NWC La Canada/Naranja

Traffic Impact Study

Prepared for submittal to:

Oro Valley, AZ

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2934 W. Salvia Drive
Tucson, AZ 85745

June 21, 2021

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Prepared for:

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Prepared by:
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Project No. 2021.15
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June 21, 2021

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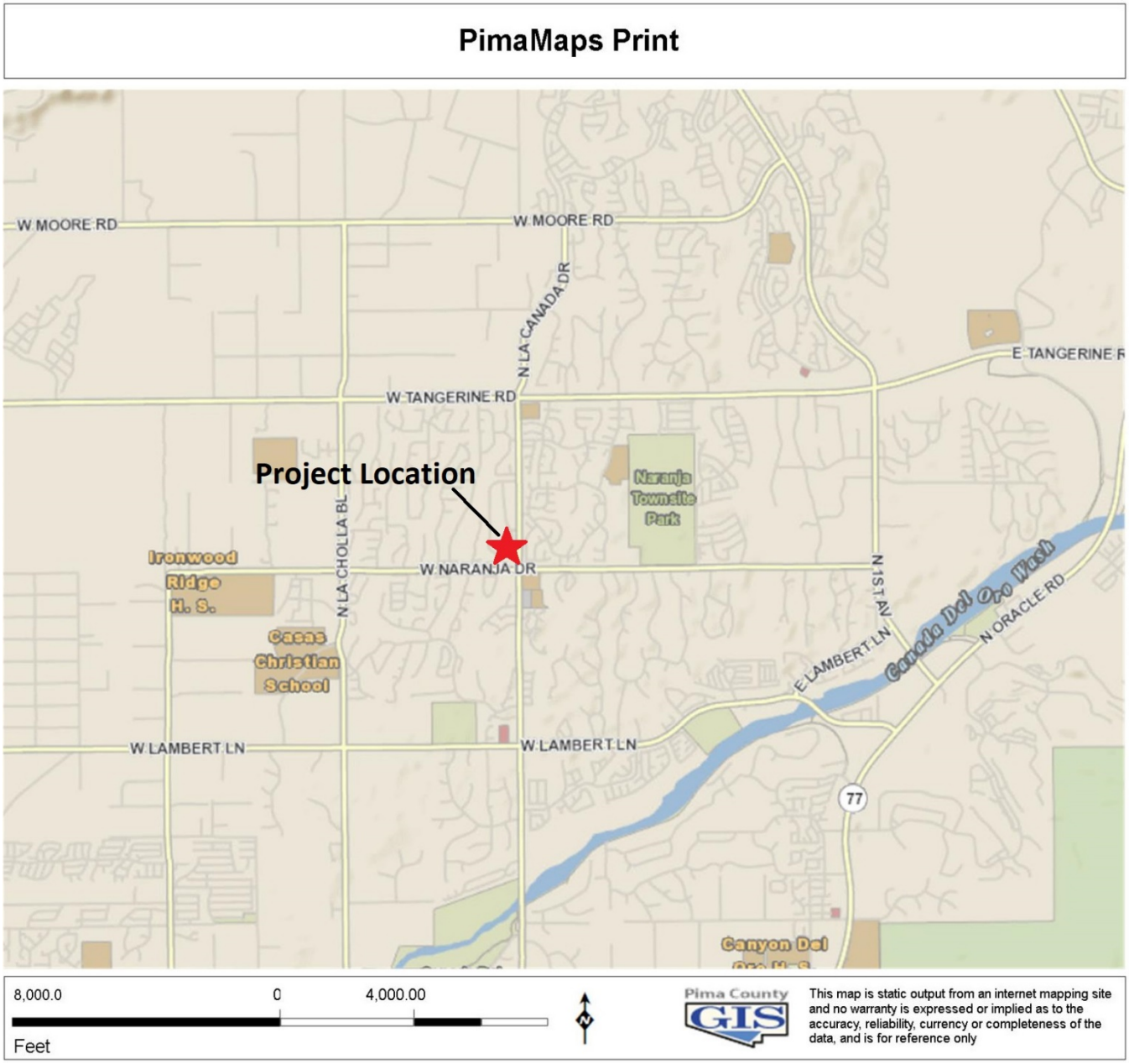
1. Introduction and Summary

Purpose of Report and Study Objectives

This traffic impact study (TIS) addresses traffic operations and roadway design for a proposed mixed-use development, west of La Canada Drive, and north of Naranja Drive in Oro Valley. The current zoning is El Conquistador Country Club Planned Area Development (PAD). The project location is shown in Exhibit 1.

Exhibit 1 Site Location



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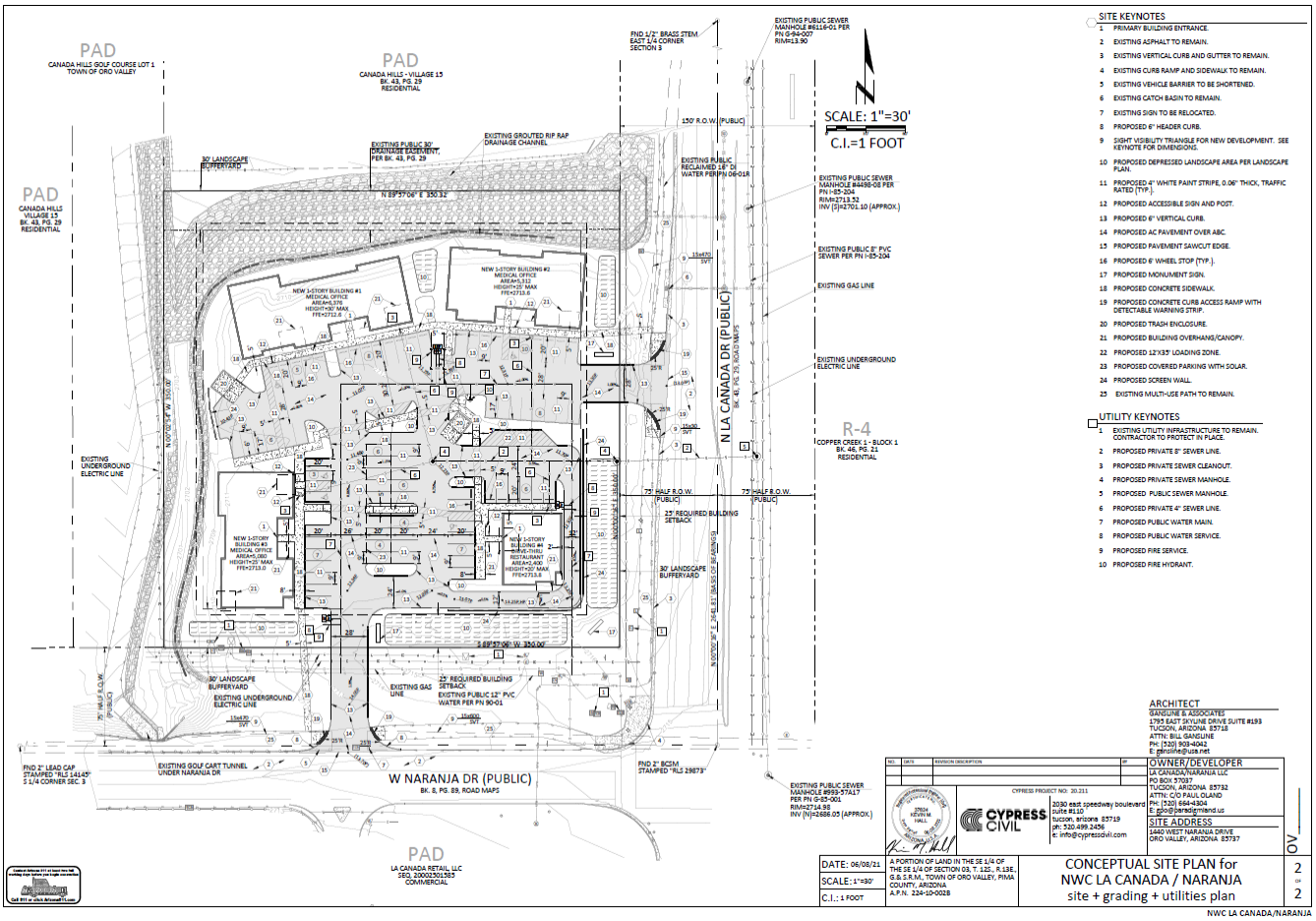
The project includes four buildings within the project site, these buildings are:

- Building #1 – Medical Office Building, 6,376 square feet
- Building #2 – Medical Office Building, 5,312 square feet
- Building #3 – Medical Office Building, 5,080 square feet
- Building #4 – Restaurant with Drive-Through Lane, 2,400 square feet

The restaurant is expected to be a coffee shop with a drive through lane.

The project will have two access points, one on La Canada Drive and one on Naranja Drive. The access on La Canada will be limited to right-in, right-out only movements because of he raised median on La Canada that is opposite the proposed driveway location. The access on Naranja Drive has been analyzed as a full access driveway – all turns are allowed. Exhibit 2 shows the conceptual site plan.

Exhibit 2 Site Plan



Source: Cypress Civil

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The objectives of this study are to determine the traffic impacts of the proposed development on the adjacent roadway system and to recommend any needed improvements to maintain efficient and safe traffic operations. The specific study objectives are as follows:

- Evaluate the intersections of La Canada/Naranja, La Canada/Crystal Vision, Naranja/Scioto and the project access intersections with and without the project and recommend any needed improvements.
- Evaluate the roadways La Canada Drive and Naranja Drive adjacent to the project and recommend any needed improvements.
- Evaluate the appropriateness of the proposed driveway locations and any access restrictions.

The project will generate an estimated 2,552 daily trips with 260 AM peak hour trips and 162 PM peak hour trips. Because most of the coffee shop trips will be "pass-by" trips, the total number of new trips generated by the project is expected to be 800 daily new trips, 70 AM peak hour new trips and 69 PM peak hour new trips.

Based on the projected total trip generation, this report includes the required analysis for a Category 1 Traffic Impact Study. This report analyzes existing, future "without project" and future "with project" conditions at the site access drives and at adjacent signalized intersections and/or major unsignalized street intersections. The analysis for the future year conditions estimates the impacts in 2022 and 2025.

Executive Summary

Development Description

The site plan of the proposed development includes three buildings comprising 16,768 square feet of medical offices and one 2,400 square foot coffee shop with a drive through lane. Access to the site is proposed from one driveway on Naranja Drive and one on La Canada Drive.

The driveway on Naranja Drive would be located opposite the existing driveway to the La Canada Retail development and has been analyzed with full access. It is 230 feet west of the La Canada/Naranja intersection. The driveway on La Canada Drive would intersect a section of the existing taper for the southbound right turn lane at the La Canada Drive/Naranja Drive signalized intersection. This driveway is limited to right-in, right-out movements because of the raised median on La Canada Drive.

Based on trip rates for medical offices and coffee shops with drive-through lanes from the Institute of Transportation Engineering (ITE) Trip Generation document, the project will add approximately 808 new daily trips to the roadway system.

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Summary of Conclusions and Recommendations

The following is a summary of conclusions and recommendations for the roadways within and surrounding the project site.

Conclusions

1. Although the project will generate an estimated 2,552 daily trips with 260 AM peak hour trips and 162 PM peak hour trips, most of the coffee shop trips will be "pass-by" trips. Therefore, the total number of new trips generated by the project is expected to be 800 daily new trips, 70 AM peak hour new trips and 69 PM peak hour new trips.
2. The signalized intersection of La Canada Drive/Naranja Drive has turning movements that currently operate at LOS E or F during the AM and PM peak hours.
3. The other study area roadways and intersections currently operate at acceptable levels of service (LOS D or better).
4. Because of the existing raised median on La Canada Drive, the project driveway on La Canada Drive will be limited to right in, right out movements only.
5. There do not appear to be any sight distance constraints for intersections or proposed driveways near the project.
6. Right turn lanes are warranted on La Canada Drive and Naranja Drive at the project driveways.

Recommendations

1. Based on input from Town staff on May 26th, 2021, the driveway on Naranja Drive should be a full access driveway. The capacity analysis at this intersection found that all movements will operate at LOS D or better during both peak hours.
2. Construct a westbound right turn lane for access into the driveway on Naranja Drive. The right turn lane should be 150 feet long based on Pima County turn lane design standards for a right turn lane on a 45-mph roadway. Because the driveway will be 230 feet from La Canada, the taper should begin immediately after the curb return at the intersection. Because the taper length will not meet Pima County standards for turn lane design, further discussion with Oro Valley staff should be held to discuss the turn lane design.
3. Provide a "Right Turn Only" sign with the stop sign at the project driveway egress on La Canada Drive. A "One-Way (R)" sign should be placed on the raised median opposite the project driveway.
4. Although a southbound right turn lane is warranted for access into the driveway on La Canada Drive, the construction of a right turn lane at this location may require the extension of the existing storm drain culvert further west, which would require a new headwall, and may also require the re-alignment of other storm drainage infrastructure in the street. Providing a new right turn lane would also require shifting the existing multi-use path west as well. If Oro Valley determines that a turn lane should be constructed, it should be constructed to be integrated into this turn lane to create a continuous right turn lane. The right turn lane should be 150 feet long based on Pima County turn lane design standards for a right turn lane on a 45-mph roadway. Because the driveway will intersect a section of the existing taper of the southbound right turn lane at the La Canada/Naranja intersection, the existing southbound right turn lane should be extended to the north to provide a continuous right turn lane for both this movement and the project driveway. This turn lane should extend 150 feet north of the project driveway and have a taper length of 210 feet based on turn lane design standards.
5. Ensure that there is acceptable sight distance to and from the project entrances.

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6. Roadway and subdivision design should conform to current Oro Valley standards.
7. All new traffic signs and markings must comply with the current *Manual on Uniform Traffic Control Devices* and local requirements.

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2. Proposed Development

Site Location

The project is in the Town of Oro Valley with access to Naranja Drive on the south and La Canada Drive to the east. The site is currently vacant.

Land Use and Intensity

There are 16,768 square feet of medical offices within three buildings and a 2,400 square foot coffee shop with a drive through lane proposed on this site.

Site Plan

The site plan of the proposed development shows access to the four buildings from one right-in, right-out driveway on La Canada Drive and one driveway on Naranja Drive. The proposed development with the tentative locations of the project driveways is shown in Exhibit 2.

Access Geometrics

The driveways should be constructed to Oro Valley standards. It is recommended that the driveways provide one entering lane and one exiting lane and that the driveway legs be controlled by a stop sign.

Development Phasing and Timing

For the purpose of this study, we have assumed buildout by the year 2022.

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3. Study Area Conditions

Study Area

The study area includes Naranja Drive and La Canada Drive. A Category I TIS is required for this project, and the study area for a Category I TIS includes site access driveways and adjacent signalized intersections and/or major unsignalized street intersections within ¼ mile. For this project, the intersections within this area are La Canada Drive/Naranja Drive, Naranja Drive/Scioto Drive and La Canada Drive/Crystal Vision Street and Naranja Drive/Retail Shops at La Canada driveway. There are two project driveways: one on La Canada Drive and one on Naranja Drive. These project driveways will be analyzed in the "With Project" analysis.

Area of Significant Traffic Impact

The significant impact from the project will be along Naranja Drive and La Canada Drive.

Influence Area

The influence area includes the Town of Oro Valley.

Existing Land Use

The study area is predominately residential with residential developments immediately to the west, north and east of the project site. The Retail Shops at La Canada are south of Naranja Drive. The Oro Valley Public Library is on the southeast corner of the Naranja Drive/La Canada Drive intersection. Ironwood Ridge High School is about 1.3 miles west of the project site.

Site Accessibility

Access to the project will be via Naranja Drive and La Canada Drive.

Existing and Future Area Roadway System

La Canada Drive, Naranja Drive and Shannon Road will provide the primary regional access to the project site. The Pima Association of Governments (PAG) FY 2020-2024 Transportation Improvement Program (TIP) lists the following programmed projects within or near the study area:

- Naranja Drive Pedestrian Improvements, Naranja from La Canada to First (Construct a 12-foot multi-use path), Reserve Project

Site Circulation

The site plan shows the internal circulation to be open with no restrictions between buildings. The coffee shop drive through will be from west to east to north with exiting vehicles having the option to exit via the closest access (La Canada Drive) or driving through the site to exit at the Naranja Drive access.

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4. Analysis of Existing Conditions

Physical Characteristics

Roadway Characteristics

Exhibit 3 is an inventory of the physical features of the project area roads. The following describes the roadway features of the study area roads.

La Canada Drive is an eleven mile north/south paved roadway from its northern paved terminus north of Moore Road in the Somerset Canyon neighborhood to the Rillito River where it becomes Flowing Wells Road. It is a four-lane arterial road with a posted speed limit of 45 mph in the vicinity of the project. Its function is as a major arterial through mostly residential neighborhoods in Oro Valley.

Naranja Drive is a two-lane east/west undivided paved roadway with unpaved shoulders from Shannon Road to its eastern terminus at 1st Avenue. Its speed limit is 45 mph. There are separate shared-use paths on the south side of Naranja Drive east of La Canada Drive, and on the north side of Naranja Drive west of La Canada Drive. Ironwood Ridge High School is located on the south side of Naranja Drive, approximately 1.3 miles west of the project site. It is designated as a bike route in the Tucson Bike Map. There is a sidewalk on the south side of the road along the frontage of the Retail Shops of La Canada center.

Existing Intersections

This study analyses conditions at the existing intersections of La Canada Drive/Naranja Drive Naranja Drive/Scioto Drive, La Canada Drive/Crystal Vision Street and the project driveway intersections.

La Canada Drive/Naranja Drive is a four-leg signalized intersection. There is a lagging left turn phase on each approach with protected left turn phases on the north/south approaches and permitted/protected left turn phases on the east/west approaches. The north and south approaches have a left turn lane, two through lanes and a right turn lane. The eastbound approach has a left turn lane and a shared through/right turn lane. The westbound approach has a left turn lane, a through lane and a right turn lane. There are crosswalks on each leg of the intersection.

Naranja Drive/Scioto Avenue is a three-leg unsignalized intersection with stop control on Scioto Avenue. Scioto Avenue provides access to the Canada Hills Village subdivision.

La Canada Drive/Crystal Vision Street is a three-leg unsignalized intersection with stop control on Crystal Vision Street. Crystal Vision Street also provides access to the Canada Hills Village subdivision. There is a median opening on La Canada Drive at this location providing full access at this intersection.

There is a driveway to the Retail Shops at La Canada on the south side of Naranja Drive that is opposite of the project driveway. The driveway to the Retail Shops at La Canada has a physical barrier, a "pork chop", that limits access at this driveway to rights in and out only.

Exhibits 4-7 are aerial photographs of the project area intersections.

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Exhibit 3 Roadway Inventory

`	*Jurisdiction*	*Weekday Daily Volume*	*Data Year*	*Source*	*No. Lanes*	*Speed Limit*	*Sidewalks*	*Bike Route*
La Canada Drive								
North of Naranja Drive	Oro Valley	16,384	2020	PAG	4	45	Yes, East Side, Multi-Use Path, West Side	Bike Route with Striped Shoulder
South of Naranja Drive	Oro Valley	22,531	2020	PAG	4	45	Yes	Bike Route with Striped Shoulder
Naranja Drive								
West of La Canada Drive	Oro Valley	10,885	2020	PAG	2	45	Yes, South Side, Multi-Use Path, North Side	Bike Route with Striped Shoulder
East of La Canada Drive	Oro Valley	7,789	2020	PAG	2	45	Multi-Use Path, South Side	Bike Route with Striped Shoulder

Transit Service

Sun Tran has an express transit service routes and a Sun Shuttle route in Oro Valley, although the closest transit stop to the project is at Lambert/La Canada, one mile south from the project site. Oro Valley Dial-a-Ride provides transportation service to the general public from their home address to any location within Oro Valley. Oro Valley Dial-a-Ride also provides service to the elderly and those eligible for American with Disabilities Act (ACT) riders to areas designated within the greater Tucson area.

