timing Plan: Weekday Midday Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	566	688	722	81	654
v/c Ratio	0.50	0.59	0.53	0.13	0.61
Control Delay	13.7	14.7	11.0	3.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	14.7	11.0	3.2	10.1
Queue Length 50th (ft)	52	66	64	1	37
Queue Length 95th (ft)	108	135	97	17	77
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1204	1241	2191	995	1122
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.55	0.33	0.08	0.58
Intersection Summary					

Queues
1: N Friant Road & Audubon Drive/Audubon Drive

Future Build Conditions
Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	919	578	201	283	271	351	244	2869	644	154	1846	576
v/c Ratio	1.91	0.98	0.33	0.92	0.29	0.62	1.01	1.48	0.84	0.84	0.99	0.69
Control Delay	448.4	81.8	11.0	102.4	44.7	25.2	127.6	252.0	35.6	104.7	66.6	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	448.4	81.8	11.0	102.4	44.7	25.2	127.6	252.0	35.6	104.7	66.6	14.7
Queue Length 50th (ft)	~708	561	29	144	111	128	~126	~1410	370	78	657	124
Queue Length 95th (ft)	#829	#793	90	#190	135	183	#221	#1486	563	#143	#775	269
Internal Link Dist (ft)		509			1275			969			892	
Turn Bay Length (ft)	185		160	210		90	430			230		380
Base Capacity (vph)	482	592	611	306	943	563	242	1942	766	183	1857	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.91	0.98	0.33	0.92	0.29	0.62	1.01	1.48	0.84	0.84	0.99	0.69

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Audubon Drive & N Del Mar Avenue

Future Build Conditions
Timing Plan: Weekday PM Peak



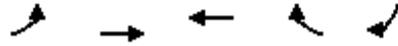
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	56	1442	766	45	120	33
v/c Ratio	0.11	0.94	0.50	0.04	0.62	0.17
Control Delay	3.7	25.3	5.4	1.4	74.6	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	25.3	5.4	1.4	74.6	18.4
Queue Length 50th (ft)	8	836	162	2	107	0
Queue Length 95th (ft)	24	#1695	321	11	174	33
Internal Link Dist (ft)		2110	307		199	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	505	1528	1540	1284	299	290
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.94	0.50	0.04	0.40	0.11

Intersection Summary

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

Queues
5: W Nees Avenue & Audubon Drive

Future Build Conditions
Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	1022	773	791	179	735
v/c Ratio	0.71	0.52	0.55	0.27	0.60
Control Delay	18.7	15.3	16.8	11.2	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	15.3	16.8	11.2	14.3
Queue Length 50th (ft)	161	112	124	34	98
Queue Length 95th (ft)	224	158	175	74	152
Internal Link Dist (ft)		304	481		
Turn Bay Length (ft)	205			100	100
Base Capacity (vph)	1478	1524	1436	660	1251
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.51	0.55	0.27	0.59
Intersection Summary					

AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS

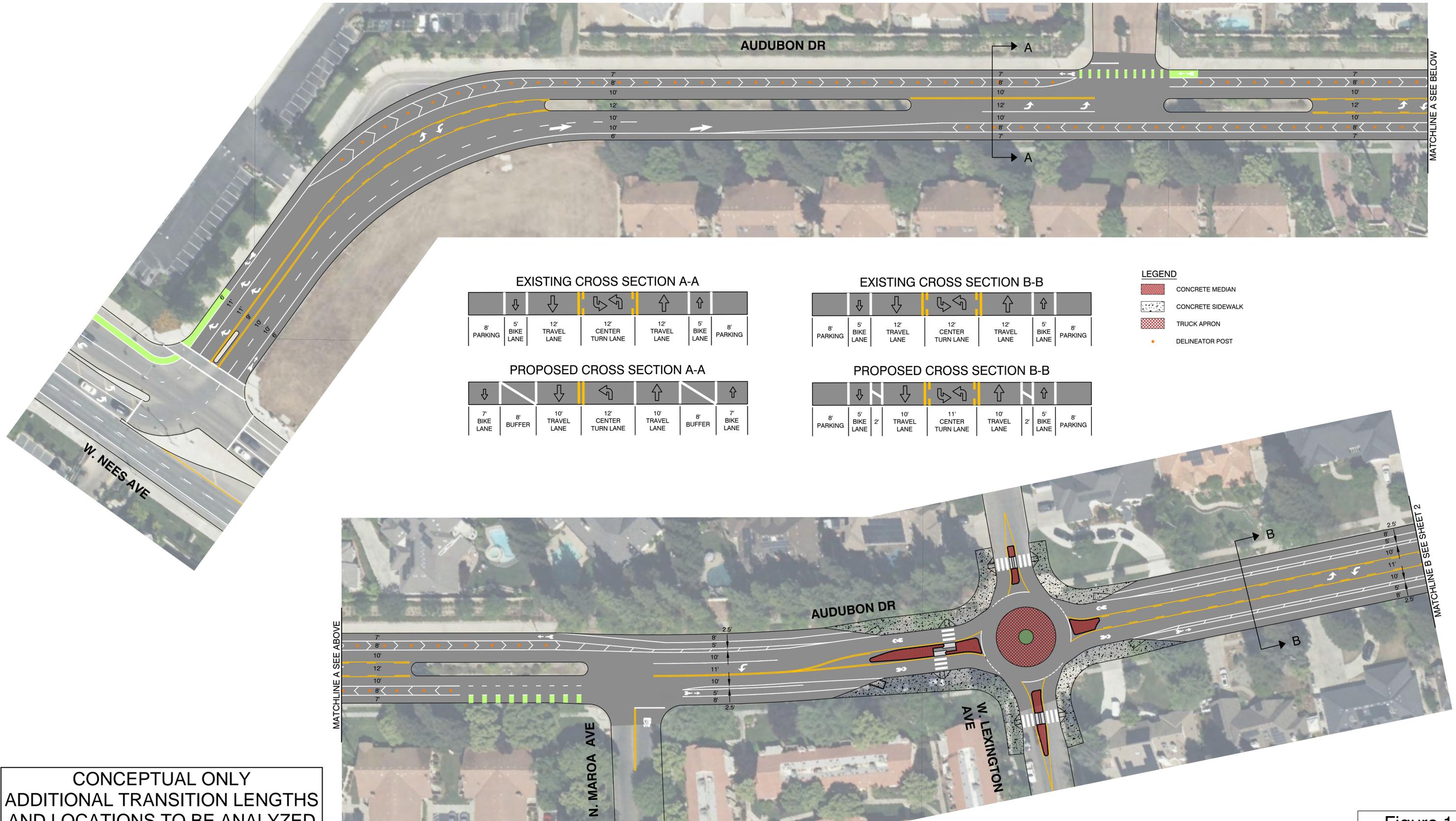
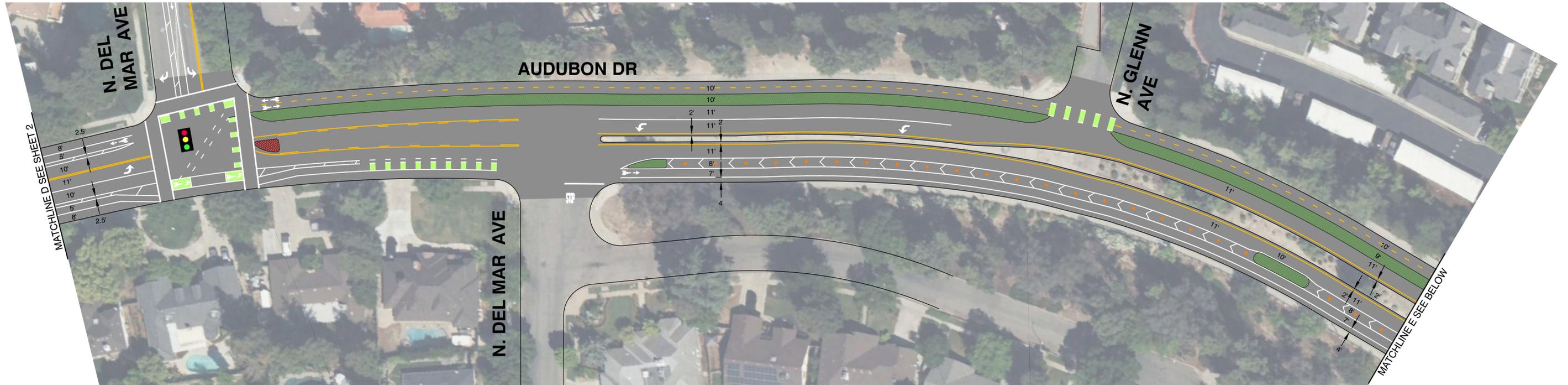
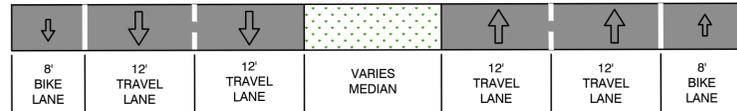


Figure 1

AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS



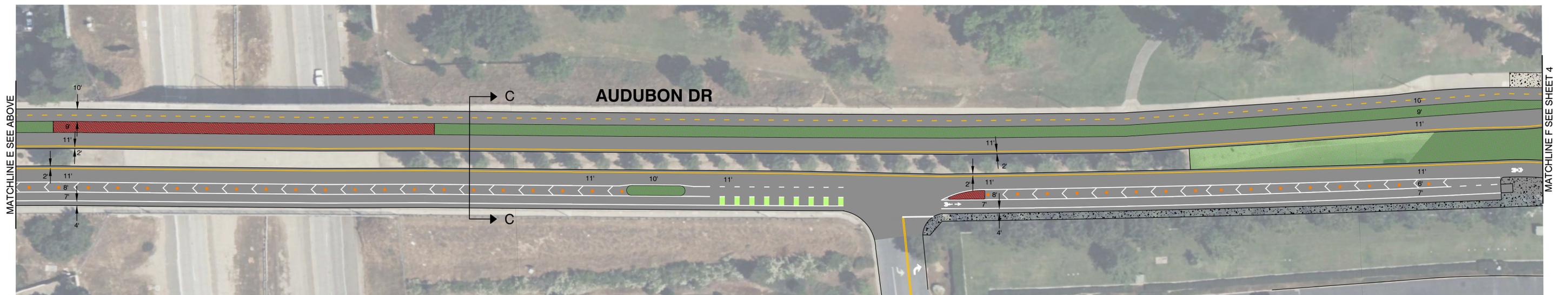
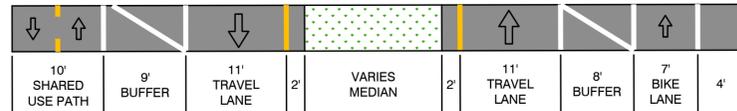
EXISTING CROSS SECTION C-C



LEGEND

- [Green Pattern] LANDSCAPED MEDIAN
- [Red Pattern] CONCRETE MEDIAN
- [Grey Pattern] CONCRETE SIDEWALK
- [Orange Dot] DELINEATOR POST

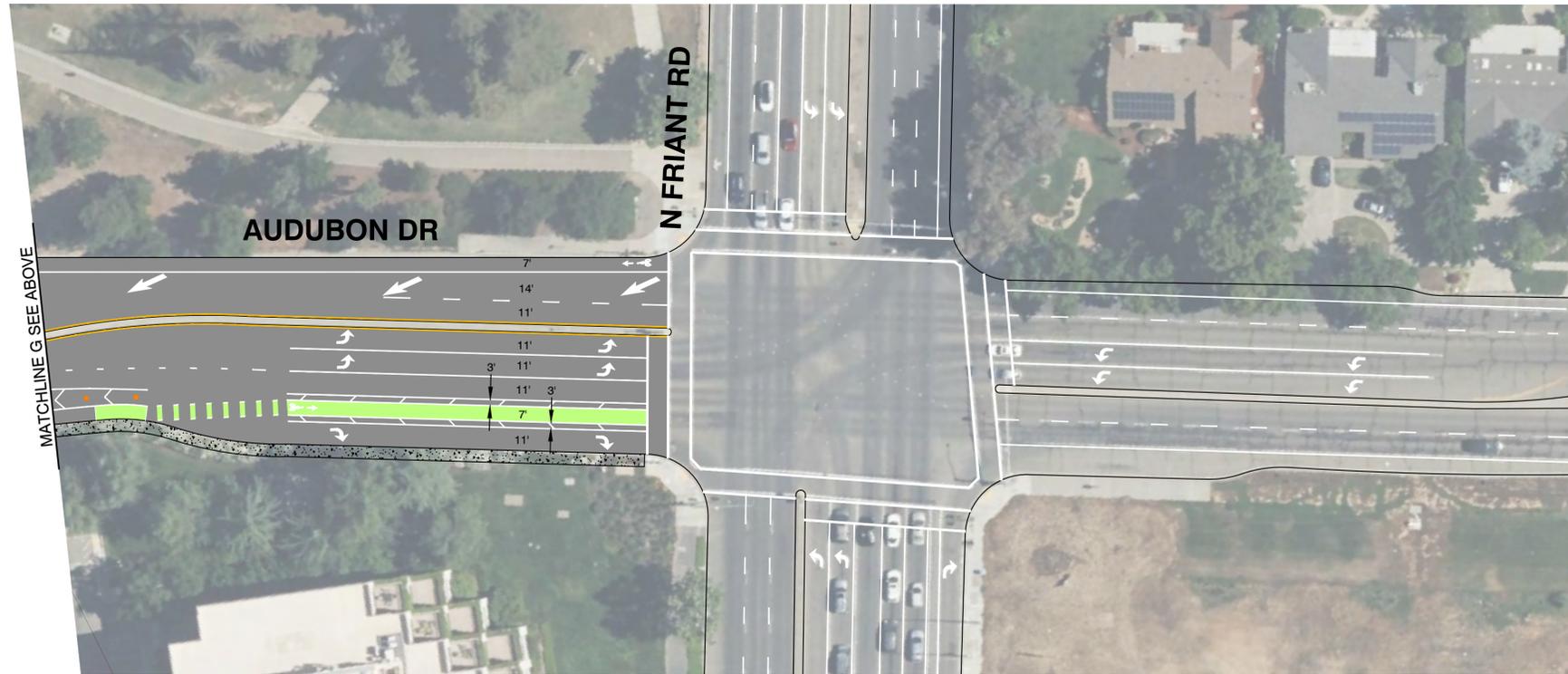
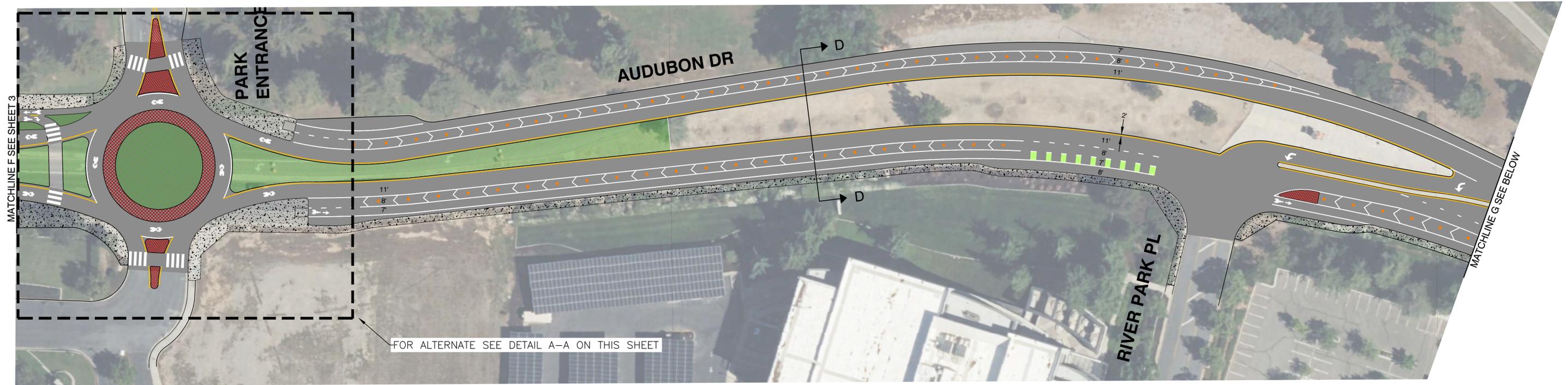
PROPOSED CROSS SECTION C-C