Pedestrian/Bicycle Facilities

According to the Oro Valley Bikeways Map 2016 there are bike paths along Naranja Drive and La Canada Drive (see Exhibit 8), which are classified as follows:

- Naranja Drive (paved shared use path, signed bike route w/ on-street bike lane, paved shoulder)
- La Canada Drive (shared use path and signed bike route w/ on-street bike lane)

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Exhibit 4 La Canada/Naranja

Exhibit 5 La Canada/Crystal Vision

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Exhibit 6 Naranja/Scioto

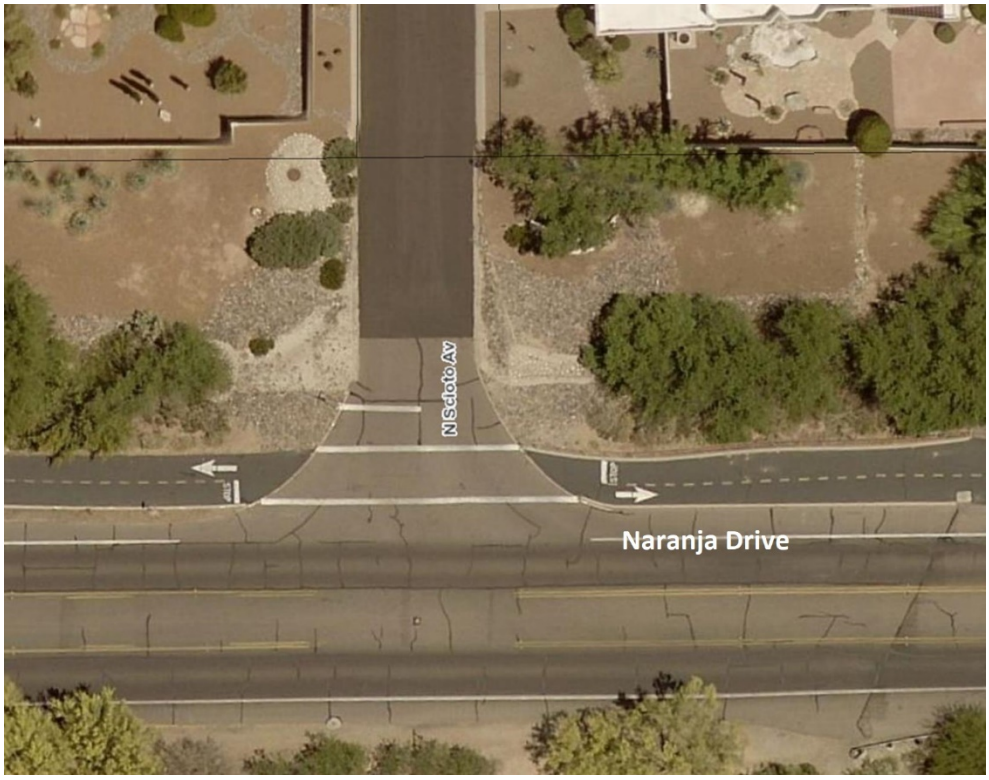

Exhibit 7 Naranja/Driveway for Retail Shops at La Canada

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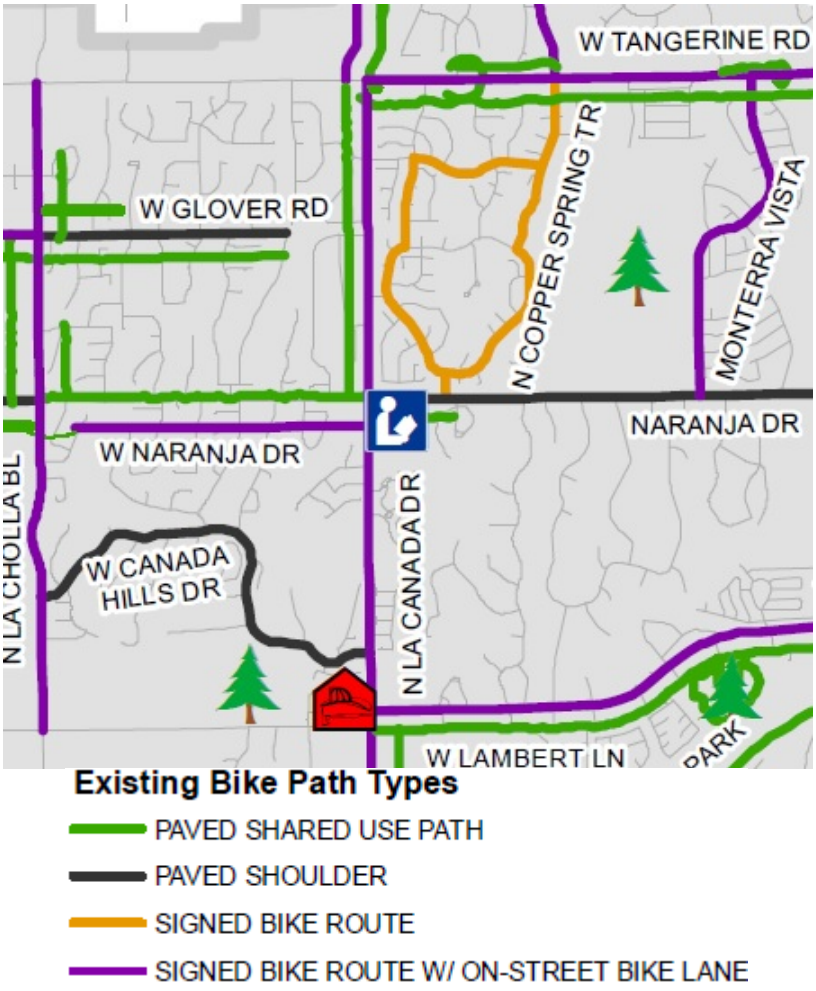
Exhibit 8 Oro Valley Bike Map – Project Roadways



Traffic Volumes

Daily traffic volumes for La Canada Drive north and south of Naranja Drive, and Naranja Drive east and west of La Canada Drive are available on the Pima Association of Governments (PAG) website. Morning and afternoon peak hour intersection turning movement volumes are available on the PAG website. Field Data Services of Arizona collected peak period turning movement counts at the intersections of Naranja Drive/Scioto Avenue, La Canada Drive/Crystal Vision Street and the Naranja Drive/Retail Shops of La Canada driveway in April 2021.

The PAG intersection turning movement count at La Canada/Naranja was from 2019 and recent daily volumes on the intersecting streets are estimated to have decreased by eight percent from 2020. For this reason, we conservatively assumed that 2021 volumes are the same as the 2019 volumes, and thus we used the 2019 volumes as the 2021 (existing) volumes.

The study area intersection year 2021 estimated volumes are provided in Exhibit 9.

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Level of Service

Level of service is a qualitative description of how well a roadway or intersection operates under prevailing traffic conditions based on traffic volumes and capacity. A grading system of A through F, similar to academic grades, is utilized. LOS A is free-flowing traffic, whereas LOS F is forced flow and extreme congestion. LOS D is generally accepted as the standard in urbanized areas although LOS E is sometimes accepted in more congested areas. Segment performance has been estimated using the planning methods contained in the Florida Department of Transportation (FDOT) Level of Service Handbook. Current performance of the intersections was analyzed using the Synchro analysis software.

Roadway Performance

Naranja Drive, a two-lane road with a 45-mph speed limit has a LOS D daily volume threshold of approximately 16,730 vehicles per day (vpd). La Canada Drive, a four-lane divided roadway with a 45-mph speed limit has a LOS D daily volume threshold of approximately 35,820 vpd. These thresholds are from the *Florida Department of Transportation's Generalized Annual Average Daily Volumes for Florida's Urbanized Areas*, a general source for estimating roadway operations based on daily volumes. Based on the recorded traffic volumes shown in Exhibit 3, all roadways operate well below the LOS D daily volume threshold.

Intersection Performance

The project area intersections were analyzed for both the AM and PM peak hour condition and the results are provided in Exhibit 10. The exhibit shows that the La Canada/Naranja intersection has movements that currently operate at LOS E or F. Other study area intersections all operate at LOS D or better.

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Exhibit 9 Year 2021 Estimated Intersection Peak Hour Volumes

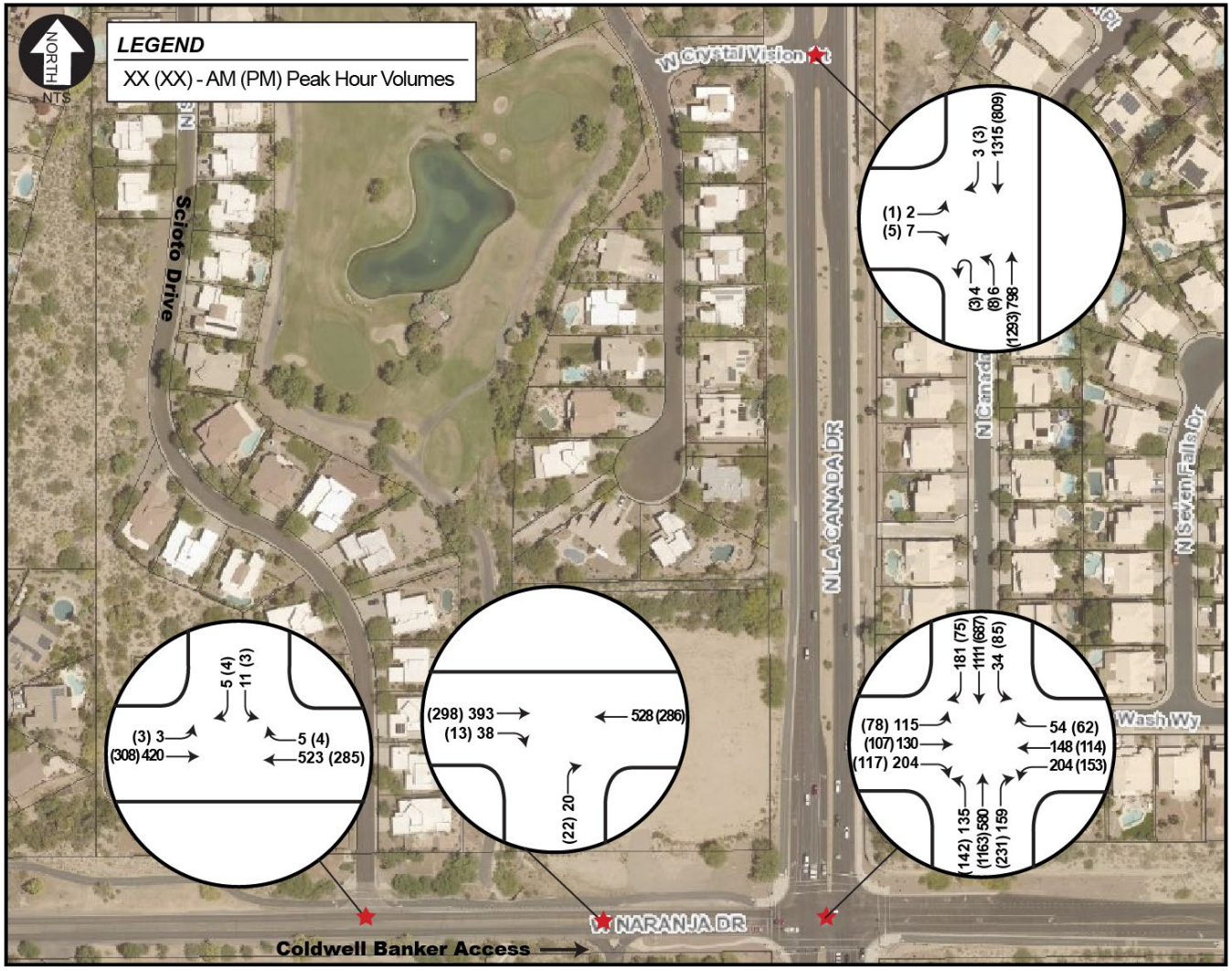

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Exhibit 10 Year 2021 Intersection Performance

La Canada/Naranja

	2021 Existing			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	30.4	C	27	C
Through/Right	124.9	F	42.2	D
Approach	*100.7*	*F*	*38.3*	*D*
Westbound				
Left	73.4	E	52.8	D
Through	43.2	D	36.8	D
Right	36.5	D	33.6	C
Approach	*57.5*	*E*	*43.6*	*D*
Northbound				
Left	76.4	E	39.7	D
Through	19.8	B	31.3	C
Right	18.4	B	15.6	B
Approach	*28.3*	*C*	*29.7*	*C*
Southbound				
Left	41.3	D	50	D
Through	36.5	D	22.1	C
Right	20.9	C	16.7	B
Approach	*34.5*	*C*	*23.5*	*C*
Intersection	***45.8***	***D***	***30.4***	***C***

Naranja/Scioto

	2021 Existing			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	9.2	A	8	A
Southbound				
Left/Right	16.1	C	11.1	B

Naranja/Caldwell Banker Dwy

	2021 Existing			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northbound				
Right	11.2	B	10.4	B

La Canada/Crystal Vision

	2021 Existing			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northbound				
Left	18.5	C	10.8	B
Eastbound				
Left/Right	26.7	D	16	C

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Safety Related Deficiencies

Collision data for the project intersections and adjacent roadway segments were provided by the Arizona Department of Transportation. Recorded collision data from January 1, 2015 through December 31, 2019 are shown in a summary in Exhibits 11a (Roadway Segments) and 11b (Intersections). Exhibit 11a only includes intersection crashes where there were five or more crashes during the five-year period.

Crash rates over 1.0 crash per million entering-vehicles (MEV) for intersections, or per million vehicle-miles (MVM) for roadways usually indicate a need to review mitigating measures to reduce the rate.

The La Canada Drive/Naranja Drive intersection has a five-year crash rate of 0.81 crashes per MEV, with forty-six crashes. The most common crash types were rear-end (14), left-turn (10) and angle (9). Nine of the crashes were injury crashes. All other intersections experienced crash rates under 0.35 crashes per MEV.

The section of Naranja Drive west of La Canada Drive experienced a five-year crash rate of 1.21 crashes per million vehicle-miles with thirteen total crashes during the five-year period. Almost half (6) of the crashes occurred during one year. Nine of the thirteen crashes were rear-end crashes. Other roadway segments experienced crash rates of 0.24 MVM or less during the five-year period. The summary crash data provided by ADOT does not include information on the ages of the drivers involved in the recorded crashes, but based on the time of day, and days of the week that the crashes occurred, we expect that many of the crashes involved young high-school age drivers. Interestingly, all of the crashes were of the type "rear-end", which are more commonly associated with intersection-related crashes, not segment related crashes.

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Exhibit 11a Crash History – Roadway Segments

La Canada, 1/2 Mile North of Naranja to Naranja

Crash Type	2015	2016	2017	2018	2019	Total	%
Rear End			2		1	3	75%
Other		1				1	25%
Total	0	1	2	0	1	4	
Crash Rate (per MVE)	0.00	0.31	0.62	0.00	0.31	0.25	

Severity						Total	%
Bodily Injury		1			1	2	50%
Property Damage			2			2	50%

Note: MVM = Million Vehicle Miles

La Canada, Naranja to 1/2 Mile South of Naranja

Crash Type	2015	2016	2017	2018	2019	Total	%
Single Vehicle			1	1		2	40%
Angle				1		1	20%
Rear End	1					1	20%
Sideswipe				1		1	20%
Total	1	0	1	3	0	5	
Crash Rate (per MVE)	0.22	0.00	0.22	0.67	0.00	0.22	

Severity						Total	%
Bodily Injury	1					1	20%
Property Damage			1	3		4	80%

Note: MVM = Million Vehicle Miles

Naranja, 1/2 Mile West of La Canada to La Canada

Crash Type	2015	2016	2017	2018	2019	Total	%
Single Vehicle				1	1	2	15%
Angle			1			1	8%
Rear End	1		5	2	1	9	69%
Other					1	1	8%
Total	1	0	6	3	3	13	
Crash Rate (per MVE)	0.46	0.00	2.78	1.39	1.39	1.21	

Severity						Total	%
Bodily Injury					1	1	8%
Property Damage	1		6	3	2	12	92%

Note: MVM = Million Vehicle Miles

Naranja, La Canada to 1/2 Mile East of La Canada

Crash Type	2015	2016	2017	2018	2019	Total	%
Left Turn				1		1	50%
Rear End				1		1	50%
Total	0	0	0	2	0	2	
Crash Rate (per MVE)	0.00	0.00	0.00	1.30	0.00	0.26	

Severity						Total	%
Bodily Injury				1		1	50%
Property Damage				1		1	50%

Note: MVM = Million Vehicle Miles

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Exhibit 11b Crash History - Intersections

La Canada/Naranja

Crash Type	2015	2016	2017	2018	2019	Total	%
Single Vehicle	1		3	1		5	11%
Angle	2		1	4	2	9	20%
Left Turn	1	5	2	1	1	10	22%
Rear End		4	5	2	3	14	30%
Head On		1				1	2%
Sideswipe			1	1	3	5	11%
U-Turn				1		1	2%
Other				1		1	2%
Total	4	10	12	11	9	46	
Crash Rate (per MVE)	0.35	0.88	1.05	0.96	0.79	0.81	

Severity						Total	%
Bodily Injury		2	3		4	9	20%
Property Damage	4	8	9	11	5	37	80%

Note: MVE = Million Vehicles Entering the intersection

Naranja/Desert Flower

Crash Type	Total	%
Angle	1	13%
Rear End	7	88%
Total	8	
Crash Rate (per MVE)	0.34	

Severity	Total	%
Bodily Injury	5	63%
Property Damage	3	38%

Note: MVE = Million Vehicles Entering the intersection

Naranja/Scioto

Crash Type	Total	%
Rear End	5	100%
Total	5	
Crash Rate (per MVE)	0.21	

Severity	Total	%
Bodily Injury	5	100%
Property Damage	0	0%

Note: MVE = Million Vehicles Entering the intersection

La Canada/Foxfire

Crash Type	Total	%
Angle	1	20%
Left Turn	2	40%
Rear End	2	40%
Total	5	
Crash Rate (per MVE)	0.14	

Severity	Total	%
Bodily Injury	3	60%
Property Damage	2	40%

Note: MVE = Million Vehicles Entering the intersection

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5. Projected Traffic

Site Traffic Forecasting

The future traffic from the project is estimated using the trip rates contained in the Institute of Traffic Engineers' *Trip Generation, 10th Edition* for the two land uses. Trip generation is the mathematical product of land use intensity (building square footage, number of units, etc.) and the trip generation rate. The result is the total number of one-way trips expected to be generated by the project. These trips represent the number of vehicles estimated to enter and leave the project site.

Trip Generation

Exhibit 12 provides the ITE trip rates for the proposed use during the average weekday. Exhibit 13 shows the number of trips generated by the project for the three time periods (weekday, weekday am peak hour, and weekday pm peak hour) at build out of the project.

Exhibit 12 Trip Generation Rates

				Trip Generation Rates					
			ITE	Weekday AM		Weekday PM		Avg Weekday	
Proposed Use	*Unit*	*No.Units*	*Categ.*	*In*	*Out*	*In*	*Out*	*In*	*Out*
Medical-Dental Office Building	1000 SF GFA	**16.768**	720	2.78		3.46		34.8	
				78%	22%	28%	72%	50%	50%
Coffee/Donut Shop with Drive Through Window	1000 SF GFA	**2.400**	937	88.99		43.38		820.38	
				51%	49%	50%	50%	50%	50%

Exhibit 13 Project Trip Generation

				Trip Generation					
			No.	Weekday AM		Weekday PM		Avg Weekday	
Proposed Use		*Unit*	*Units*	*In*	*Out*	*In*	*Out*	*In*	*Out*
Medical-Dental Office Building		1000 SF GFA	16.768	47		58		584	
				36	10	16	42	292	292
Coffee/Donut Shop with Drive Through Window		1000 SF GFA	2.4	214		104		1,969	
				109	105	52	52	984	984
Totals				**260**		**162**		**2,552**	
				145	**115**	**68**	**94**	**1,276**	**1,276**

Mode Split

All trips were assumed to be via motor vehicle. No trips were assigned to bike, pedestrian, or transit modes.

Pass-By Traffic

Pass-by trips associated with the coffee shop land use were calculated based on pass-by trip rates for this land use in the *ITE Trip Generation Handbook, 3rd Edition*, and are shown in Exhibit 14. The total net new trips (total trips minus pass-by trips) are shown in Exhibit 15.

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Exhibit 14 Pass-By Trips

Pass-by Trips	*ITE Categ.*	Pass-by Rate*		*Weekday AM*		*Weekday PM*		*Avg Weekday**	
				In	*Out*	*In*	*Out*	*In*	*Out*
Coffee/Donut Shop with Drive Through Window	937	89%		190		93		1,752	
				95	95	46	46	876	876

Note: Although the Trip Generation Handbook does not have pass-by rates for this land use, we applied the rate for the land use "Coffee/Donut Shop with Drive-Through Window and No Indoor Seating (Land Use 938)" Also, we adjusted the AM in and out vols to be equal (95 in, 95 out).

Exhibit 15 Total New Trips

Weekday AM		*Weekday PM*		*Avg Weekday*	
In	*Out*	*In*	*Out*	*In*	*Out*
70		69		800	
50	20	22	47	400	400

Trip Distribution and Assignment

Trips generated by this project have been distributed to the surrounding roadway network. The distribution is based on the current distribution of traffic through the project area intersections. The distribution percentages were 25% north, 40% south on La Canada Drive and 20% west, 15% west on Naranja Drive. Non-Pass By Site Trips are shown in Exhibit 16 and Pass-By Site Trips are shown in Exhibit 17.

Non-Site Traffic Forecasting

According to traffic data available on the PAG website, traffic volumes have decreased in the vicinity of the project over the last few years. However, we assumed that there would be a moderate increase in traffic after traffic pattern impacts from the COVID pandemic are reduced. Therefore, we applied a 1% growth rate applied to develop the background, or "no-project" traffic volumes at the project roadways and intersections. Background intersection volumes for the year 2022 and 2025 are shown in Exhibits 18 and 19.

Total Traffic

The total traffic volumes that are the site (non-pass by and pass by) traffic added to the projected traffic volumes for the year 2022 and 2025 are shown in Exhibits 20 and 21.

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Exhibit 16 Non-Pass By Site Trips

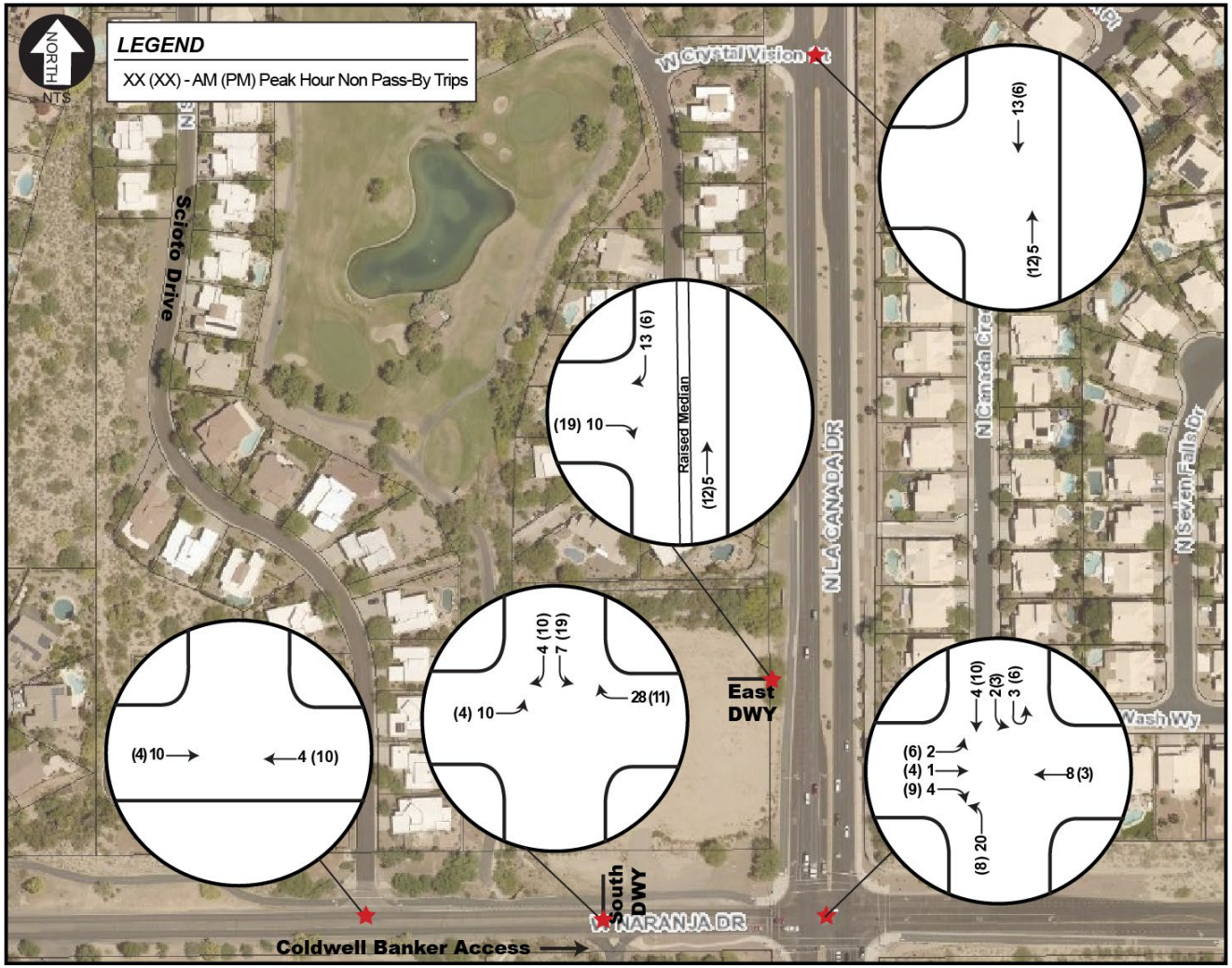

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Exhibit 17 Pass By Site Trips

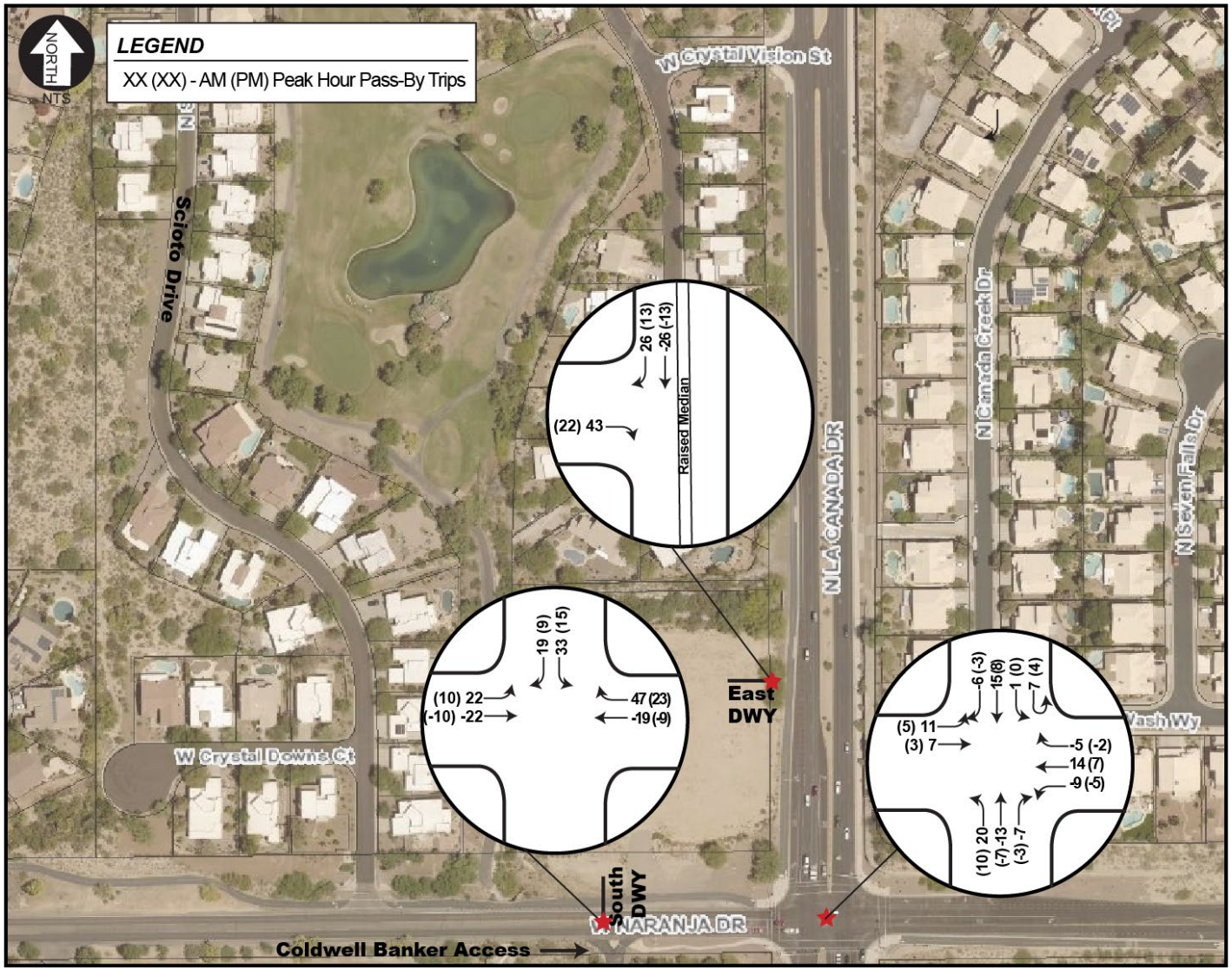

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Exhibit 18 Peak Hour Background Traffic in 2022

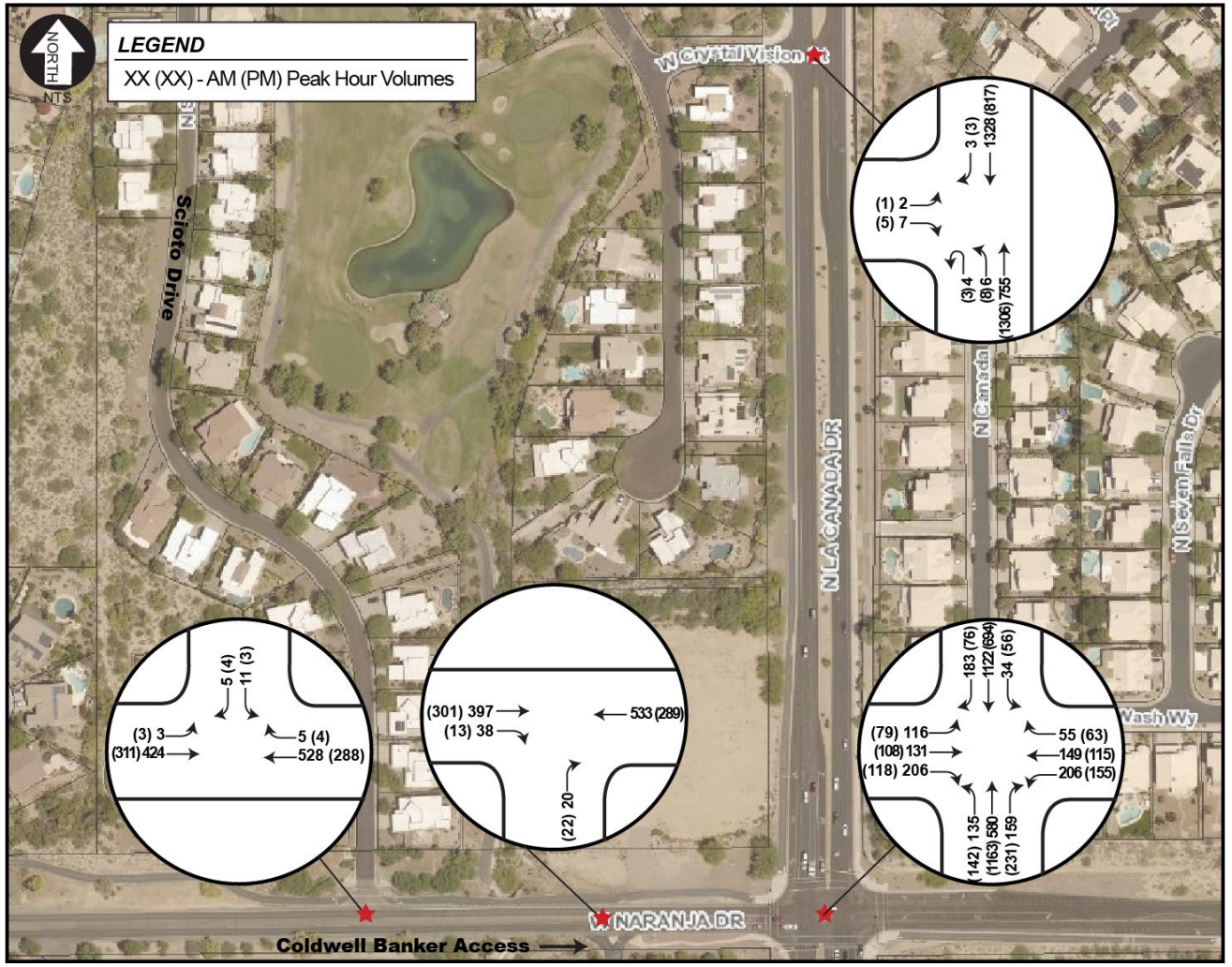

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Exhibit 19 Peak Hour Background Traffic in 2025

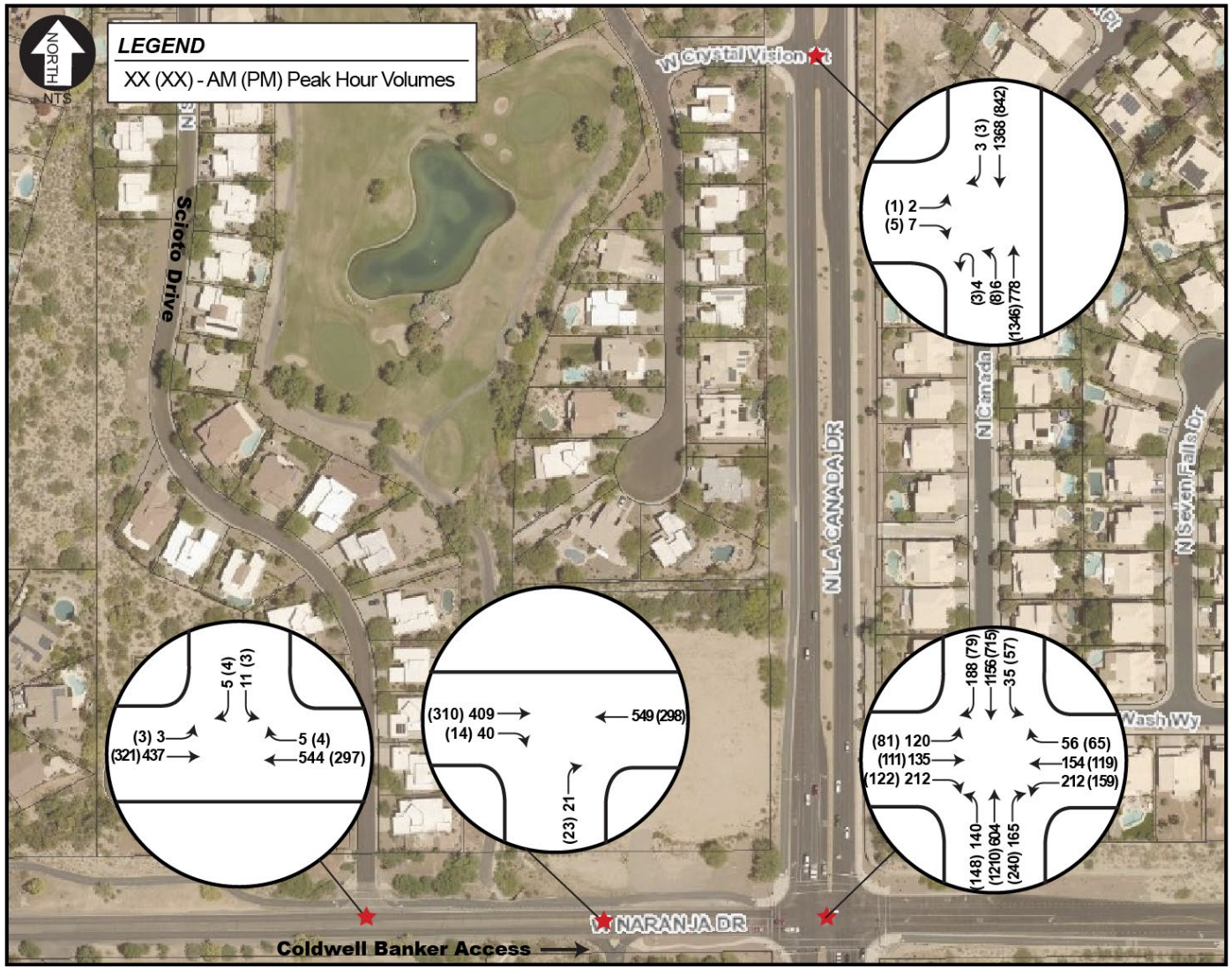

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Exhibit 20 Total Traffic in 2022

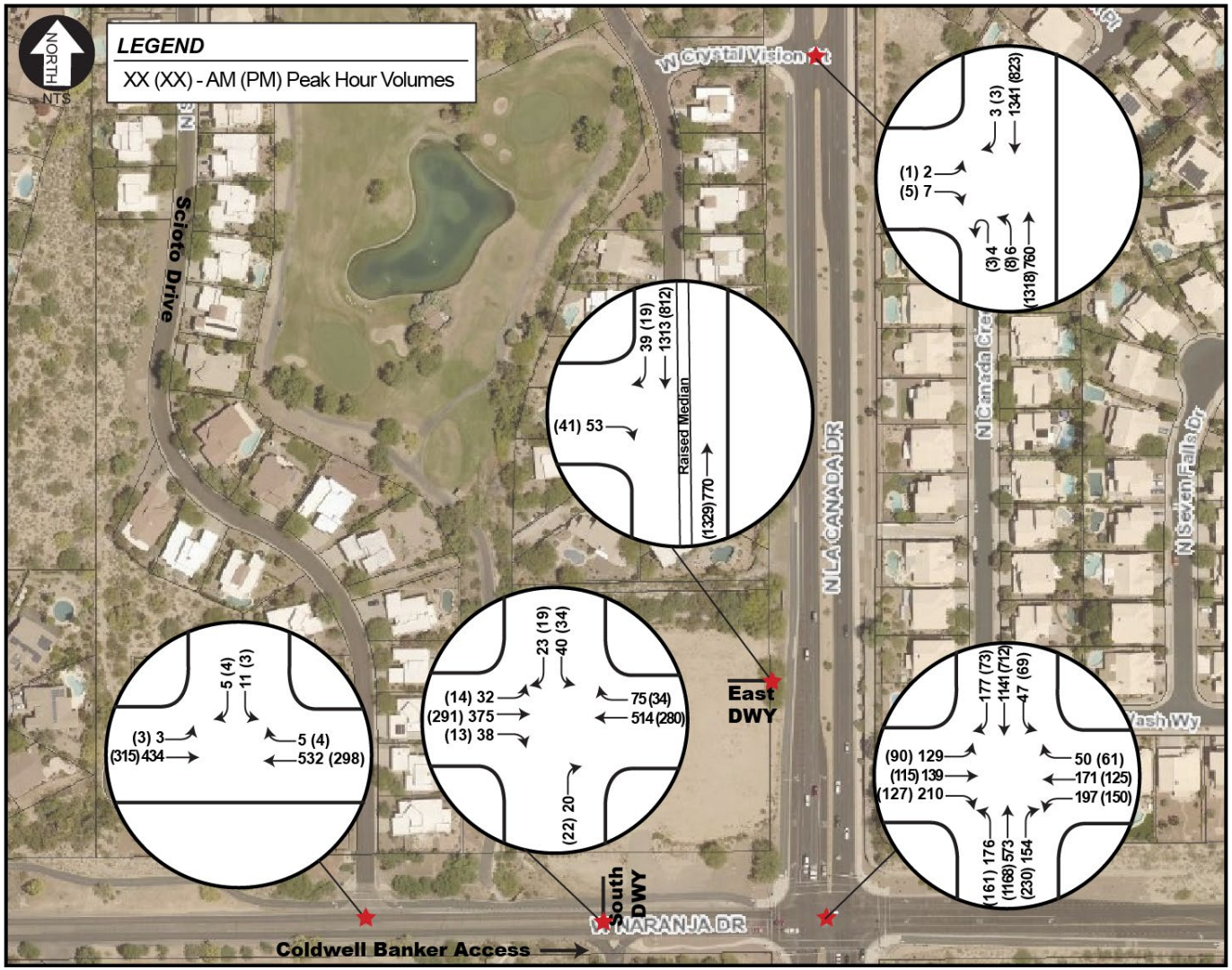

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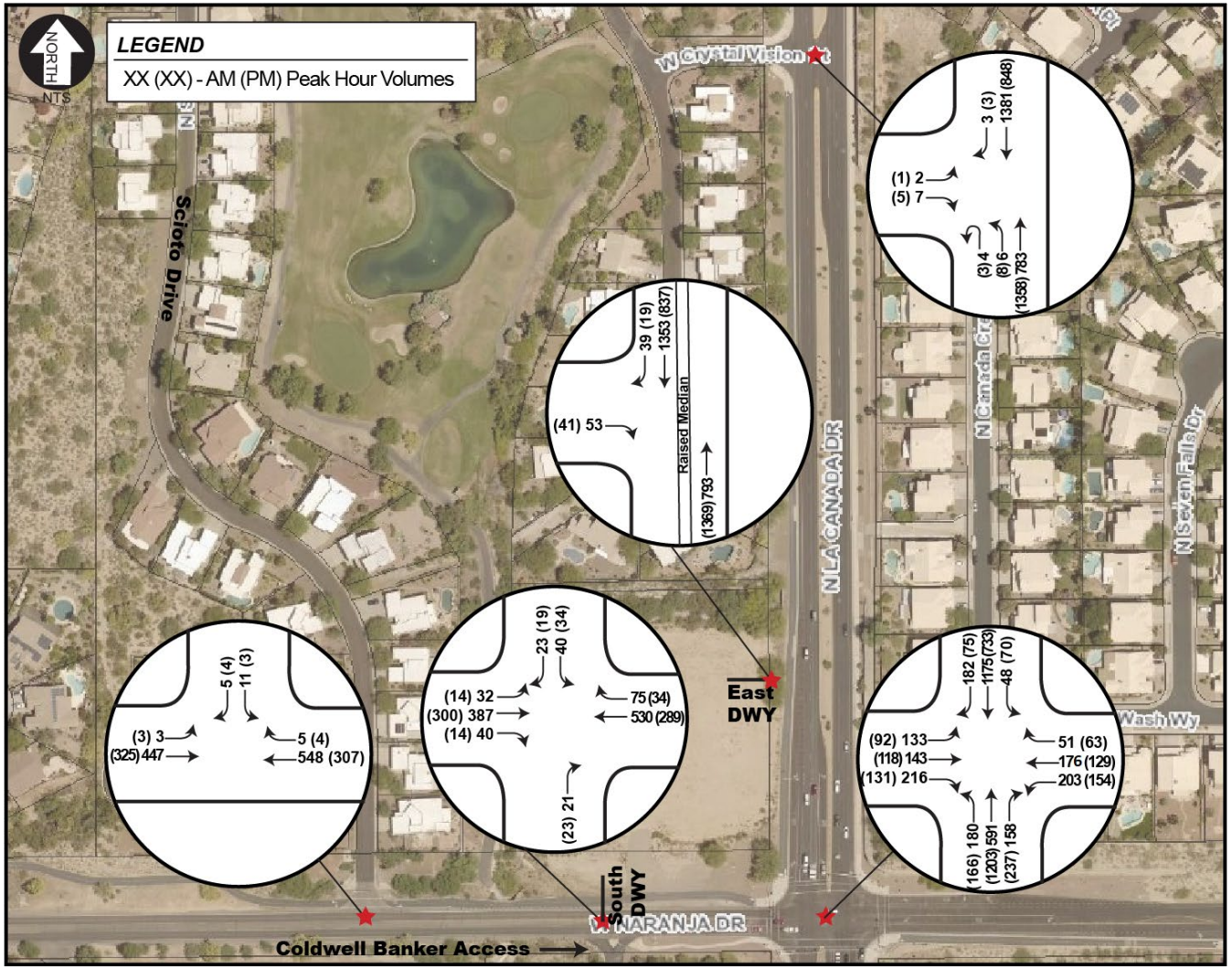
Exhibit 21 Total Traffic in 2025



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6. Traffic and Improvement Analysis

Site Access

Access to the subject property will be from La Canada Drive and Naranja Drive. The access on La Canada Drive is shown to be approximately 250 feet north of the La Canada/Naranja intersection. This access will have only right-in, right-out access due to the raised median on La Canada Drive.

Members of the project team met with Town of Oro Valley staff[1] to discuss access at the Naranja driveway. Town staff indicated that a full access driveway would be acceptable at the Naranja Driveway, and this driveway was analyzed with full access in this study.

The connection on Naranja Drive will be aligned with an existing curb cut located at the Retail Shops of La Canada, approximately 230 feet west of La Canada Drive.

Level of Service Analysis

By the year 2022, the operational impact of the project on the project intersections of La Canada Drive/Naranja Drive and the other study area intersections are projected to be minor.

Roadway Performance

The regional growth estimate of 1% per year was applied to the existing roadway segment volumes along with the estimated site traffic to analyze future segment performance in 2022 and 2025 using the FDOT generalized tables. This analysis is provided to show the impact from the proposed project.

Exhibit 22 summarizes the new ADT and LOS of the roadway segments with and without the project in 2022 and 2025. All roadway segments are projected to operate at LOS D or better with or without the project in the year 2025.

Exhibit 22 Future Roadway Performance in 2022 and 2025

`	*2022 ADT Without Project*	*2025 ADT Without Project*	*Daily Site Trips*	*2022 ADT With Project*	*2025 ADT With Project*	*Capacity at LOS D (vpd)*
La Canada Drive						
North of Naranja Drive	16,713	17,220	202	16,915	17,422	35,820
South of Naranja Drive	22,984	23,680	323	23,307	24,004	35,820
Naranja Drive						
West of La Canada Drive	11,104	11,440	162	11,265	11,602	16,727
East of La Canada Drive	7,946	8,186	121	8,067	8,308	16,727

*Based on Growth Factor of 1%/Year

[1] Meeting with David Laws, Jose Rodriguez on May 26, 2021.

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Intersection Performance

The project intersections were analyzed without and with the project site trips for the years 2022 and 2025. Results for the "without project" are shown in Exhibits 23 and 24, and "with project" scenarios are shown in Exhibits 25 and 26. We analyzed the project driveways only under the "with project" scenario.

All movements are projected to operate at LOS D or better with the project through 2025 except for La Canada/Naranja which will continue to operate at LOS E or F as it does under existing conditions.