CONCEPTUAL ONLY
ADDITIONAL TRANSITION LENGTHS
AND LOCATIONS TO BE ANALYZED

Figure 3

AUDUBON DRIVE CONCEPTUAL IMPROVEMENTS



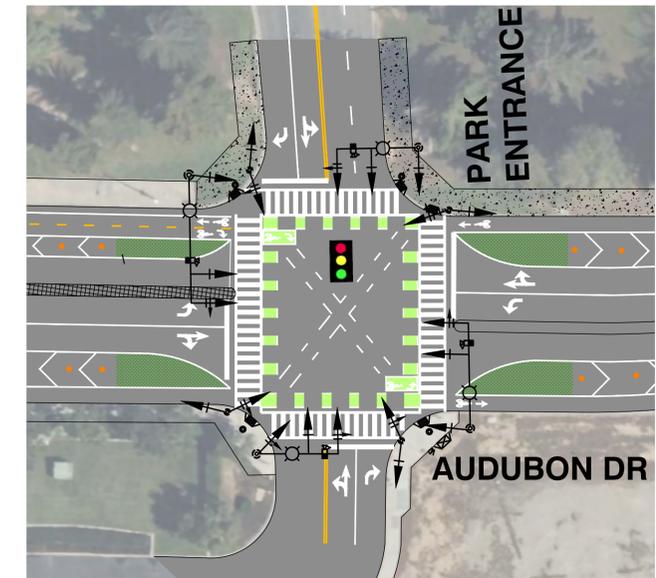
EXISTING CROSS SECTION D-D

↓	↓	↓	↑	↑	↑
8' BIKE LANE	12' TRAVEL LANE	12' TRAVEL LANE	VARIES MEDIAN	12' TRAVEL LANE	8' BIKE LANE

PROPOSED CROSS SECTION D-D

↑	↓	↑	↑	↑	↑			
4'	7' BIKE LANE	8' BUFFER	11' TRAVEL LANE	2' VARIES MEDIAN	11' TRAVEL LANE	8' BUFFER	7' BIKE LANE	4'

- LEGEND**
- LANDSCAPED MEDIAN
 - CONCRETE MEDIAN
 - CONCRETE SIDEWALK
 - TRUCK APRON
 - DELINEATOR POST



CONCEPTUAL ONLY
ADDITIONAL TRANSITION LENGTHS
AND LOCATIONS TO BE ANALYZED

Figure 4