Exhibit 23 Peak Hour LOS Results – Signalized Intersection, Year 2022

La Canada/Naranja

	2022 No Project				2022 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	30.5	C	27	C	31.9	C	28.8	C
Through/Right	130.2	F	42.7	D	143.7	F	34.8	C
Approach	*104.7*	*F*	*38.6*	*D*	*113.6*	*F*	*32.5*	*C*
Westbound								
Left	75	E	53.9	D	66.7	E	43.2	D
Through	43.2	D	36.9	D	42.6	D	34.5	C
Right	36.5	D	33.7	C	34.8	C	31	C
Approach	*58.3*	*E*	*44.2*	*D*	*53.1*	*D*	*37.8*	*D*
Northbound								
Left	77.6	E	40.4	D	153.3	F	39.2	D
Through	19.9	B	33.3	C	19.8	B	24.5	C
Right	18.4	B	15.8	B	18.2	B	13.5	B
Approach	*28.5*	*C*	*31.3*	*C*	*45*	*D*	*24.4*	*C*
Southbound								
Left	41.3	D	51.3	D	42.6	D	55.5	E
Through	37.5	D	22.3	C	39.3	D	19.9	B
Right	20.9	C	16.8	B	20.8	C	14.8	B
Approach	*35.3*	*D*	*23.8*	*C*	*37*	*D*	*22.3*	*C*
Intersection	***46.9***	***D***	***31.4***	***C***	***53.3***	***D***	***25.8***	***C***

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Exhibit 24 Peak Hour LOS Results – Signalized Intersection, Year 2025

La Canada/Naranja

	2025 No Project				2025 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	30.8	C	27	C	32.2	C	27.5	C
Through/Right	142.3	F	44	D	156.3	F	48.1	D
Approach	*113.6*	*F*	*39.6*	*D*	*122.7*	*F*	*42.6*	*D*
Westbound								
Left	82.1	F	57.5	E	71.8	E	57.8	E
Through	43	D	37.1	D	42.7	D	38	D
Right	36.3	D	33.8	C	34.6	C	33.9	C
Approach	*61.8*	*E*	*45.9*	*D*	*55.5*	*E*	*46.1*	*D*
Northbound								
Left	84.1	F	42.9	D	161.3	F	50.6	D
Through	20.1	C	40.1	D	20	B	46	D
Right	18.5	B	16.3	B	18.3	B	17.3	B
Approach	*29.7*	*C*	*36.7*	*D*	*47*	*D*	*42.2*	*D*
Southbound								
Left	41.4	D	53.1	D	42.7	D	62.6	E
Through	41	D	23.1	C	43.6	D	24.9	C
Right	21.1	C	17.2	B	20.9	C	18	B
Approach	*38.3*	*D*	*24.6*	*C*	*40.6*	*D*	*27.3*	*C*
Intersection	***50.3***	***D***	***34.8***	***C***	***56.9***	***E***	***38.7***	***D***

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Exhibit 25 Peak Hour LOS Results – Unsignalized Intersections, Year 2022

Naranja/Scioto

	2022 No Project				2022 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	9.2	A	8	A	9.3	A	8	A
Southbound								
Left/Right	16.2	C	11.1	B	16.3	C	11.2	B

Naranja/South Project Dwy/Caldwell Banker Dwy

	2022 No Project				2022 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left					9.6	A	8.1	A
Northbound								
Right	11.3	B	10.5	B	11.1	B	10.4	B
Southbound								
Left					22.2	C	14.2	B
Right					14.7	B	10.3	B

La Canada/Crystal Vision

	2022 No Project				2022 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northbound								
Left	18.8	C	10.8	B	19.1	C	10.8	B
Eastbound								
Left/Right	27.2	D	16.2	C	27.7	D	16.4	C

La Canada/East Driveway

	2022 No Project				2022 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Right					16.8	C	12.1	B

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Exhibit 26 Peak Hour LOS Results – Unsignalized Intersections, Year 2025

Naranja/Scioto

	2025 No Project				2025 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	9.3	A	8	A	9.4	A	8	A
Southbound								
Left/Right	16.6	C	11.2	B	16.7	C	11.3	B

Naranja/South Project Dwy/Caldwell Banker Dwy

	2025 No Project				2025 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	11.4	B	10.6	B	9.7	A	8.1	A
Northbound								
Right	11.4	B	10.6	B	11.2	B	10.5	B
Southbound								
Left					23.0	C	14.4	B
Right					15.0	C	10.4	B

La Canada/Crystal Vision

	2025 No Project				2025 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northbound								
Left	19.6	C	11	B	19.9	C	11	B
Eastbound								
Left/Right	28.5	D	16.8	C	29.3	D	16.9	C

La Canada/East Driveway

	2025 No Project				2025 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Right					17.3	C	12.2	B

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Traffic Safety

Turn Lane Warrants

The Town of Oro Valley does not include turn lane warrants in their subdivision street standards. Pima County does include these warrants in the *Pima County Subdivision and Development Street Standards* and they are based on the daily volume of the street where a potential turn lane may be and the peak hour turning volumes. The warrant for left turn lanes also considers the posted speed limit on the street from which the turn would originate.

The Pima County turn lane warrant criteria are shown in Exhibits 27 and 28 for right turns warrants for two and four lane roads.

Exhibit 29 shows the turn lane criteria for left turn lanes.

Exhibit 27 Pima County Right Turn Warrants on Two-Lane Roads

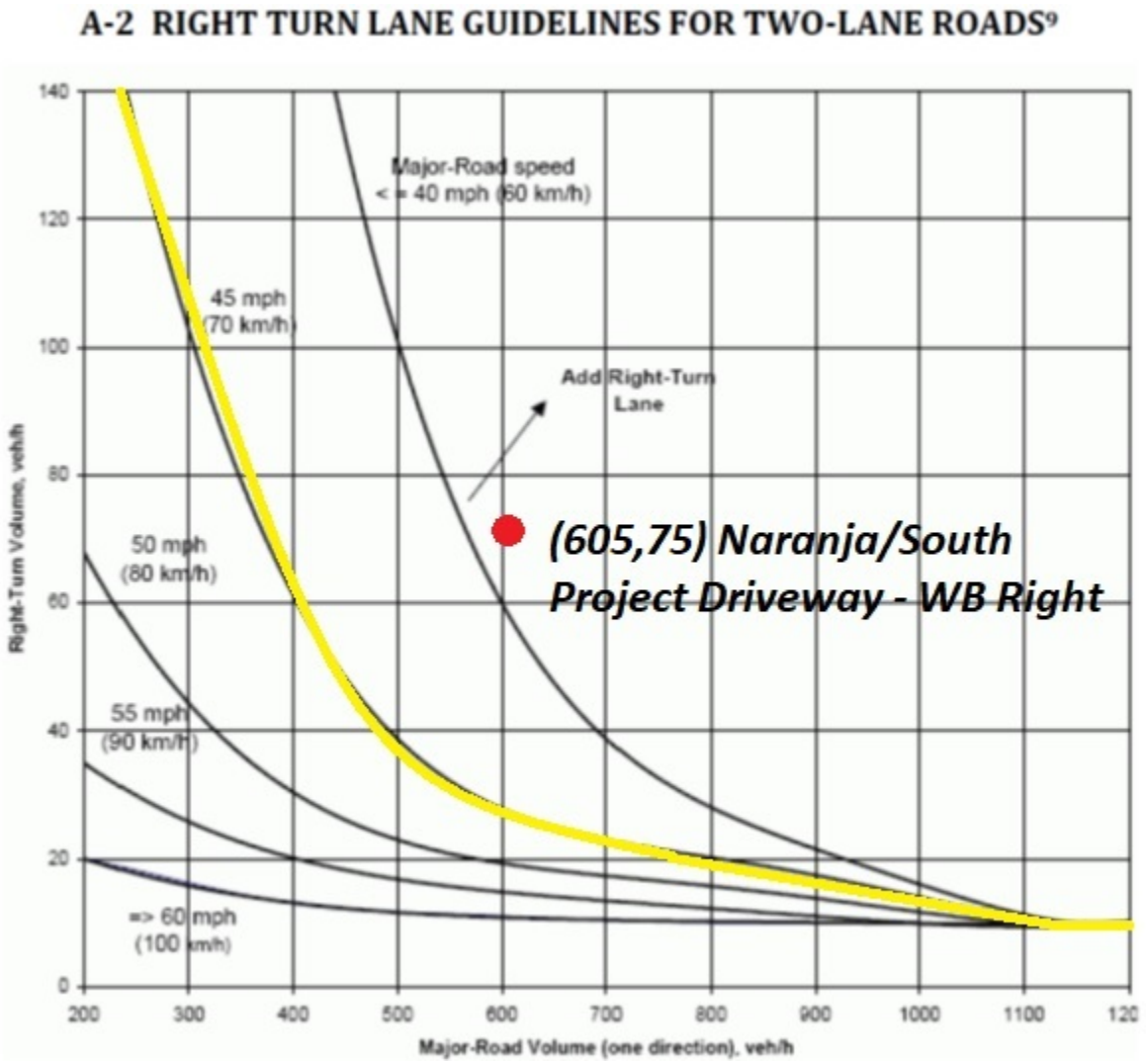

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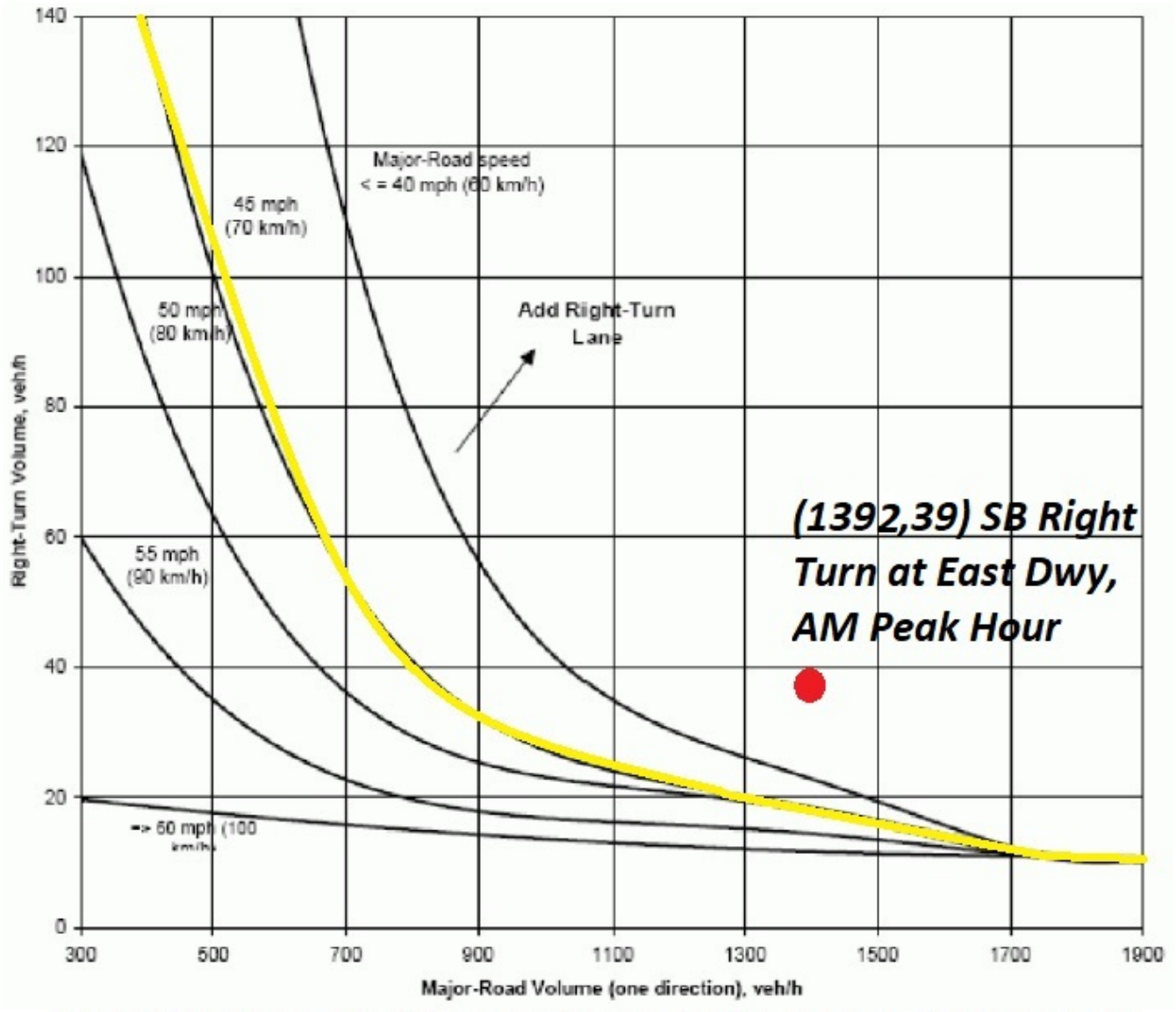
Exhibit 28 Pima County Right Turn Warrants on Four-Lane Roads

A-3 RIGHT TURN LANE GUIDELINES FOR FOUR-LANE ROADS[9]



Note: Existing roadway constraints may restrict the ability or need to install turning lanes. Traffic Engineering may require a traffic engineering analysis to support alternative recommendations for the installation of turning lanes.

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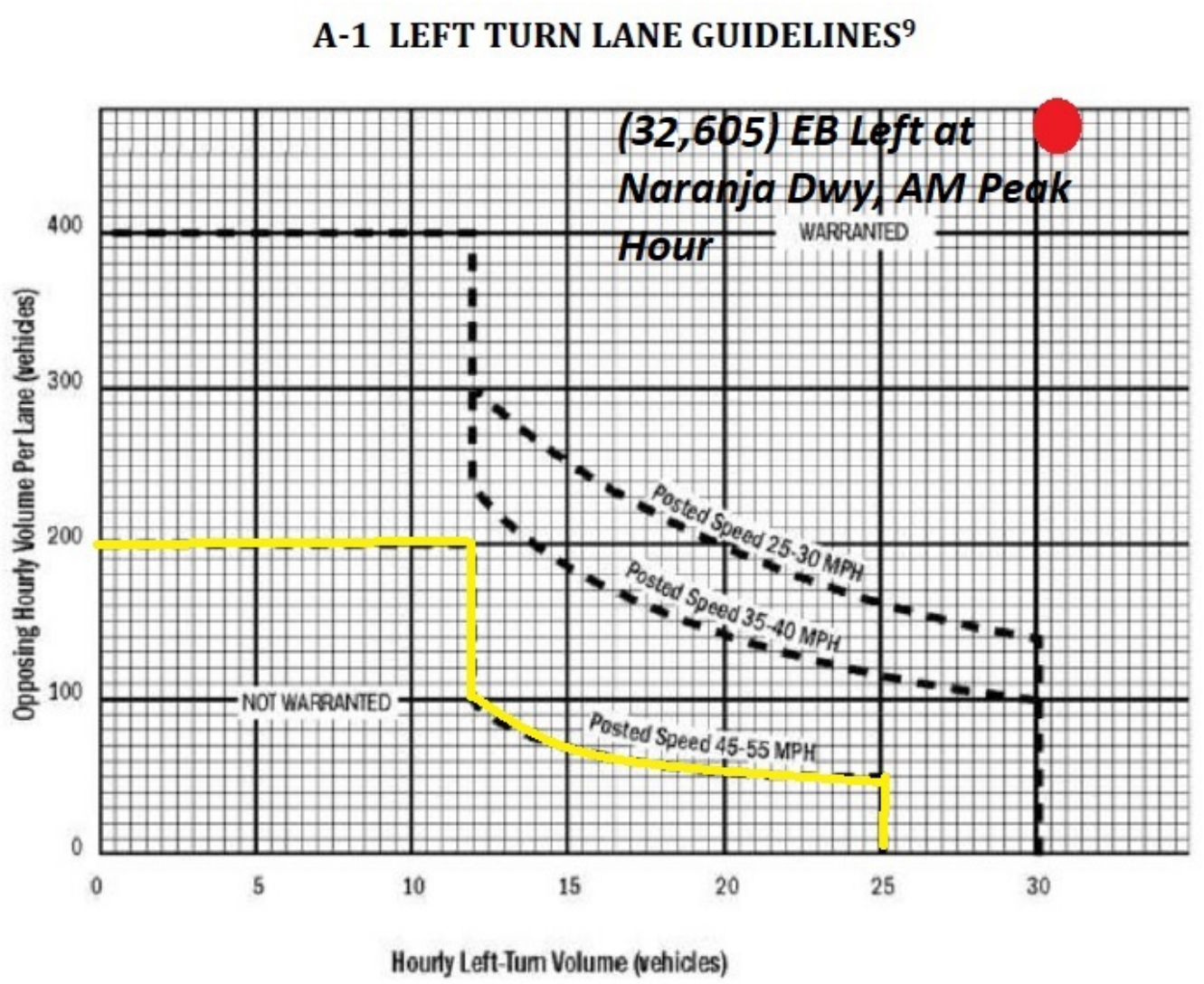
Exhibit 29 Pima County Left Turn Lane Warrants



Based on the Pima County turn lane criteria, a right turn lane is warranted on Naranja Drive for westbound to northbound movement at the Naranja Drive project driveway. A right turn lane is also warranted on La Canada Drive for the southbound to westbound movements at the La Canada Drive project driveway.

Turn lanes and pavement tapers required for any of the above improvements shall be designed in accordance with Pima County's "Roadway Design Manual". By reference, Pima County's Roadway Design Manual defers to the Pima County/City of Tucson Signing and Pavement Marking Manual, and the Pima County Subdivision and Development Street Standards for the length and design of turn lanes.

For a 45-mph roadway (La Canada Drive and Naranja Drive) the minimum storage length is 150 feet.

The minimum right turn lane taper on roadways with a 45-mph speed limit is 210 feet (based on the Oro Valley minimum turn lane width of 14 feet and the taper rate of 15:1.

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The location of the project driveway on La Canada is within the existing taper for the southbound right turn lane at the La Canada/Naranja intersection. The construction of a right turn lane at this location may require the extension of the existing storm drain culvert further west, which would require a new headwall, and may also require the re-alignment of other storm drainage infrastructure in the street. Providing a new right turn lane would also require shifting the existing multi-use path west as well. If Oro Valley determines that a turn lane should be constructed, it should be constructed to be integrated into this turn lane to create a continuous right turn lane. The length of the turn lane for the project driveway should extend 150 north of the driveway and the taper length should be constructed to meet the Pima County standard of 210 feet.

A left turn lane is warranted for access into the Naranja Driveway. The existing center turn lane on Naranja Drive should be restriped to delineate a 150-foot left turn lane into this driveway.

Turn Lane Storage Lengths

The Synchro intersection analysis results include projected queue lengths (95th percentile) based on the projected year 2025 traffic volumes at the intersections. The calculated queue lengths are shown in Exhibit 30. With one exception, all existing or planned project area turn lanes will be long enough to accommodate the projected 95th percentile queue lengths through the year 2025 with the project. The 95th percentile peak hour queues for the northbound left turn lane at the La Canada/Naranja intersection are projected to exceed the existing length (150 feet) of the turn lane. The existing AM peak hour queue for this movement currently exceeds the turn lane length. It may be possible to reduce the 95th percentile queues with traffic signal phasing and timing modifications, although the north/south left turn phasing at this intersection were recently converted to "protected only" phasing.

Adequacy of Location and Design of Driveway Access

Access at the La Canada driveway will be limited to rights in only. The Town of Oro Valley has approved the provision of full access at the Naranja Driveway.

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Exhibit 30 Turn Lane Storage Length Recommendations (Year 2025 With Project)

		95th Percentile Queue Length (ft)		
Intersection	**Lane**	**AM Peak Hour**	**PM Peak Hour**	**Existing or Planned Storage Length**
La Canada/Naranja	EB Left	101	67	125
	WB Left	162	149	225
	WB Right	0	0	150
	NB Left	267	170	150
	NB Right	34	45	180
	SB Left	67	105	150
	SB Right	70	0	150
La Canada/Crystal Vision	EB Left/Right	<25	<25	Single Lane Approach
	NB Left/U-Turn	<25	<25	150
La Canada/Project Driveway	EB Right	<25	<25	Single Lane Approach
	SB Right	<25	<25	110
Naranja/Project Driveway	EB Left	<25	<25	TWLTL
	WB R	<25	<25	150
	SB Approach	<25	<25	Single Lane Approach
Naranja/Scioto	EB Left	<25	<25	TWLTL
	SB LR	<25	<25	Single Lane Approach

**The existing AM peak hour queue for the NB left turn lane at La Canada/Naranja is 192 feet. The 2025 No Project AM peak hour queue for this left turn lane is 200 feet.*

Alternative Modes Considerations

The driveways will intersect with the shared use paths on La Canada Drive and Naranja Drive. The driveway design should be done to Oro Valley specifications.

Traffic Control Needs

A "Right Turn Only" sign should be located at the egress to the driveway on La Canada Drive, and a "One Way (Right)" sign should be placed opposite this driveway. Sign construction and placement should comply with the MUTCD and local policies.

Traffic Signal Warrants

Traffic volumes at the project driveways are not expected to warrant traffic signals.

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7. Conclusions and Recommendations

Conclusions

1. Although the project will generate an estimated 2,552 daily trips with 260 AM peak hour trips and 162 PM peak hour trips, most of the coffee shop trips will be "pass-by" trips. Therefore, the total number of new trips generated by the project is expected to be 800 daily new trips, 70 AM peak hour new trips and 69 PM peak hour new trips.
2. The signalized intersection of La Canada Drive/Naranja Drive has turning movements that currently operate at LOS E or F during the AM and PM peak hours.
3. The other study area roadways and intersections currently operate at acceptable levels of service (LOS D or better).
4. Because of the existing raised median on La Canada Drive, the project driveway on La Canada Drive will be limited to right in, right out movements only.
5. There do not appear to be any sight distance constraints for intersections or proposed driveways near the project.
6. Right turn lanes are warranted on La Canada Drive and Naranja Drive at the project driveways.

Recommendations

1. Based on input from Town staff on May 26th, 2021, the driveway on Naranja Drive should be a full access driveway. The capacity analysis at this intersection found that all movements will operate at LOS D or better during both peak hours.
2. Construct a westbound right turn lane for access into the driveway on Naranja Drive. The right turn lane should be 150 feet long based on Pima County turn lane design standards for a right turn lane on a 45-mph roadway. Because the driveway will be 230 feet from La Canada, the taper should begin immediately after the curb return at the intersection. Because the taper length will not meet Pima County standards for turn lane design, further discussion with Oro Valley staff should be held to discuss the turn lane design.
3. Provide a "Right Turn Only" sign with the stop sign at the project driveway egress on La Canada Drive. A "One-Way (R)" sign should be placed on the raised median opposite the project driveway.
4. Although a southbound right turn lane is warranted for access into the driveway on La Canada Drive, the construction of a right turn lane at this location may require the extension of the existing storm drain culvert further west, which would require a new headwall, and may also require the re-alignment of other storm drainage infrastructure in the street. Providing a new right turn lane would also require shifting the existing multi-use path west as well. If Oro Valley determines that a turn lane should be constructed, it should be constructed to be integrated into this turn lane to create a continuous right turn lane. The right turn lane should be 150 feet long based on Pima County turn lane design standards for a right turn lane on a 45-mph roadway. Because the driveway will intersect a section of the existing taper of the southbound right turn lane at the La Canada/Naranja intersection, the existing southbound right turn lane should be extended to the north to provide a continuous right turn lane for both this movement and the project driveway. This turn lane should extend 150 feet north of the project driveway and have a taper length of 210 feet based on turn lane design standards.
5. Ensure that there is acceptable sight distance to and from the project entrances.

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6. Roadway and subdivision design should conform to current Oro Valley standards.
7. All new traffic signs and markings must comply with the current *Manual on Uniform Traffic Control Devices* and local requirements.

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Appendix

- Site Plan
- Traffic Counts
- Capacity Analysis Worksheets

CONCEPTUAL SITE PLAN for NWC LA CANADA / NARANJA OV_____

GENERAL NOTES

1. THE GROSS AREA OF THE DEVELOPMENT SITE IS **2.81 ACRES** OR **122,556.3 SF**.
2. THE GROSS FLOOR AREA OF STRUCTURES IS **19,168 SQUARE FEET**. BUILDING #1 IS 6,376 SF, BUILDING # 2 IS 5,312 SF, BUILDING #3 IS 5,080 SF, BUILDING #4 IS 2,400 SF.
3. THE FLOOR AREA RATIO (FAR) ALLOWED PER 23.4 TABLE 23-2B IS **0.25** MAXIMUM. THE ACTUAL FAR IS THE RATIO IS **0.16** (19,168 SF/122,556.3 SF).
4. THE LOT COVERAGE PERCENTAGE IS **45.7%**.
5. THE GROSS AREA OF ALL IMPERVIOUS HARDSCAPE SURFACES IS **56,761 SF**.
6. TOTAL MILES OF NEW PUBLIC STREETS IS **0.0** MILES.
7. TOTAL MILES OF NEW PRIVATE STREETS IS **0.0** MILES.
8. THIS PROJECT FALLS UNDER DEVELOPMENT AREA D WITHIN THE EL CONQUISTADOR COUNTRY CLUB PLANNED AREA DEVELOPMENT (PAD) DATED AUGUST 17, 1983. PER 23.9.C.C AND 23.4 TABLE 23-2B, THE UNDERLYING ZONING DESIGNATION IS C-N.
9. NO ZONING VARIANCES OR MODIFICATIONS ARE APPLICABLE TO THIS PROJECT.
10. ASSURANCES FOR SITE IMPROVEMENTS, LANDSCAPING AND REVEGETATION BONDS MUST BE POSTED PRIOR TO ISSUANCE OF GRADING PERMITS.
11. THE PROPOSED USES FOR THIS PROJECT ARE **RESTAURANT, OFFICE** AND **MEDICAL SERVICE.**

PLANNING GENERAL NOTES

1. THE MAXIMUM ALLOWABLE BUILDING HEIGHT PER EL CONQUISTADOR COUNTRY CLUB PAD DATED AUGUST 17, 1983 IS **38'**. THE PROPOSED BUILDING HEIGHTS ARE AS FOLLOWS: BUILDING #1 IS 30' MAX, BUILDING #2 IS 25' MAX, BUILDING #3 IS 25' MAX, BUILDING #4 IS 20'MAX. ALL BUILDINGS ARE 1-STORY.
2. THIS PROJECT IS NOT SUBJECT TO SPECIAL OVERLAY ZONES.
3. THIS PROJECT IS NOT SUBJECT TO TO CRITERIA FOR THE GENERAL PLAN SIGNIFICANT RESOURCE AREAS (SRA) OR ENVIRONMENTALLY SENSITIVE LANDS (ESL).
4. THIS PROJECT DOES NOT CONTAIN ANY RIPARIAN HABITAT WITHIN THE 100-YEAR FLOODPLAIN.
5. a. THE TOTAL AREA OF OPEN SPACE REQUIRED PER 23.9.C.1 IS 20% OF THE GROSS AREA OF THE PAD DISTRICT. TOTAL AREA OF OPEN SPACE PROVIDED IS 20.1%.
   b. THE MINIMUM AMOUNT OF LANDSCAPED COURTYARD/PEDESTRIAN MALLS IS 2% OF THE NET LOT AREA PER 23.8.B.C. THE TOTAL AMOUNT OF LANDSCAPED COURTYARDS/PEDESTRIAN MALLS IS 2% MIN.
   c. THE REQUIRED LANDSCAPED BUFFER-YARD TYPE B HAS BEEN CHOSEN FOR THE UNDERLYING ZONING DESIGNATION:
      STREET = 30'
      SIDE = 30'
      REAR = 30'
   d. BUILDING SETBACKS:
      STREET - 25' REQUIRED; 30.2' (MIN.) PROVIDED
      SIDE - 25' REQUIRED; 41.6' (MIN.) PROVIDED
      REAR - 25' REQUIRED; 44.6' (MIN.) PROVIDED
6. THIS PROJECT HAS NO DESIGNATED COMMON AREA.
7. THIS PROJECT FALLS UNDER DEVELOPMENT AREA D OF THE EL CONQUISTADOR COUNTRY CLUB PLANNED AREA DEVELOPMENT (PAD). SEE PAD DOCUMENT DATED AUGUST 17, 1983, LATEST REVISION BY ORDINANCE (O) 92-21 DATED DECEMBER 2, 1992.
8. ALL PUBLIC ART REQUIREMENTS MUST BE MET PRIOR TO FINAL CERTIFICATE OF OCCUPANCY ISSUANCE, PER ORO VALLEY ZONING CODE REVISED SECTION 27.3.
9. ALL SIGNAGE AND LIGHTING TO BE ADDRESSED AS PART OF A SEPARATE REVIEW AND APPROVAL PROCESS.

ENGINEERING GENERAL NOTES

1. THE DESIGN VEHICLE IS SU-30. THE DESIGN SPEED IS 15 MPH.
2. ALL NEW PUBLIC ROADS WITHIN OR ADJACENT TO THIS PROJECT WILL BE CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS. SEPARATE PUBLIC IMPROVEMENT AND CONSTRUCTION PLANS BE SUBMITTED TO THE TOWN ENGINEER'S OFFICE FOR REVIEW AND APPROVAL.
3. ANY RELOCATION OR MODIFICATION OF EXISTING UTILITIES AND/OR PUBLIC IMPROVEMENTS NECESSITATED BY THE PROPOSED DEVELOPMENT WILL BE AT NO EXPENSE TO THE PUBLIC.
4. THE BASIS OF BEARINGS FOR THIS PROJECT IS THE EAST LINE OF THE S.E. 1/4 OF SECTION 3, T12S, R13E G.&S.R.M., PIMA COUNTY, ARIZONA AS SHOWN ON THIS PLAN AND ON THE "CANADA HILLS - VILLAGE 15" PLAT AS RECORDED IN BOOK 23, PAGE 49, MAPS & PLATS, RECORDS OF PIMA COUNTY, AZ. THE BEARING OF SAID LINE IS **N 00°00'16" E.**
5. THE BASIS OF ELEVATIONS FOR THIS PROJECT IS PIMA COUNTY DEPARTMENT OF TRANSPORTATION "OPUS" CONTROL POINT "12S13E_E17", DESCRIBED AS A 1/2" REBAR TAGGED "PCDOT GPS" 2FT EAST OF AN ELECTRIC TRANSFORMER, APPROX. 201 FT N.W. OF THE INTERSECTION OF LA CANADA DR AND NARANJA DR., THE ELEVATION OF SAID BENCHMARK IS **2,716.67'**, NAVD 88 DATUM.

ORO VALLEY WATER UTILITY GENERAL NOTES

1. THIS DEVELOPMENT MUST COMPLY WITH THE ORO VALLEY WATER UTILITY SPECIFICATIONS MANUAL DURING ALL PHASES OF CONSTRUCTION.
2. THIS PROJECT WILL BE SERVED BY ORO VALLEY WATER UTILITY WHICH HAS BEEN DESIGNATED AS HAVING AN ASSURED 100 YEAR WATER SUPPLY BY THE DIRECTOR OF WATER RESOURCES. ANY AND ALL WELLS MUST BE ABANDONED PER ADWR REGULATIONS.
3. A LINE EXTENSION AGREEMENT MUST BE IN PLACE BEFORE ANY WORK ON THE WATER INFRASTRUCTURE FOR THIS PROJECT BEGINS.
4. ALL METERS SHALL HAVE A BACKFLOW PROTECTION DEVICE INSTALLED ON THE CUSTOMER SIDE OF THE METER.
5. ALL FIRE SERVICES SHALL HAVE A BACKFLOW PROTECTION DEVICE INSTALLED ON THEM.
6. WATER INFRASTRUCTURE AS REPRESENTED ON THIS PLAN IS FOR INFORMATIONAL PURPOSES ONLY. A SEPARATE WATER IMPROVEMENT PLAN MUST BE SUBMITTED TO THE ORO VALLEY WATER UTILITY (OVWU) FOR TECHNICAL REVIEW AND COMPLIANCE WITH APPLICABLE STATUTES, CODES AND SPECIFICATIONS. ADDITIONAL WATER INFRASTRUCTURE MAY BE DEEMED NECESSARY UPON REVIEW OF THE WATER IMPROVEMENT PLAN.

GENERAL UTILITY NOTES

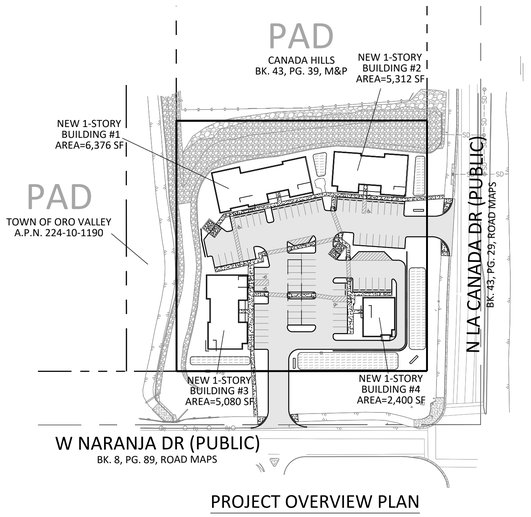
1. SHOULD AN EASEMENT BE IN CONFLICT WITH ANY PROPOSED BUILDING LOCATION, VACATION OF THE EASEMENT IS TO OCCUR PRIOR TO ISSUANCE OF BUILDING PERMITS.

GOLDER RANCH FIRE GENERAL NOTES

1. FIRE HYDRANTS CONNECTED TO AN APPROVED WATER SUPPLY OF 1500 GPM FOR FIRE PROTECTION MUST BE INSTALLED AND IN SERVICE PRIOR TO COMBUSTIBLE MATERIAL DELIVERY TO THE SITE. TEMPORARY CONSTRUCTION OFFICE TRAILERS ARE CONSIDERED COMBUSTIBLE MATERIAL.
2. APPROVED FIRE APPARATUS ACCESS ROADS MUST BE INSTALLED AND IN SERVICE PRIOR TO COMBUSTIBLE MATERIAL DELIVERY TO THE SITE.
3. APPROVED AUTOMATIC SPRINKLER SYSTEMS IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED THROUGHOUT ALL GROUP A, B, E, F, H, I, M, R, AND S OCCUPANCIES FOR EVERY FACILITY, BUILDING OR PORTION OF A BUILDING HEREAFTER CONSTRUCTED WITHIN OR MOVED INTO THE JURISDICTION. APPROVED AUTOMATIC SPRINKLER SYSTEMS SHALL BE PROVIDED THROUGHOUT ALL ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES USED AS MODEL DWELLINGS AND TOWNHOUSES WHICH EXCEED 3,600 SQUARE FEET IN FIRE-FLOW CALCULATION AREA HEREAFTER CONSTRUCTED WITHIN OR MOVED INTO THE JURISDICTION.
4. TEMPORARY STREET SIGNS MUST BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE OF VEHICLES. ALL STRUCTURES UNDER CONSTRUCTION MUST BE CLEARLY IDENTIFIED WITH AN APPROVED ADDRESS.
5. THE INSTALLATION OF TRAFFIC CONTROL SIGNALING DEVICES AND/OR ELECTRICALLY OPERATED GATES ON FIRE APPARATUS ACCESS ROADS SHALL INCLUDE PREEMPTIVE CONTROL EQUIPMENT COMPATIBLE WITH THE FIRE DEPARTMENT'S EXISTING SYSTEM.

PERMITTING DIVISION - BUILDING CODES

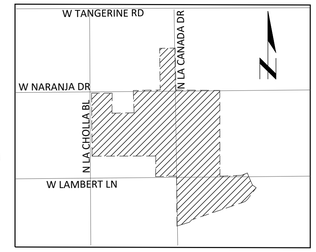
1. THE FOLLOWING CODES AND STANDARDS SHALL BE APPLICABLE TO THIS DEVELOPMENT:
   A. 2012 INTERNATIONAL CODES WITH LOCAL AMENDMENTS.
   B. 2011 NATIONAL ELECTRICAL CODE.
   C. 2010 AMERICAN DISABILITIES ACT ACCESSIBILITY GUIDELINES.
   D. 2006 GOLDER RANCH FIRE DISTRICT STANDARDS AND FORMS.
   E. 2012 TOWN OF ORO VALLEY POOL CODE.
   F. 2015 PIMA ASSOCIATION OF GOVERNMENTS (P.A.G.).
   G. 2010 TOWN OF ORO VALLEY DRAINAGE CRITERIA MANUAL.
   H. 2004 TOWN OF ORO VALLEY SUBDIVISION STREET STANDARDS AND POLICIES MANUAL.
   I. TOWN OF ORO VALLEY ZONING CODE, CURRENT REVISED.
   J. ORO VALLEY TOWN CODE, CURRENT REVISED.
   K. 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.



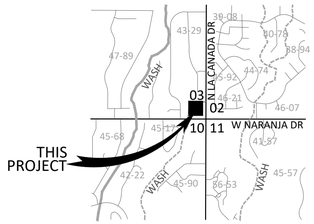
PROJECT OVERVIEW PLAN

SCALE: 1"=100'

0' 100' 200'



PAD DISTRICT PLAN



IN THE SE ¼ OF THE SE ¼ OF SECTION 03, T. 12 S., R. 13 E., G.&S.R.M., TOWN OF ORO VALLEY, PIMA COUNTY, ARIZONA

LOCATION MAP

NORTH

3" = 1 MILE

LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
		SUBJECT PROPERTY BOUNDARY	U		UNKNOWN UTILITY
		RIGHT-OF-WAY	EE		ELECTRICAL EQUIPMENT
		OTHER PARCEL LINE	EM		ELECTRIC METER
		ROADWAY CENTERLINE			ELECTRIC TRANSFORMER
		SECTION LINE	JB		ELECTRIC JUNCTION BOX
		EASEMENT	C		COMMUNICATION PEDESTAL
2320		CONTOUR	C		COMMUNICATION MANHOLE
(99.99P)	99.99P	SPOT ELEVATION	CV		COMMUNICATION VAULT
		FLOW-LINE	L		LIGHT PULL BOX
100		100 YR. FLOOD PLAIN LIMIT	F_O		FIBER-OPTIC MARKER
		CURB	TCB		TRAFFIC CONTROL BOX
		ASPHALT	W		WATER METER
		CONCRETE			SEWER MANHOLE
		RAILING			SURVEY MONUMENT
		WALL		(8)	PARKING SPACE COUNT
		SIGN	C-1		ZONING DIVISION
T		TRAFFIC LIGHT	SVT		SIGHT VISIBILITY TRIANGLE
SD		STORM DRAIN MANHOLE	R.O.W.		RIGHT-OF-WAY
E E		UNDERGROUND ELECTRIC	A.P.N.		ASSESSOR'S PARCEL NUMBER
C C		COMMUNICATION	R		RADIUS
G G		GAS PIPE	P		PAVEMENT (ASPHALT)
S S S 12in		SEWER PIPE	C		CONCRETE
W W W 12in		WATER PIPE	HP		HIGH POINT
NPW NPW 12in		NON-POTABLE WATER PIPE			

PARKING, LOADING, AND BICYCLE STORAGE CALCULATIONS

BUILDING NUMBER	PROPOSED USE	SQUARE FOOTAGE	PARKING RATIO (PER PAD)	TOTAL PARKING		TOTAL HANDICAP PARKING		LOADING ZONE RATIO	TOTAL LOADING ZONES		BIKE PARKING CLASS I		BIKE PARKING CLASS II	
				REQUIRED	PROVIDED	REQUIRED	PROVIDED		REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED
1	OFFICE/MEDICAL SERVICE	6376	1:300	21	26	1	1		0	0		0	0	0
2	OFFICE/MEDICAL SERVICE	5312	1:300	18	21	1	1		0	0		0	0	0
3	OFFICE/MEDICAL SERVICE	5080	1:300	17	20	1	2		0	0	0	0	0	0
4	DRIVE-THRU RESTAURANT	2400	1:200	12	13	1	1	0	0	0	0	0	0	0
TOTALS:		19168		68	80	4	5	1:5,000-24,999	1	1	0	0	0	0

APPROVAL BY:

TOWN OF ORO VALLEY ENGINEER DATE

SHEET INDEX

ARCHITECT

GANSLINE & ASSOCIATES
1795 EAST SKYLINE DRIVE SUITE #193
TUCSON, ARIZONA 85718
ATTN: BILL GANSLINE
PH: (520) 903-4042
E: gansline@usa.net

NO.	DATE	REVISION DESCRIPTION	BY

Registered Professional Engineer (Civil) CERTIFICATE NO. 37624 KEVIN M. HALL Date Signed 06/08/2021 ARIZONA, U.S.A.

CYPRESS PROJECT NO: 20.211

CYPRESS CIVIL
2030 east speedway boulevard
suite #110
tucson, arizona 85719
ph: 520.499.2456
e: info@cypresscivil.com

OWNER/DEVELOPER

LA CANADA/NARANJA LLC
PO BOX 57037
TUCSON, ARIZONA 85732
ATTN: C/O PAUL OLAND
PH: (520) 664-4304
E: gpo@paradigmland.us

SITE ADDRESS

1440 WEST NARANJA DRIVE
ORO VALLEY, ARIZONA 85737

OV_____

DATE: 06/08/21

SCALE: AS NOTED

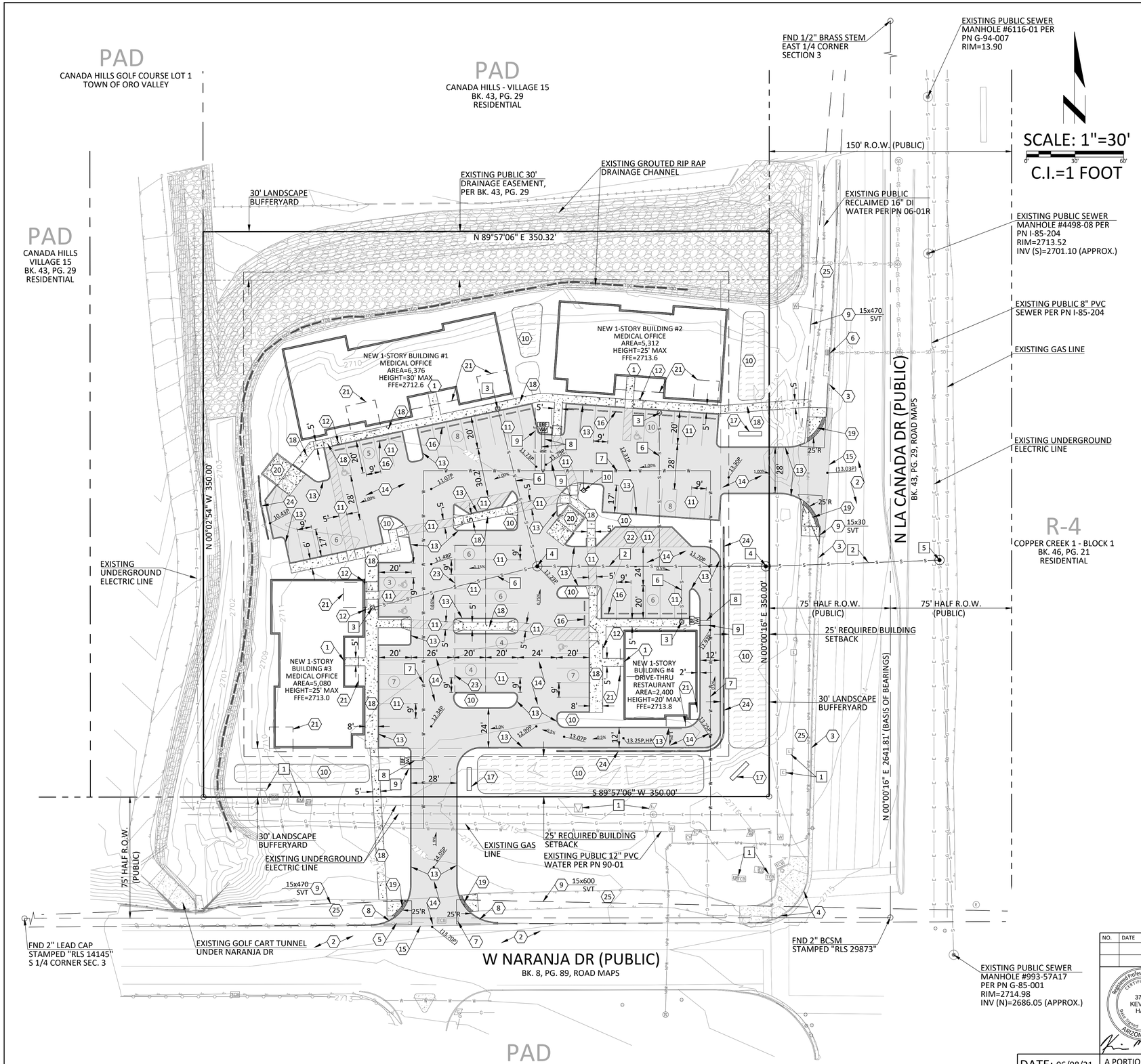
C.I.: N/A

A PORTION OF LAND IN THE SE 1/4 OF THE SE 1/4 OF SECTION 03, T. 12S., R.13E., G.& S.R.M., TOWN OF ORO VALLEY, PIMA COUNTY, ARIZONA
A.P.N. 224-10-002B

CONCEPTUAL SITE PLAN for NWC LA CANADA / NARANJA cover sheet

1 OF 2

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com



SITE KEYNOTES

1 PRIMARY BUILDING ENTRANCE.
2 EXISTING ASPHALT TO REMAIN.
3 EXISTING VERTICAL CURB AND GUTTER TO REMAIN.
4 EXISTING CURB RAMP AND SIDEWALK TO REMAIN.
5 EXISTING VEHICLE BARRIER TO BE SHORTENED.
6 EXISTING CATCH BASIN TO REMAIN.
7 EXISTING SIGN TO BE RELOCATED.
8 PROPOSED 6" HEADER CURB.
9 SIGHT VISIBILITY TRIANGLE FOR NEW DEVELOPMENT. SEE KEYNOTE FOR DIMENSIONS.
10 PROPOSED DEPRESSED LANDSCAPE AREA PER LANDSCAPE PLAN.
11 PROPOSED 4" WHITE PAINT STRIPE, 0.06" THICK, TRAFFIC RATED (TYP.).
12 PROPOSED ACCESSIBLE SIGN AND POST.
13 PROPOSED 6" VERTICAL CURB.
14 PROPOSED AC PAVEMENT OVER ABC.
15 PROPOSED PAVEMENT SAWCUT EDGE.
16 PROPOSED 6' WHEEL STOP (TYP.).
17 PROPOSED MONUMENT SIGN.
18 PROPOSED CONCRETE SIDEWALK.
19 PROPOSED CONCRETE CURB ACCESS RAMP WITH DETECTABLE WARNING STRIP.
20 PROPOSED TRASH ENCLOSURE.
21 PROPOSED BUILDING OVERHANG/CANOPY.
22 PROPOSED 12'X35' LOADING ZONE.
23 PROPOSED COVERED PARKING WITH SOLAR.
24 PROPOSED SCREEN WALL.
25 EXISTING MULTI-USE PATH TO REMAIN.

UTILITY KEYNOTES

1 EXISTING UTILITY INFRASTRUCTURE TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
2 PROPOSED PRIVATE 8" SEWER LINE.
3 PROPOSED PRIVATE SEWER CLEANOUT.
4 PROPOSED PRIVATE SEWER MANHOLE.
5 PROPOSED PUBLIC SEWER MANHOLE.
6 PROPOSED PRIVATE 4" SEWER LINE.
7 PROPOSED PUBLIC WATER MAIN.
8 PROPOSED PUBLIC WATER SERVICE.
9 PROPOSED FIRE SERVICE.
10 PROPOSED FIRE HYDRANT.

ARCHITECT
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1440 WEST NARANJA DRIVE
ORO VALLEY, ARIZONA 85737

Registered Professional Engineer (Civil) CERTIFICATE NO. 37624 KEVIN M. HALL Date Signed 06/08/2021 ARIZONA, U.S.A.

CYPRESS PROJECT NO: 20.211
CYPRESS CIVIL
2030 east speedway boulevard
suite #110
tucson, arizona 85719
ph: 520.499.2456
e: info@cypresscivil.com

OV

DATE: 06/08/21
SCALE: 1"=30'
C.I.: 1 FOOT

A PORTION OF LAND IN THE SE 1/4 OF THE SE 1/4 OF SECTION 03, T. 12S., R.13E., G.& S.R.M., TOWN OF ORO VALLEY, PIMA COUNTY, ARIZONA
A.P.N. 224-10-002B

CONCEPTUAL SITE PLAN for NWC LA CANADA / NARANJA
site + grading + utilities plan

2 OF 2

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

Project: La Canada/Naranja

Date: Wednesday, September 11, 2019

Count 0:15

Count Starts at 7:00 AM	NB La Canada			SB La Canada			EB Naranja			WB Naranja									
END Time	Left Turn	THRU	Right	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	END Time	
7:15 AM													0	0	0	0	0	7:15 AM	
7:30 AM	32	155	44	4	283	31	20	33	45	50	18	11	549	318	98	79	1044	7:30 AM	
7:45 AM	31	147	46	9	295	48	24	25	53	64	47	19	808	352	102	130	1392	7:45 AM	
8:00 AM	36	152	40	11	303	58	41	40	48	41	44	11	825	372	129	96	1422	8:00 AM	
8:15 AM	36	126	29	10	230	44	30	32	58	49	39	13	696	284	120	101	1201	8:15 AM	
8:30 AM													0	0	0	0	0	8:30 AM	
8:45 AM													0	0	0	0	0	8:45 AM	
9:00 AM													0	0	0	0	0	9:00 AM	
7:00 AM	8:00 AM	99	454	130	24	881	137	85	98	146	155	109	41	2182	1042	329	305	3858	7:00 AM	8:00 AM
7:15 AM	8:15 AM	135	580	159	34	1111	181	115	130	204	204	148	54	2878	1326	449	406	5059	7:15 AM	8:15 AM
7:30 AM	8:30 AM	103	425	115	30	828	150	95	97	159	154	130	43	2329	1008	351	327	4015	7:30 AM	8:30 AM
7:45 AM	8:45 AM	72	278	69	21	533	102	71	72	106	90	83	24	1521	656	249	197	2623	7:45 AM	8:45 AM
8:00 AM	9:00 AM	36	126	29	10	230	44	30	32	58	49	39	13	696	284	120	101	1201	8:00 AM	9:00 AM
7:00 AM	9:00 AM	135	580	159	34	1111	181	115	130	204	204	148	54	2878	1326	449	406	5059	7:00 AM	9:00 AM
														0.87	0.89	0.87	0.78		
2021 Existing		135	580	159	34	1111	181	115	130	204	204	148	54						
2022 NP		136	586	161	34	1122	183	116	131	206	206	149	55						
2025 NP		140	604	165	35	1156	188	120	135	212	212	154	56						
Non-Pass By		20			5	4		2	1	4		8							
Pass-By		20			8	15		11	7			14							
Pass-By Reductions			-13	-7			-6				-9		-5						
2022 WP		176	573	154	47	1141	177	129	139	210	197	171	50						
2025 WP		180	591	158	48	1175	182	133	143	216	203	176	51						

Count Starts at 4:00 PM	NB La Canada			SB La Canada			EB Naranja			WB Naranja									
END Time	Left Turn	THRU	Right	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	END Time	
4:15 PM													0	0	0	0	0	4:15 PM	
4:30 PM	21	542	53	13	158	18	20	30	30	39	25	18	967	189	80	82	1318	4:30 PM	
4:45 PM	46	204	58	9	166	20	13	20	28	44	33	14	655	195	61	91	1002	4:45 PM	
5:00 PM	39	190	57	16	201	24	30	32	32	37	32	11	701	241	94	80	1116	5:00 PM	
5:15 PM	36	227	63	17	162	13	15	25	27	33	24	19	661	192	67	76	996	5:15 PM	
5:30 PM													0	0	0	0	0	5:30 PM	
5:45 PM													0	0	0	0	0	5:45 PM	
6:00 PM													0	0	0	0	0	6:00 PM	
4:00 PM	5:00 PM	106	936	168	38	525	62	63	82	90	120	90	43	2323	625	235	253	3436	4:00 PM	5:00 PM
4:15 PM	5:15 PM	142	1163	231	55	687	75	78	107	117	153	114	62	2984	817	302	329	4432	4:15 PM	5:15 PM
4:30 PM	5:30 PM	121	621	178	42	529	57	58	77	87	114	89	44	2017	628	222	247	3114	4:30 PM	5:30 PM
4:45 PM	5:45 PM	75	417	120	33	363	37	45	57	59	70	56	30	1362	433	161	156	2112	4:45 PM	5:45 PM
5:00 PM	6:00 PM	36	227	63	17	162	13	15	25	27	33	24	19	661	192	67	76	996	5:00 PM	6:00 PM
4:00 PM	6:00 PM	142	1163	231	55	687	75	78	107	117	153	114	62	2984	817	302	329	4432	4:00 PM	6:00 PM
														0.77	0.85	0.80	0.90		
2021 Existing		142	1163	231	55	687	75	78	107	117	153	114	62						
2022 NP		143	1175	233	56	694	76	79	108	118	155	115	63						
2025 NP		148	1210	240	57	715	78	81	111	122	159	119	65						
Non-Pass By		8			9	10		6	4	9		3							
Pass-By		10			4	8		5	3			7							
Pass-By Reductions			-7	-3			-3				-5		-2						
2022 WP		161	1168	230	69	712	73	90	115	127	150	125	61						
2025 WP		166	1203	237	70	733	75	92	118	131	154	129	63						

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scioto Ave	DATE:	04/29/21	LOCATION:	Oro Valley
E-W STREET:	Naranja Dr	DAY:	THURSDAY	PROJECT#	21-1277-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	0	0	2	0	59	0	0	65	0	126
7:15 AM	0	0	0	5	0	2	1	87	0	0	74	0	169
7:30 AM	0	0	0	3	0	2	1	94	0	0	126	0	226
7:45 AM	0	0	0	4	0	3	1	104	0	0	186	2	300
8:00 AM	0	0	0	2	0	0	1	106	0	0	154	2	265
8:15 AM	0	0	0	2	0	0	0	116	0	0	57	1	176
8:30 AM	0	0	0	0	0	1	1	43	0	0	35	0	80
8:45 AM	0	0	0	2	0	0	3	51	0	0	53	1	110
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	18	0	10	8	660	0	0	750	6	1452
Approach %	####	####	####	64.29	0.00	35.71	1.20	98.80	0.00	0.00	99.21	0.79	
App/Depart	0	/	14	28	/	0	668	/	678	756	/	760	

AM Peak Hr Begins at: 730 AM

PEAK													
Volumes	0	0	0	11	0	5	3	420	0	0	523	5	967
Approach %	####	####	####	68.75	0.00	31.25	0.71	99.29	0.00	0.00	99.05	0.95	
2022 NP	0	0	0	11	0	5	3	424	0	0	528	5	
2025 NP	0	0	0	11	0	5	3	437	0	0	544	5	
Pass-By													
Non-Pass By								10			4		
Pass-By Reduction													
2022 WP	0	0	0	11	0	5	3	434	0	0	532	5	
2025 WP	0	0	0	11	0	5	3	447	0	0	548	5	
PEAK HR. FACTOR:	0.000			0.571			0.912			0.702			0.806

CONTROL: 1-Way Stop (SB)
COMMENT 1:
GPS: 32.409782, -110.997796

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scioto Ave 0	DATE:	04/29/21	LOCATION:	Oro Valley
E-W STREET:	Naranja Dr	DAY:	THURSDAY	PROJECT#	21-1277-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	0	0	2	0	1	3	102	0	0	74	2	184
4:15 PM	0	0	0	4	0	1	0	67	0	0	71	4	147
4:30 PM	0	0	0	1	0	0	0	63	0	0	58	1	123
4:45 PM	0	0	0	2	0	1	3	64	0	0	72	1	143
5:00 PM	0	0	0	2	0	1	1	71	0	0	78	1	154
5:15 PM	0	0	0	0	0	2	2	65	0	0	82	3	154
5:30 PM	0	0	0	0	0	1	0	81	0	0	59	0	141
5:45 PM	0	0	0	1	0	0	0	91	0	0	66	0	158
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	12	0	7	9	604	0	0	560	12	1204
Approach %	####	####	####	63.16	0.00	36.84	1.47	98.53	0.00	0.00	97.90	2.10	
App/Depart	0	/	21	19	/	0	613	/	616	572	/	567	

PM Peak Hr Begins at: 500 PM

PEAK													
Volumes	0	0	0	3	0	4	3	308	0	0	285	4	607
Approach %	####	####	####	42.86	0.00	57.14	0.96	99.04	0.00	0.00	98.62	1.38	
2022 NP	0	0	0	3	0	4	3	311	0	0	288	4	
2025 NP	0	0	0	3	0	4	3	321	0	0	297	4	
Pass-By													
Non-Pass By								4			10		
Pass-By Reduction													
2022 WP	0	0	0	3	0	4	3	315	0	0	298	4	
2025 WP	0	0	0	3	0	4	3	325	0	0	307	4	
PEAK HR. FACTOR:	0.000			0.583			0.854			0.850			0.960

CONTROL: 1-Way Stop (SB)
COMMENT 1: 0
GPS: 32.409782, -110.997796

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Caldwell Banker Driveway	DATE:	04/29/21	LOCATION:	Oro Valley
E-W STREET:	Naranja Dr	DAY:	THURSDAY	PROJECT#	21-1277-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	2	0	5	0	0	0	0	58	1	0	63	0	129
7:15 AM	0	0	3	0	0	0	0	85	7	0	74	0	169
7:30 AM	0	0	4	0	0	0	0	89	8	0	126	0	227
7:45 AM	0	0	7	0	0	0	0	98	10	1	188	0	304
8:00 AM	0	0	5	0	0	0	0	96	12	0	156	0	269
8:15 AM	0	0	4	0	0	0	0	110	8	0	58	0	180
8:30 AM	0	0	7	0	0	0	0	40	3	0	35	0	85
8:45 AM	2	0	13	0	0	0	0	48	5	0	52	0	120
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	4	0	48	0	0	0	0	624	54	1	752	0	1483
Approach %	7.69	0.00	92.31	####	####	####	0.00	92.04	7.96	0.13	99.87	0.00	
App/Depart	52	/	0	0	/	55	678	/	672	753	/	756	

AM Peak Hr Begins at: 730 AM

PEAK													
Volumes	0	0	20	0	0	0	0	393	38	1	528	0	980
Approach %	0.00	0.00	100.00	####	####	####	0.00	91.18	8.82	0.19	99.81	0.00	
2022 NP	0	0	20	0	0	0	0	397	38	1	533	0	
2025 NP	0	0	21	0	0	0	0	409	40	1	549	0	
Pass-By				33		19	22					47	
Non-Pass By				7		4	10					28	
Pass-By Reduction								-22			-19		
2022 WP	0	0	20	40	0	23	32	375	38	1	514	75	
2025 WP	0	0	21	40	0	23	32	387	40	1	530	75	
PEAK HR. FACTOR:		0.714			0.000			0.913			0.700		0.806

CONTROL: 1-Way Stop (NB)
COMMENT 1:
GPS: 32.409751, -110.996718

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Caldwell Banker Driveway 0	DATE:	04/29/21	LOCATION:	Oro Valley
E-W STREET:	Naranja Dr	DAY:	THURSDAY	PROJECT#	21-1277-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	0	2	0	0	0	0	99	5	0	76	0	182
4:15 PM	0	0	7	0	0	0	0	68	3	0	75	0	153
4:30 PM	1	0	14	0	0	0	0	60	4	0	58	0	137
4:45 PM	0	0	7	0	0	0	0	64	2	0	73	0	146
5:00 PM	0	0	5	0	0	0	0	71	2	0	79	0	157
5:15 PM	1	0	6	0	0	0	0	58	7	0	84	0	156
5:30 PM	0	0	5	0	0	0	0	79	2	0	59	0	145
5:45 PM	2	0	6	0	0	0	0	90	2	0	64	0	164
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	4	0	52	0	0	0	0	589	27	0	568	0	1240
Approach %	7.14	0.00	92.86	####	####	####	0.00	95.62	4.38	0.00	100.00	0.00	
App/Depart	56	/	0	0	/	27	616	/	641	568	/	572	

PM Peak Hr Begins at: 500 PM

PEAK													
Volumes	3	0	22	0	0	0	0	298	13	0	286	0	622
Approach %	12.00	0.00	88.00	####	####	####	0.00	95.82	4.18	0.00	100.00	0.00	
2022 NP	3	0	22	0	0	0	0	301	13	0	289	0	
2025 NP	3	0	23	0	0	0	0	310	14	0	298	0	
Pass-By				15		9	10					23	
Non-Pass By				19		10	4					11	
Pass-By Reduction								-10			-9		
2022 WP	3	0	22	34	0	19	14	291	13	0	280	34	
2025 WP	3	0	23	34	0	19	14	300	14	0	289	34	
PEAK HR. FACTOR:		0.781			0.000			0.845			0.851		0.948

CONTROL: 1-Way Stop (NB)
COMMENT 1: 0
GPS: 32.409751, -110.996718

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	La Canada Dr	DATE:	04/29/21	LOCATION:	Oro Valley
E-W STREET:	Crystal Vision St	DAY:	THURSDAY	PROJECT#	21-1277-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	1	0	0	0	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	2	98	0	0	208	0	0	0	1	0	0	0	309
7:15 AM	0	144	0	0	205	0	0	0	1	0	0	0	350
7:30 AM	2	142	0	0	306	1	1	0	2	0	0	0	454
7:45 AM	2	161	0	0	330	1	1	0	1	0	0	0	496
8:00 AM	2	123	0	0	265	1	0	0	3	0	0	0	394
8:15 AM	3	152	0	0	149	0	0	0	3	0	0	0	307
8:30 AM	1	112	0	0	184	0	0	0	1	0	0	0	298
8:45 AM	2	129	0	0	158	1	0	0	1	0	0	0	291
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	14	1061	0	0	1805	4	2	0	13	0	0	0	2899
Approach %	1.30	98.70	0.00	0.00	99.78	0.22	13.33	0.00	86.67	####	####	####	
App/Depart	1075	/	1063	1809	/	1818	15	/	0	0	/	18	

AM Peak Hr Begins at: 715 AM

PEAK													
Volumes	6	570	0	0	1106	3	2	0	7	0	0	0	1694
Peak Adjust		178			209								
U-Turn	4												
Existing Adjusted	10	748	0	0	1315	3	2	0	7	0	0	0	
2022 NP	10	755	0	0	1328	3	2	0	7	0	0	0	
2025 NP	10	778	0	0	1368	3	2	0	7	0	0	0	
Pass-By													
Non-Pass By		5			13								
Pass-By Reduction													
2022 WP	10	760	0	0	1341	3	2	0	7	0	0	0	
2025 WP	10	783	0	0	1381	3	2	0	7	0	0	0	
Approach %	1.04	98.96	0.00	0.00	99.73	0.27	22.22	0.00	77.78	####	####	####	
PEAK HR. FACTOR:		0.883			0.838			0.750			0.000		0.854

CONTROL:	1-Way Stop (EB)
COMMENT 1:	
GPS:	32.412999, -110.995769

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745
veracitytrafficgroup

N-S STREET:	La Canada Dr	DATE:	04/29/21	LOCATION:	Oro Valley
	0				
E-W STREET:	Crystal Vision St	DAY:	THURSDAY	PROJECT#	21-1277-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	1	0	0	0	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	3	158	0	0	142	0	0	0	2	0	0	0	305
4:15 PM	5	182	0	0	149	2	1	0	0	0	0	0	339
4:30 PM	0	180	0	0	148	1	0	0	2	0	0	0	331
4:45 PM	1	176	0	0	150	0	0	0	2	0	0	0	329
5:00 PM	2	187	0	0	136	0	0	0	1	0	0	0	326
5:15 PM	0	176	0	0	126	0	0	0	0	0	0	0	302
5:30 PM	1	175	0	0	131	1	1	0	2	0	0	0	311
5:45 PM	0	117	0	0	116	0	0	0	1	0	0	0	234
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	12	1351	0	0	1098	4	2	0	10	0	0	0	2477
Approach %	0.88	99.12	0.00	0.00	99.64	0.36	16.67	0.00	83.33	####	####	####	
App/Depart	1363	/	1353	1102	/	1108	12	/	0	0	/	16	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	8	725	0	0	583	3	1	0	5	0	0	0	1325
Peak Adjust		568			226								
U-turn	3												
Existing Adjuste	11	1293	0	0	809	3	1	0	5	0	0	0	
2022 NP	11	1306	0	0	817	3	1	0	5	0	0	0	
2025 NP	11	1346	0	0	842	3	1	0	5	0	0	0	
Pass-By													
Non-Pass By		12			6								
Pass-By Reduction													
2022 WP	11	1318	0	0	823	3	1	0	5	0	0	0	
2025 WP	11	1358	0	0	848	3	1	0	5	0	0	0	
Approach %	1.09	98.91	0.00	0.00	99.49	0.51	16.67	0.00	83.33	####	####	####	
PEAK HR. FACTOR:		0.970			0.970			0.750			0.000		0.977

CONTROL:	1-Way Stop (EB)
COMMENT 1:	0
GPS:	32.412999, -110.995769

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	La Canada Dr	DATE:	04/29/21	LOCATION:	Oro Valley
E-W STREET:	Crystal Vision St	DAY:	THURSDAY	PROJECT#	21-1277-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	1	0	0	0	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	2	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	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	1	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	
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	5	0	0	0	0	0	0	0	0	0	0	0	5
Approach %	100.00	0.00	0.00	####	####	####	####	####	####	####	####	####	
App/Depart	5	/	0	0	/	0	0	/	0	0	/	5	

AM Peak Hr Begins at: 745 AM

PEAK													
Volumes	4	0	0	0	0	0	0	0	0	0	0	0	4
Approach %	100.00	0.00	0.00	####	####	####	####	####	####	####	####	####	

PEAK HR. FACTOR:	0.500	0.000	0.000	0.000	0.500

CONTROL: 1-Way Stop (EB)
COMMENT 1:
GPS: 32.412999, -110.995769

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	La Canada Dr	DATE:	04/29/21	LOCATION:	Oro Valley
	0				
E-W STREET:	Crystal Vision St	DAY:	THURSDAY	PROJECT#	21-1277-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	1	0	0	0	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	2	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	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	
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	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	
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

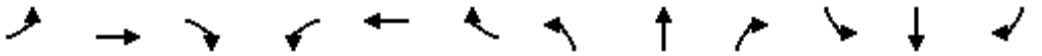
TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	4	0	0	0	0	0	0	0	0	0	0	0	4
Approach %	100.00	0.00	0.00	####	####	####	####	####	####	####	####	####	
App/Depart	4	/	0	0	/	0	0	/	0	0	/	4	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	3	0	0	0	0	0	0	0	0	0	0	0	3
Approach %	100.00	0.00	0.00	####	####	####	####	####	####	####	####	####	

PEAK HR. FACTOR:	0.375	0.000	0.000	0.000	0.375

CONTROL: 1-Way Stop (EB)
COMMENT 1: 0
GPS: 32.412999, -110.995769



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	130	204	204	148	54	135	580	159	34	1111	181
Future Volume (veh/h)	115	130	204	204	148	54	135	580	159	34	1111	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	149	234	262	190	69	155	667	183	38	1248	203
Peak Hour Factor	0.87	0.87	0.87	0.78	0.78	0.78	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	419	132	207	282	244	207	176	1481	660	123	1374	613
Arrive On Green	0.18	0.20	0.20	0.11	0.13	0.13	0.10	0.42	0.42	0.07	0.39	0.39
Sat Flow, veh/h	1781	656	1030	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	132	0	383	262	190	69	155	667	183	38	1248	203
Grp Sat Flow(s),veh/h/ln	1781	0	1685	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.9	0.0	18.1	9.0	8.8	3.6	7.7	12.1	6.9	1.8	29.9	8.1
Cycle Q Clear(g_c), s	0.9	0.0	18.1	9.0	8.8	3.6	7.7	12.1	6.9	1.8	29.9	8.1
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	419	0	339	282	244	207	176	1481	660	123	1374	613
V/C Ratio(X)	0.32	0.00	1.13	0.93	0.78	0.33	0.88	0.45	0.28	0.31	0.91	0.33
Avail Cap(c_a), veh/h	419	0	339	282	445	377	176	1481	660	123	1374	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	0.00	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	30.0	0.0	36.0	38.0	37.9	35.6	40.0	18.9	17.3	39.9	26.1	19.4
Incr Delay (d2), s/veh	0.4	0.0	89.0	35.4	5.3	0.9	36.3	1.0	1.0	1.4	10.4	1.4
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	2.4	0.0	15.6	8.0	4.3	1.4	5.1	5.0	2.6	0.8	13.9	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	0.0	124.9	73.4	43.2	36.5	76.4	19.8	18.4	41.3	36.5	20.9
LnGrp LOS	C	A	F	E	D	D	E	B	B	D	D	C
Approach Vol, veh/h		515			521			1005			1489	
Approach Delay, s/veh		100.7			57.5			28.3			34.5	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	42.0	14.7	22.6	13.4	39.3	21.1	16.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.2	37.5	10.2	18.1	8.9	34.8	6.9	21.4
Max Q Clear Time (g_c+I1), s	3.8	14.1	11.0	20.1	9.7	31.9	2.9	10.8
Green Ext Time (p_c), s	0.0	5.5	0.0	0.0	0.0	2.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	420	523	5	11	5
Future Vol, veh/h	3	420	523	5	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	70	70	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	462	747	7	19	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	754	0	-	0	1219	751
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	468	-
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	856	-	-	-	199	411
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	856	-	-	-	198	411
Mov Cap-2 Maneuver	-	-	-	-	331	-
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	630	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	856	-	-	-	352
HCM Lane V/C Ratio	0.004	-	-	-	0.08
HCM Control Delay (s)	9.2	-	-	-	16.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	2	7	4	6	748	1315	3
Future Vol, veh/h	2	7	4	6	748	1315	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	2	8	4	7	813	1429	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1860	716	1433	1432	0	-	0
Stage 1	1431	-	-	-	-	-	-
Stage 2	429	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	65	373	174	470	-	-	-
Stage 1	186	-	-	-	-	-	-
Stage 2	624	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	62	373	277	277	-	-	-
Mov Cap-2 Maneuver	62	-	-	-	-	-	-
Stage 1	179	-	-	-	-	-	-
Stage 2	624	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.7	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	277	-	176	-	-
HCM Lane V/C Ratio	0.039	-	0.056	-	-
HCM Control Delay (s)	18.5	-	26.7	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

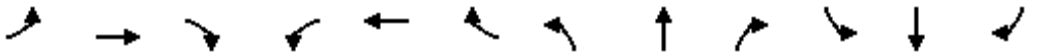
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	393	38	0	528	0	20
Future Vol, veh/h	393	38	0	528	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	70	70	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	432	42	0	754	0	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	453
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	607
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	607
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	607	-	-	-
HCM Lane V/C Ratio	0.046	-	-	-
HCM Control Delay (s)	11.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	107	117	153	114	62	142	1163	231	55	687	75
Future Volume (veh/h)	78	107	117	153	114	62	142	1163	231	55	687	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	134	146	170	127	69	184	1510	300	65	808	88
Peak Hour Factor	0.80	0.80	0.80	0.90	0.90	0.90	0.77	0.77	0.77	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	386	158	172	211	188	159	250	1610	718	88	1288	575
Arrive On Green	0.16	0.19	0.19	0.06	0.10	0.10	0.14	0.45	0.45	0.05	0.36	0.36
Sat Flow, veh/h	1781	818	892	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	98	0	280	170	127	69	184	1510	300	65	808	88
Grp Sat Flow(s),veh/h/ln	1781	0	1710	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	11.9	2.9	4.9	3.1	7.4	30.3	9.6	2.7	14.1	2.8
Cycle Q Clear(g_c), s	0.0	0.0	11.9	2.9	4.9	3.1	7.4	30.3	9.6	2.7	14.1	2.8
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	386	0	330	211	188	159	250	1610	718	88	1288	575
V/C Ratio(X)	0.25	0.00	0.85	0.80	0.68	0.43	0.74	0.94	0.42	0.74	0.63	0.15
Avail Cap(c_a), veh/h	386	0	410	215	449	380	280	1610	718	119	1288	575
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	0.00	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	26.6	0.0	29.2	33.4	32.6	31.7	30.9	19.5	13.8	35.2	19.7	16.1
Incr Delay (d2), s/veh	0.3	0.0	13.0	19.4	4.2	1.9	8.7	11.8	1.8	14.9	2.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	5.9	4.0	2.4	1.2	3.7	13.8	3.5	1.5	5.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	42.2	52.8	36.8	33.6	39.7	31.3	15.6	50.0	22.1	16.7
LnGrp LOS	C	A	D	D	D	C	D	C	B	D	C	B
Approach Vol, veh/h		378			366			1994			961	
Approach Delay, s/veh		38.3			43.6			29.7			23.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	38.5	9.4	19.0	15.0	31.7	16.3	12.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	11.8	27.2	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.7	32.3	4.9	13.9	9.4	16.1	2.0	6.9
Green Ext Time (p_c), s	0.0	1.5	0.0	0.6	0.1	4.5	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	308	285	4	3	4
Future Vol, veh/h	3	308	285	4	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	362	335	5	5	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	340	0	-	0	708	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	370	-
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	1219	-	-	-	401	704
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1219	-	-	-	400	704
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	699	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1219	-	-	-	603
HCM Lane V/C Ratio	0.003	-	-	-	0.02
HCM Control Delay (s)	8	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	5	3	8	1293	809	3
Future Vol, veh/h	1	5	3	8	1293	809	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	75	75	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	7	3	8	1333	834	3

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	1525	419	837	837	0	-	0
Stage 1	836	-	-	-	-	-	-
Stage 2	689	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	109	583	422	793	-	-	-
Stage 1	386	-	-	-	-	-	-
Stage 2	460	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	107	583	637	637	-	-	-
Mov Cap-2 Maneuver	107	-	-	-	-	-	-
Stage 1	379	-	-	-	-	-	-
Stage 2	460	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	637	-	335	-	-
HCM Lane V/C Ratio	0.018	-	0.024	-	-
HCM Control Delay (s)	10.8	-	16	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	289	13	0	286	3	22
Future Vol, veh/h	289	13	0	286	3	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	340	15	0	336	4	28

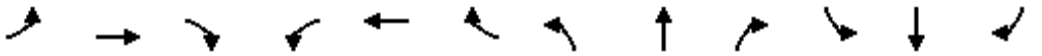
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	684	348
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	0	-	414	695
Stage 1	-	-	0	-	715	-
Stage 2	-	-	0	-	724	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	414	695
Mov Cap-2 Maneuver	-	-	-	-	517	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	724	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	695	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Control Delay (s)	10.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

05/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	131	206	206	149	55	136	586	161	34	1122	183
Future Volume (veh/h)	116	131	206	206	149	55	136	586	161	34	1122	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	151	237	264	191	71	156	674	185	38	1261	206
Peak Hour Factor	0.87	0.87	0.87	0.78	0.78	0.78	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	132	207	282	245	208	176	1481	660	123	1374	613
Arrive On Green	0.18	0.20	0.20	0.11	0.13	0.13	0.10	0.42	0.42	0.07	0.39	0.39
Sat Flow, veh/h	1781	656	1029	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	133	0	388	264	191	71	156	674	185	38	1261	206
Grp Sat Flow(s),veh/h/ln	1781	0	1685	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	0.0	18.1	9.1	8.9	3.7	7.8	12.3	6.9	1.8	30.4	8.2
Cycle Q Clear(g_c), s	1.0	0.0	18.1	9.1	8.9	3.7	7.8	12.3	6.9	1.8	30.4	8.2
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	418	0	339	282	245	208	176	1481	660	123	1374	613
V/C Ratio(X)	0.32	0.00	1.14	0.94	0.78	0.34	0.89	0.46	0.28	0.31	0.92	0.34
Avail Cap(c_a), veh/h	418	0	339	282	445	377	176	1481	660	123	1374	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	0.00	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	30.0	0.0	36.0	38.0	37.8	35.6	40.0	18.9	17.3	39.9	26.2	19.5
Incr Delay (d2), s/veh	0.4	0.0	94.2	37.0	5.3	1.0	37.5	1.0	1.1	1.4	11.2	1.5
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	2.4	0.0	16.1	8.2	4.4	1.5	5.2	5.1	2.6	0.8	14.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	130.2	75.0	43.2	36.5	77.6	19.9	18.4	41.3	37.5	20.9
LnGrp LOS	C	A	F	E	D	D	E	B	B	D	D	C
Approach Vol, veh/h		521			526			1015			1505	
Approach Delay, s/veh		104.7			58.3			28.5			35.3	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	42.0	14.7	22.6	13.4	39.3	21.0	16.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.2	37.5	10.2	18.1	8.9	34.8	6.9	21.4
Max Q Clear Time (g_c+I1), s	3.8	14.3	11.1	20.1	9.8	32.4	3.0	10.9
Green Ext Time (p_c), s	0.0	5.5	0.0	0.0	0.0	1.9	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	424	528	5	11	5
Future Vol, veh/h	3	424	528	5	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	70	70	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	466	754	7	19	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	761	0	-	0	1230	758
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	472	-
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	851	-	-	-	196	407
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	628	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	851	-	-	-	195	407
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	628	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	851	-	-	-	349
HCM Lane V/C Ratio	0.004	-	-	-	0.08
HCM Control Delay (s)	9.2	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	2	7	4	6	755	1328	3
Future Vol, veh/h	2	7	4	6	755	1328	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	2	8	4	7	821	1443	3

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	1878	723	1447	1446	0	-	0
Stage 1	1445	-	-	-	-	-	-
Stage 2	433	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	63	369	171	465	-	-	-
Stage 1	183	-	-	-	-	-	-
Stage 2	621	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	60	369	272	272	-	-	-
Mov Cap-2 Maneuver	60	-	-	-	-	-	-
Stage 1	176	-	-	-	-	-	-
Stage 2	621	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.2	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	272	-	172	-	-
HCM Lane V/C Ratio	0.04	-	0.057	-	-
HCM Control Delay (s)	18.8	-	27.2	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	397	38	0	533	0	20
Future Vol, veh/h	397	38	0	533	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	70	70	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	436	42	0	761	0	28

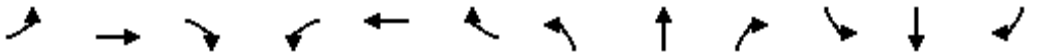
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	457
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	604
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	604
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	604	-	-	-
HCM Lane V/C Ratio	0.047	-	-	-
HCM Control Delay (s)	11.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

05/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	108	118	155	115	63	143	1175	233	56	694	76
Future Volume (veh/h)	79	108	118	155	115	63	143	1175	233	56	694	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	135	148	172	128	70	186	1526	303	66	816	89
Peak Hour Factor	0.80	0.80	0.80	0.90	0.90	0.90	0.77	0.77	0.77	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	158	174	212	189	160	249	1605	716	89	1284	573
Arrive On Green	0.16	0.19	0.19	0.07	0.10	0.10	0.14	0.45	0.45	0.05	0.36	0.36
Sat Flow, veh/h	1781	815	894	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	99	0	283	172	128	70	186	1526	303	66	816	89
Grp Sat Flow(s),veh/h/ln	1781	0	1709	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	12.0	3.0	5.0	3.1	7.5	31.1	9.8	2.8	14.3	2.9
Cycle Q Clear(g_c), s	0.0	0.0	12.0	3.0	5.0	3.1	7.5	31.1	9.8	2.8	14.3	2.9
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	0	332	212	189	160	249	1605	716	89	1284	573
V/C Ratio(X)	0.26	0.00	0.85	0.81	0.68	0.44	0.75	0.95	0.42	0.75	0.64	0.16
Avail Cap(c_a), veh/h	388	0	409	214	447	379	279	1605	716	118	1284	573
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	0.00	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	26.6	0.0	29.3	33.5	32.7	31.8	31.1	19.8	14.0	35.3	19.9	16.3
Incr Delay (d2), s/veh	0.3	0.0	13.4	20.5	4.2	1.9	9.3	13.5	1.8	16.0	2.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	6.0	4.2	2.4	1.2	3.8	14.5	3.6	1.6	6.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	42.7	53.9	36.9	33.7	40.4	33.3	15.8	51.3	22.3	16.8
LnGrp LOS	C	A	D	D	D	C	D	C	B	D	C	B
Approach Vol, veh/h		382			370			2015			971	
Approach Delay, s/veh		38.6			44.2			31.3			23.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	38.5	9.4	19.1	15.0	31.7	16.4	12.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	11.8	27.2	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.8	33.1	5.0	14.0	9.5	16.3	2.0	7.0
Green Ext Time (p_c), s	0.0	0.8	0.0	0.6	0.1	4.4	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	311	288	4	3	4
Future Vol, veh/h	3	311	288	4	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	366	339	5	5	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	344	0	-	0	716	342
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	374	-
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	1215	-	-	-	397	701
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	696	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1215	-	-	-	396	701
Mov Cap-2 Maneuver	-	-	-	-	503	-
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1215	-	-	-	600
HCM Lane V/C Ratio	0.003	-	-	-	0.02
HCM Control Delay (s)	8	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	5	3	8	1306	817	3
Future Vol, veh/h	1	5	3	8	1306	817	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	75	75	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	7	3	8	1346	842	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1539	423	845	845	0	-	0
Stage 1	844	-	-	-	-	-	-
Stage 2	695	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	106	579	417	787	-	-	-
Stage 1	382	-	-	-	-	-	-
Stage 2	456	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	104	579	631	631	-	-	-
Mov Cap-2 Maneuver	104	-	-	-	-	-	-
Stage 1	376	-	-	-	-	-	-
Stage 2	456	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	631	-	329	-	-
HCM Lane V/C Ratio	0.018	-	0.024	-	-
HCM Control Delay (s)	10.8	-	16.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	301	13	0	289	3	22
Future Vol, veh/h	301	13	0	289	3	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	354	15	0	340	4	28

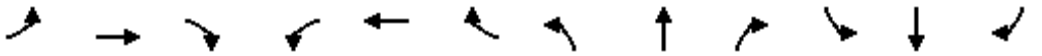
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	702	362
Stage 1	-	-	-	-	362	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	0	-	404	683
Stage 1	-	-	0	-	704	-
Stage 2	-	-	0	-	721	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	404	683
Mov Cap-2 Maneuver	-	-	-	-	509	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	683	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Control Delay (s)	10.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

05/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	135	212	212	154	56	140	604	165	35	1156	188
Future Volume (veh/h)	120	135	212	212	154	56	140	604	165	35	1156	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	155	244	272	197	72	161	694	190	39	1299	211
Peak Hour Factor	0.87	0.87	0.87	0.78	0.78	0.78	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	132	207	282	251	213	176	1481	660	123	1374	613
Arrive On Green	0.18	0.20	0.20	0.11	0.13	0.13	0.10	0.42	0.42	0.07	0.39	0.39
Sat Flow, veh/h	1781	655	1030	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	138	0	399	272	197	72	161	694	190	39	1299	211
Grp Sat Flow(s),veh/h/ln	1781	0	1685	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.2	0.0	18.1	9.6	9.2	3.7	8.1	12.7	7.2	1.9	31.8	8.5
Cycle Q Clear(g_c), s	1.2	0.0	18.1	9.6	9.2	3.7	8.1	12.7	7.2	1.9	31.8	8.5
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	0	339	282	251	213	176	1481	660	123	1374	613
V/C Ratio(X)	0.33	0.00	1.18	0.96	0.78	0.34	0.91	0.47	0.29	0.32	0.95	0.34
Avail Cap(c_a), veh/h	412	0	339	282	445	377	176	1481	660	123	1374	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	0.00	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	30.3	0.0	36.0	38.2	37.7	35.3	40.2	19.0	17.4	39.9	26.7	19.5
Incr Delay (d2), s/veh	0.5	0.0	106.3	43.9	5.3	0.9	44.0	1.1	1.1	1.5	14.3	1.5
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	2.5	0.0	17.2	8.9	4.5	1.5	5.6	5.3	2.7	0.9	15.5	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	142.3	82.1	43.0	36.3	84.1	20.1	18.5	41.4	41.0	21.1
LnGrp LOS	C	A	F	F	D	D	F	C	B	D	D	C
Approach Vol, veh/h		537			541			1045			1549	
Approach Delay, s/veh		113.6			61.8			29.7			38.3	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	42.0	14.7	22.6	13.4	39.3	20.7	16.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.2	37.5	10.2	18.1	8.9	34.8	6.9	21.4
Max Q Clear Time (g_c+I1), s	3.9	14.7	11.6	20.1	10.1	33.8	3.2	11.2
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	0.8	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	437	544	5	11	5
Future Vol, veh/h	3	437	544	5	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	70	70	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	480	777	7	19	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	784	0	-	0	1267	781
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	486	-
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	834	-	-	-	186	395
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	834	-	-	-	185	395
Mov Cap-2 Maneuver	-	-	-	-	319	-
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	618	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	834	-	-	-	339
HCM Lane V/C Ratio	0.004	-	-	-	0.083
HCM Control Delay (s)	9.3	-	-	-	16.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	2	7	4	6	778	1368	3
Future Vol, veh/h	2	7	4	6	778	1368	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	2	8	4	7	846	1487	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1934	745	1490	1490	0	-	0
Stage 1	1489	-	-	-	-	-	-
Stage 2	445	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	58	357	160	447	-	-	-
Stage 1	173	-	-	-	-	-	-
Stage 2	613	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	56	357	257	257	-	-	-
Mov Cap-2 Maneuver	56	-	-	-	-	-	-
Stage 1	166	-	-	-	-	-	-
Stage 2	613	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.5	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	257	-	163	-	-
HCM Lane V/C Ratio	0.042	-	0.06	-	-
HCM Control Delay (s)	19.6	-	28.5	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	409	40	0	549	0	21
Future Vol, veh/h	409	40	0	549	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	70	70	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	44	0	784	0	30

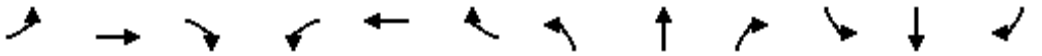
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	471
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	593
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	593
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	593	-	-	-
HCM Lane V/C Ratio	0.05	-	-	-
HCM Control Delay (s)	11.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

05/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	111	122	159	119	65	148	1210	240	57	715	78
Future Volume (veh/h)	81	111	122	159	119	65	148	1210	240	57	715	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	139	152	177	132	72	192	1571	312	67	841	92
Peak Hour Factor	0.80	0.80	0.80	0.90	0.90	0.90	0.77	0.77	0.77	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	162	177	212	193	163	249	1594	711	89	1275	569
Arrive On Green	0.16	0.20	0.20	0.07	0.10	0.10	0.14	0.45	0.45	0.05	0.36	0.36
Sat Flow, veh/h	1781	817	893	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	101	0	291	177	132	72	192	1571	312	67	841	92
Grp Sat Flow(s),veh/h/ln	1781	0	1710	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	12.5	3.3	5.2	3.2	7.9	33.1	10.2	2.8	15.1	3.0
Cycle Q Clear(g_c), s	0.0	0.0	12.5	3.3	5.2	3.2	7.9	33.1	10.2	2.8	15.1	3.0
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	0	339	212	193	163	249	1594	711	89	1275	569
V/C Ratio(X)	0.26	0.00	0.86	0.83	0.69	0.44	0.77	0.99	0.44	0.75	0.66	0.16
Avail Cap(c_a), veh/h	392	0	406	212	444	376	277	1594	711	117	1275	569
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	0.00	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	26.6	0.0	29.4	33.7	32.8	32.0	31.5	20.7	14.4	35.6	20.4	16.5
Incr Delay (d2), s/veh	0.3	0.0	14.6	23.7	4.3	1.9	11.4	19.4	2.0	17.5	2.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	6.3	4.5	2.5	1.3	4.1	16.6	3.8	1.6	6.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	44.0	57.5	37.1	33.8	42.9	40.1	16.3	53.1	23.1	17.2
LnGrp LOS	C	A	D	E	D	C	D	D	B	D	C	B
Approach Vol, veh/h		392			381			2075			1000	
Approach Delay, s/veh		39.6			45.9			36.7			24.6	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	38.5	9.5	19.5	15.1	31.7	16.7	12.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	11.8	27.2	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.8	35.1	5.3	14.5	9.9	17.1	2.0	7.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.1	4.4	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	321	297	4	3	4
Future Vol, veh/h	3	321	297	4	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	378	349	5	5	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	354	0	-	0	738	352
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	386	-
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	1205	-	-	-	385	692
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	687	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1205	-	-	-	384	692
Mov Cap-2 Maneuver	-	-	-	-	494	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	687	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1205	-	-	-	591
HCM Lane V/C Ratio	0.003	-	-	-	0.02
HCM Control Delay (s)	8	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	5	3	8	1346	842	3
Future Vol, veh/h	1	5	3	8	1346	842	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	75	75	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	7	3	8	1388	868	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1586	436	871	871	0	-	0
Stage 1	870	-	-	-	-	-	-
Stage 2	716	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	99	568	402	770	-	-	-
Stage 1	370	-	-	-	-	-	-
Stage 2	445	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	97	568	614	614	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-	-
Stage 1	363	-	-	-	-	-	-
Stage 2	445	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	614	-	314	-	-
HCM Lane V/C Ratio	0.018	-	0.025	-	-
HCM Control Delay (s)	11	-	16.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	310	14	0	298	3	23
Future Vol, veh/h	310	14	0	298	3	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	365	16	0	351	4	29

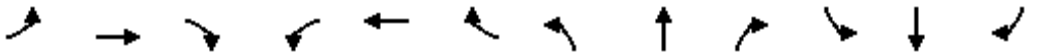
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	724	373
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	351	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	0	-	393	673
Stage 1	-	-	0	-	696	-
Stage 2	-	-	0	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	393	673
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	673	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-
HCM Control Delay (s)	10.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

06/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	139	210	197	171	50	176	573	154	47	1141	177
Future Volume (veh/h)	129	139	210	197	171	50	176	573	154	47	1141	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	160	241	253	219	64	202	659	177	53	1282	199
Peak Hour Factor	0.87	0.87	0.87	0.78	0.78	0.78	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	135	204	282	273	231	176	1481	660	123	1374	613
Arrive On Green	0.17	0.20	0.20	0.11	0.15	0.15	0.10	0.42	0.42	0.07	0.39	0.39
Sat Flow, veh/h	1781	673	1014	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	148	0	401	253	219	64	202	659	177	53	1282	199
Grp Sat Flow(s),veh/h/ln	1781	0	1688	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.7	0.0	18.1	8.5	10.2	3.2	8.9	12.0	6.6	2.6	31.2	7.9
Cycle Q Clear(g_c), s	1.7	0.0	18.1	8.5	10.2	3.2	8.9	12.0	6.6	2.6	31.2	7.9
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	0	339	282	273	231	176	1481	660	123	1374	613
V/C Ratio(X)	0.38	0.00	1.18	0.90	0.80	0.28	1.15	0.45	0.27	0.43	0.93	0.32
Avail Cap(c_a), veh/h	392	0	339	282	445	377	176	1481	660	123	1374	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	0.00	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	31.3	0.0	36.0	37.8	37.2	34.2	40.6	18.8	17.2	40.2	26.5	19.4
Incr Delay (d2), s/veh	0.6	0.0	107.8	28.9	5.5	0.6	112.8	1.0	1.0	2.4	12.8	1.4
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	2.7	0.0	17.4	7.3	5.0	1.3	9.4	4.9	0.2	1.2	14.9	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	143.7	66.7	42.6	34.8	153.3	19.8	18.2	42.6	39.3	20.8
LnGrp LOS	C	A	F	E	D	C	F	B	B	D	D	C
Approach Vol, veh/h		549			536			1038			1534	
Approach Delay, s/veh		113.6			53.1			45.5			37.0	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	42.0	14.7	22.6	13.4	39.3	19.7	17.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.2	37.5	10.2	18.1	8.9	34.8	6.9	21.4
Max Q Clear Time (g_c+I1), s	4.6	14.0	10.5	20.1	10.9	33.2	3.7	12.2
Green Ext Time (p_c), s	0.0	5.4	0.0	0.0	0.0	1.3	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	434	532	5	11	5
Future Vol, veh/h	3	434	532	5	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	70	70	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	477	760	7	19	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	767	0	-	0	1247	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	483	-
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	847	-	-	-	192	404
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	847	-	-	-	191	404
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	847	-	-	-	346
HCM Lane V/C Ratio	0.004	-	-	-	0.081
HCM Control Delay (s)	9.3	-	-	-	16.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	2	7	4	6	760	1341	3
Future Vol, veh/h	2	7	4	6	760	1341	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	2	8	4	7	826	1458	3

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	1895	731	1461	1461	0	-	0
Stage 1	1460	-	-	-	-	-	-
Stage 2	435	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	61	364	167	458	-	-	-
Stage 1	180	-	-	-	-	-	-
Stage 2	620	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	58	364	267	267	-	-	-
Mov Cap-2 Maneuver	58	-	-	-	-	-	-
Stage 1	173	-	-	-	-	-	-
Stage 2	620	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.7	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	267	-	168	-	-
HCM Lane V/C Ratio	0.041	-	0.058	-	-
HCM Control Delay (s)	19.1	-	27.7	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

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	32	375	38	0	514	75	0	0	20	40	0	23
Future Vol, veh/h	32	375	38	0	514	75	0	0	20	40	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	70	70	92	71	92	71	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	412	42	0	734	82	0	0	28	43	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	816	0	0	-	-	0	-	-	433	1292	-	775
Stage 1	-	-	-	-	-	-	-	-	-	775	-	-
Stage 2	-	-	-	-	-	-	-	-	-	517	-	-
Critical Hdwy	4.12	-	-	-	-	-	-	-	6.22	7.12	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	-	-	-	-	-	3.318	3.518	-	3.318
Pot Cap-1 Maneuver	812	-	-	0	-	-	0	0	623	140	0	398
Stage 1	-	-	-	0	-	-	0	0	-	391	0	-
Stage 2	-	-	-	0	-	-	0	0	-	541	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	812	-	-	-	-	-	-	-	623	129	-	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	252	-	-
Stage 1	-	-	-	-	-	-	-	-	-	374	-	-
Stage 2	-	-	-	-	-	-	-	-	-	494	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	11.1	19.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	623	812	-	-	-	-	252	398
HCM Lane V/C Ratio	0.045	0.043	-	-	-	-	0.173	0.063
HCM Control Delay (s)	11.1	9.6	-	-	-	-	22.2	14.7
HCM Lane LOS	B	A	-	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-	-	0.6	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	53	0	770	1313	39
Future Vol, veh/h	0	53	0	770	1313	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	58	0	837	1427	42

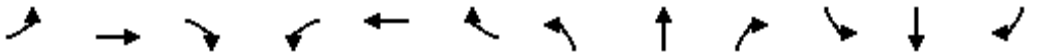
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	735	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	362	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	362	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	362	-	-
HCM Lane V/C Ratio	-	0.159	-	-
HCM Control Delay (s)	-	16.8	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.6	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

06/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	118	131	154	129	63	166	1203	237	70	733	75
Future Volume (veh/h)	92	118	131	154	129	63	166	1203	237	70	733	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	148	164	171	143	70	216	1562	308	82	862	88
Peak Hour Factor	0.80	0.80	0.80	0.90	0.90	0.90	0.77	0.77	0.77	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	169	187	207	202	171	261	1554	693	105	1243	554
Arrive On Green	0.16	0.21	0.21	0.06	0.11	0.11	0.15	0.44	0.44	0.06	0.35	0.35
Sat Flow, veh/h	1781	811	898	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	115	0	312	171	143	70	216	1562	308	82	862	88
Grp Sat Flow(s),veh/h/ln	1781	0	1709	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	13.8	3.3	5.7	3.2	9.2	34.0	10.6	3.5	16.2	3.0
Cycle Q Clear(g_c), s	0.0	0.0	13.8	3.3	5.7	3.2	9.2	34.0	10.6	3.5	16.2	3.0
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	0	355	207	202	171	261	1554	693	105	1243	554
V/C Ratio(X)	0.29	0.00	0.88	0.83	0.71	0.41	0.83	1.01	0.44	0.78	0.69	0.16
Avail Cap(c_a), veh/h	395	0	396	207	433	367	270	1554	693	115	1243	554
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	0.00	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	27.1	0.0	29.8	34.7	33.5	32.4	32.2	21.9	15.3	36.1	21.7	17.4
Incr Delay (d2), s/veh	0.4	0.0	18.3	23.1	4.5	1.6	18.4	24.1	2.1	26.5	3.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	7.2	4.4	2.8	1.3	5.2	18.0	3.9	2.3	6.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	0.0	48.1	57.8	38.0	33.9	50.6	46.0	17.3	62.6	24.9	18.0
LnGrp LOS	C	A	D	E	D	C	D	F	B	E	C	B
Approach Vol, veh/h		427			384			2086			1032	
Approach Delay, s/veh		42.6			46.1			42.2			27.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	38.5	9.5	20.7	15.9	31.7	17.3	12.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	11.8	27.2	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.5	36.0	5.3	15.8	11.2	18.2	2.0	7.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	4.1	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	325	307	4	3	4
Future Vol, veh/h	3	325	307	4	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	382	361	5	5	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	366	0	-	0	754	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	390	-
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	1193	-	-	-	377	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1193	-	-	-	376	681
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1193	-	-	-	582
HCM Lane V/C Ratio	0.003	-	-	-	0.021
HCM Control Delay (s)	8	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	5	3	8	1358	848	3
Future Vol, veh/h	1	5	3	8	1358	848	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	75	75	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	7	3	8	1400	874	3

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	1598	439	877	877	0	-	0
Stage 1	876	-	-	-	-	-	-
Stage 2	722	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	97	566	398	766	-	-	-
Stage 1	368	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	95	566	609	609	-	-	-
Mov Cap-2 Maneuver	95	-	-	-	-	-	-
Stage 1	361	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	609	-	310	-	-
HCM Lane V/C Ratio	0.019	-	0.026	-	-
HCM Control Delay (s)	11	-	16.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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	14	300	14	0	289	34	3	0	23	34	0	19
Future Vol, veh/h	14	300	14	0	289	34	3	0	23	34	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	85	85	85	92	78	92	78	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	353	16	0	340	37	4	0	29	37	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	-	-	0	760	-	361	765	-	359
Stage 1	-	-	-	-	-	-	391	-	-	359	-	-
Stage 2	-	-	-	-	-	-	369	-	-	406	-	-
Critical Hdwy	4.12	-	-	-	-	-	7.12	-	6.22	7.12	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	-	3.318	3.518	-	3.318
Pot Cap-1 Maneuver	1181	-	-	0	-	-	323	0	684	320	0	685
Stage 1	-	-	-	0	-	-	633	0	-	659	0	-
Stage 2	-	-	-	0	-	-	651	0	-	622	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	-	-	-	310	-	684	303	-	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	-	-	419	-	-
Stage 1	-	-	-	-	-	-	625	-	-	650	-	-
Stage 2	-	-	-	-	-	-	631	-	-	588	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.5	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	684	1181	-	-	-	-	419	685
HCM Lane V/C Ratio	0.043	0.013	-	-	-	-	0.088	0.03
HCM Control Delay (s)	10.5	8.1	-	-	-	-	14.4	10.4
HCM Lane LOS	B	A	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	0.3	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	41	0	1369	837	19
Future Vol, veh/h	0	41	0	1369	837	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	45	0	1488	910	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	466	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	543	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	543	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	543	-	-
HCM Lane V/C Ratio	-	0.082	-	-
HCM Control Delay (s)	-	12.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

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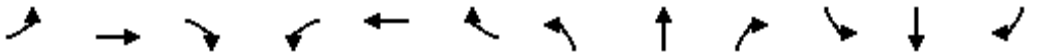

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	143	216	203	176	51	180	591	158	48	1175	182
Future Volume (veh/h)	133	143	216	203	176	51	180	591	158	48	1175	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	164	248	260	226	65	207	679	182	54	1320	204
Peak Hour Factor	0.87	0.87	0.87	0.78	0.78	0.78	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	135	204	282	280	237	176	1481	660	123	1374	613
Arrive On Green	0.16	0.20	0.20	0.11	0.15	0.15	0.10	0.42	0.42	0.07	0.39	0.39
Sat Flow, veh/h	1781	672	1016	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	153	0	412	260	226	65	207	679	182	54	1320	204
Grp Sat Flow(s),veh/h/ln	1781	0	1688	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	0.0	18.1	8.9	10.5	3.3	8.9	12.4	6.8	2.6	32.6	8.2
Cycle Q Clear(g_c), s	2.0	0.0	18.1	8.9	10.5	3.3	8.9	12.4	6.8	2.6	32.6	8.2
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	385	0	339	282	280	237	176	1481	660	123	1374	613
V/C Ratio(X)	0.40	0.00	1.21	0.92	0.81	0.27	1.18	0.46	0.28	0.44	0.96	0.33
Avail Cap(c_a), veh/h	385	0	339	282	445	377	176	1481	660	123	1374	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	0.00	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	31.6	0.0	36.0	38.0	37.0	33.9	40.6	18.9	17.3	40.2	26.9	19.4
Incr Delay (d2), s/veh	0.7	0.0	120.4	33.8	5.8	0.6	122.8	1.0	1.0	2.5	16.5	1.5
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	2.9	0.0	18.6	7.8	5.2	1.3	9.9	5.1	2.6	1.2	16.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	156.3	71.8	42.8	34.5	163.4	20.0	18.3	42.7	43.5	20.9
LnGrp LOS	C	A	F	E	D	C	F	B	B	D	D	C
Approach Vol, veh/h		565			551			1068			1578	
Approach Delay, s/veh		122.7			55.5			47.5			40.5	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	42.0	14.7	22.6	13.4	39.3	19.3	18.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.2	37.5	10.2	18.1	8.9	34.8	6.9	21.4
Max Q Clear Time (g_c+I1), s	4.6	14.4	10.9	20.1	10.9	34.6	4.0	12.5
Green Ext Time (p_c), s	0.0	5.6	0.0	0.0	0.0	0.2	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	447	548	5	11	5
Future Vol, veh/h	3	447	548	5	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	70	70	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	491	783	7	19	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	790	0	-	0	1284	787
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	497	-
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	830	-	-	-	182	392
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	830	-	-	-	181	392
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	611	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	830	-	-	-	336
HCM Lane V/C Ratio	0.004	-	-	-	0.084
HCM Control Delay (s)	9.4	-	-	-	16.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	2	7	4	6	783	1381	3
Future Vol, veh/h	2	7	4	6	783	1381	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	2	8	4	7	851	1501	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1951	752	1504	1504	0	-	0
Stage 1	1503	-	-	-	-	-	-
Stage 2	448	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	56	353	157	441	-	-	-
Stage 1	170	-	-	-	-	-	-
Stage 2	611	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	54	353	253	253	-	-	-
Mov Cap-2 Maneuver	54	-	-	-	-	-	-
Stage 1	163	-	-	-	-	-	-
Stage 2	611	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.3	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	253	-	158	-	-
HCM Lane V/C Ratio	0.043	-	0.062	-	-
HCM Control Delay (s)	19.9	-	29.3	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

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	32	387	40	0	530	75	0	0	21	40	0	23
Future Vol, veh/h	32	387	40	0	530	75	0	0	21	40	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	70	70	92	71	92	71	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	425	44	0	757	82	0	0	30	43	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	839	0	0	-	-	0	-	-	447	1330	-	798
Stage 1	-	-	-	-	-	-	-	-	-	798	-	-
Stage 2	-	-	-	-	-	-	-	-	-	532	-	-
Critical Hdwy	4.12	-	-	-	-	-	-	-	6.22	7.12	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	-	-	-	-	-	3.318	3.518	-	3.318
Pot Cap-1 Maneuver	796	-	-	0	-	-	0	0	612	132	0	386
Stage 1	-	-	-	0	-	-	0	0	-	380	0	-
Stage 2	-	-	-	0	-	-	0	0	-	531	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	796	-	-	-	-	-	-	-	612	121	-	386
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	243	-	-
Stage 1	-	-	-	-	-	-	-	-	-	363	-	-
Stage 2	-	-	-	-	-	-	-	-	-	483	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	11.2	20.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	612	796	-	-	-	-	243	386
HCM Lane V/C Ratio	0.048	0.044	-	-	-	-	0.179	0.065
HCM Control Delay (s)	11.2	9.7	-	-	-	-	23	15
HCM Lane LOS	B	A	-	-	-	-	C	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-	-	0.6	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	53	0	793	1355	39
Future Vol, veh/h	0	53	0	793	1355	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	58	0	862	1473	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	758	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	350	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	350	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	350	-	-
HCM Lane V/C Ratio	-	0.165	-	-
HCM Control Delay (s)	-	17.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.6	-	-

HCM 6th Signalized Intersection Summary
3: La Canada Dr/La Canada & Naranja Dr

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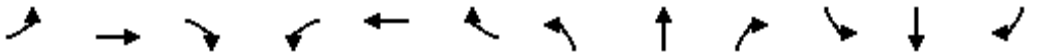

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	118	131	154	129	63	166	1203	237	70	733	75
Future Volume (veh/h)	92	118	131	154	129	63	166	1203	237	70	733	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	148	164	171	143	70	216	1562	308	82	862	88
Peak Hour Factor	0.80	0.80	0.80	0.90	0.90	0.90	0.77	0.77	0.77	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	169	187	207	202	171	261	1554	693	105	1243	554
Arrive On Green	0.16	0.21	0.21	0.06	0.11	0.11	0.15	0.44	0.44	0.06	0.35	0.35
Sat Flow, veh/h	1781	811	898	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	115	0	312	171	143	70	216	1562	308	82	862	88
Grp Sat Flow(s),veh/h/ln	1781	0	1709	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	13.8	3.3	5.7	3.2	9.2	34.0	10.6	3.5	16.2	3.0
Cycle Q Clear(g_c), s	0.0	0.0	13.8	3.3	5.7	3.2	9.2	34.0	10.6	3.5	16.2	3.0
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	0	355	207	202	171	261	1554	693	105	1243	554
V/C Ratio(X)	0.29	0.00	0.88	0.83	0.71	0.41	0.83	1.01	0.44	0.78	0.69	0.16
Avail Cap(c_a), veh/h	395	0	396	207	433	367	270	1554	693	115	1243	554
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	0.00	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	27.1	0.0	29.8	34.7	33.5	32.4	32.2	21.9	15.3	36.1	21.7	17.4
Incr Delay (d2), s/veh	0.4	0.0	18.3	23.1	4.5	1.6	18.4	24.1	2.1	26.5	3.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	7.2	4.4	2.8	1.3	5.2	18.0	3.9	2.3	6.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	0.0	48.1	57.8	38.0	33.9	50.6	46.0	17.3	62.6	24.9	18.0
LnGrp LOS	C	A	D	E	D	C	D	F	B	E	C	B
Approach Vol, veh/h		427			384			2086			1032	
Approach Delay, s/veh		42.6			46.1			42.2			27.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	38.5	9.5	20.7	15.9	31.7	17.3	12.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	11.8	27.2	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.5	36.0	5.3	15.8	11.2	18.2	2.0	7.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	4.1	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	325	307	4	3	4
Future Vol, veh/h	3	325	307	4	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	382	361	5	5	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	366	0	-	0	754	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	390	-
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	1193	-	-	-	377	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1193	-	-	-	376	681
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1193	-	-	-	582
HCM Lane V/C Ratio	0.003	-	-	-	0.021
HCM Control Delay (s)	8	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	5	3	8	1358	848	3
Future Vol, veh/h	1	5	3	8	1358	848	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	75	75	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	7	3	8	1400	874	3

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	1598	439	877	877	0	-	0
Stage 1	876	-	-	-	-	-	-
Stage 2	722	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	2.22	-	-	-
Pot Cap-1 Maneuver	97	566	398	766	-	-	-
Stage 1	368	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	95	566	609	609	-	-	-
Mov Cap-2 Maneuver	95	-	-	-	-	-	-
Stage 1	361	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	609	-	310	-	-
HCM Lane V/C Ratio	0.019	-	0.026	-	-
HCM Control Delay (s)	11	-	16.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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	14	300	14	0	289	34	3	0	23	34	0	19
Future Vol, veh/h	14	300	14	0	289	34	3	0	23	34	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	85	85	85	92	78	92	78	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	353	16	0	340	37	4	0	29	37	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	-	-	0	760	-	361	765	-	359
Stage 1	-	-	-	-	-	-	391	-	-	359	-	-
Stage 2	-	-	-	-	-	-	369	-	-	406	-	-
Critical Hdwy	4.12	-	-	-	-	-	7.12	-	6.22	7.12	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	-	3.318	3.518	-	3.318
Pot Cap-1 Maneuver	1181	-	-	0	-	-	323	0	684	320	0	685
Stage 1	-	-	-	0	-	-	633	0	-	659	0	-
Stage 2	-	-	-	0	-	-	651	0	-	622	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	-	-	-	310	-	684	303	-	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	-	-	419	-	-
Stage 1	-	-	-	-	-	-	625	-	-	650	-	-
Stage 2	-	-	-	-	-	-	631	-	-	588	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.5	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	684	1181	-	-	-	-	419	685
HCM Lane V/C Ratio	0.043	0.013	-	-	-	-	0.088	0.03
HCM Control Delay (s)	10.5	8.1	-	-	-	-	14.4	10.4
HCM Lane LOS	B	A	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	0.3	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	41	0	1369	837	19
Future Vol, veh/h	0	41	0	1369	837	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	45	0	1488	910	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	466	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	543	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	543	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	543	-	-
HCM Lane V/C Ratio	-	0.082	-	-
HCM Control Delay (s)	-	12.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	153	412	260	224	65	206	679	182	54	1321	204
v/c Ratio	0.39	1.03	0.92	0.68	0.17	1.18	0.44	0.23	0.46	0.97	0.29
Control Delay	27.8	83.2	71.0	44.7	1.2	162.1	19.2	3.4	53.1	45.5	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	83.2	71.0	44.7	1.2	162.1	19.2	3.4	53.1	45.5	8.3
Queue Length 50th (ft)	60	~215	108	120	0	~142	142	0	30	378	25
Queue Length 95th (ft)	101	#374	#162	153	0	#265	183	34	67	#520	70
Internal Link Dist (ft)		204		1068			1191			318	
Turn Bay Length (ft)	125		225		150	150		180	150		150
Base Capacity (vph)	390	401	283	442	473	175	1558	798	121	1368	694
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	1.03	0.92	0.51	0.14	1.18	0.44	0.23	0.45	0.97	0.29

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.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	115	312	171	143	70	216	1562	308	82	861	88
v/c Ratio	0.29	0.80	0.84	0.43	0.15	0.82	0.95	0.36	0.71	0.69	0.13
Control Delay	22.1	39.5	63.3	34.0	0.7	58.8	36.2	5.3	71.5	25.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	39.5	63.3	34.0	0.7	58.8	36.2	5.3	71.5	25.3	0.4
Queue Length 50th (ft)	40	115	61	67	0	105	~442	19	41	191	0
Queue Length 95th (ft)	67	171	#149	116	0	#170	#414	45	#105	240	0
Internal Link Dist (ft)		204		1068			1191			228	
Turn Bay Length (ft)	125		225		150	150		180	150		150
Base Capacity (vph)	400	450	204	442	532	271	1645	863	115	1252	692
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.69	0.84	0.32	0.13	0.80	0.95	0.36	0.71	0.69	0.13

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.