
Foothills Mall Specific Plan

Traffic Impact Study

Prepared for submittal to:

Pima County, AZ

M Esparza

Engineering, LLC

M Esparza Engineering, LLC

2934 W. Salvia Drive

Tucson, AZ 85745

March 27, 2018

Foothills Mall Specific Plan Traffic Impact Study

Prepared for submittal to:

Pima County, Arizona

Prepared by:

M Esparza Engineering, LLC

2934 W. Salvia Drive

Tucson, AZ 85745

Phone: (520) 207-3358

Project No. 2017.32

Marcos Esparza, P.E., Principal



March 27, 2018

NOTICE – This is NOT a Public Domain Document

This study has been prepared using available traffic data and forecasts, as well as limited field data collected specifically for this study. It is intended for use in making a determination regarding the transportation infrastructure needs of the study area. It does not represent a standard or specification. The document is copyrighted by Pima County and M Esparza Engineering, LLC, 2934 W. Salvia Drive, Tucson, AZ 85745, telephone 520-207-3358. All rights are reserved pursuant to United States copyright law. The document may not be reproduced digitally or mechanically, in whole or in part, without the prior written approval of M Esparza Engineering, LLC, except as noted in the following. (1) Limited quotations may be made, for technical purposes only, as long as proper citation to the authors is provided. (2) Governmental agencies to which this report is submitted for review may make limited copies for internal use and to fulfill public requests under the Freedom of Information Act.

Table of Contents

1.	INTRODUCTION AND SUMMARY.....	1
	Development Description	2
	Principal Findings	3
2.	PROPOSED DEVELOPMENT	5
	Site Location.....	5
	Land Use and Intensity.....	5
	Site Access.....	5
	Access Geometrics	5
	Development Phasing and Timing	5
3.	STUDY AREA CONDITIONS.....	6
	Study Area and Horizon Year	6
	Site Accessibility.....	6
4.	EXISTING AND FUTURE CONDITIONS.....	7
	Physical Characteristics	7
	Traffic Volumes	10
	Level of Service	13
	Crash Data	13
5.	PROJECTED TRAFFIC.....	24
	Site Traffic Forecasting	24
	No Project Traffic Forecasting.....	26
	Total Traffic.....	26
6.	TRAFFIC AND IMPROVEMENT ANALYSIS.....	36
	Level of Service Analysis	36
	Auxiliary Lane Warrants	46
	Pedestrian, Bicycle, and Transit Considerations.....	47
	Speed Considerations.....	47
	Travel Demand Management	47
	Traffic Safety	48
	Timing for Mitigation	48
7.	CONCLUSIONS AND RECOMMENDATIONS	50

List of Exhibits

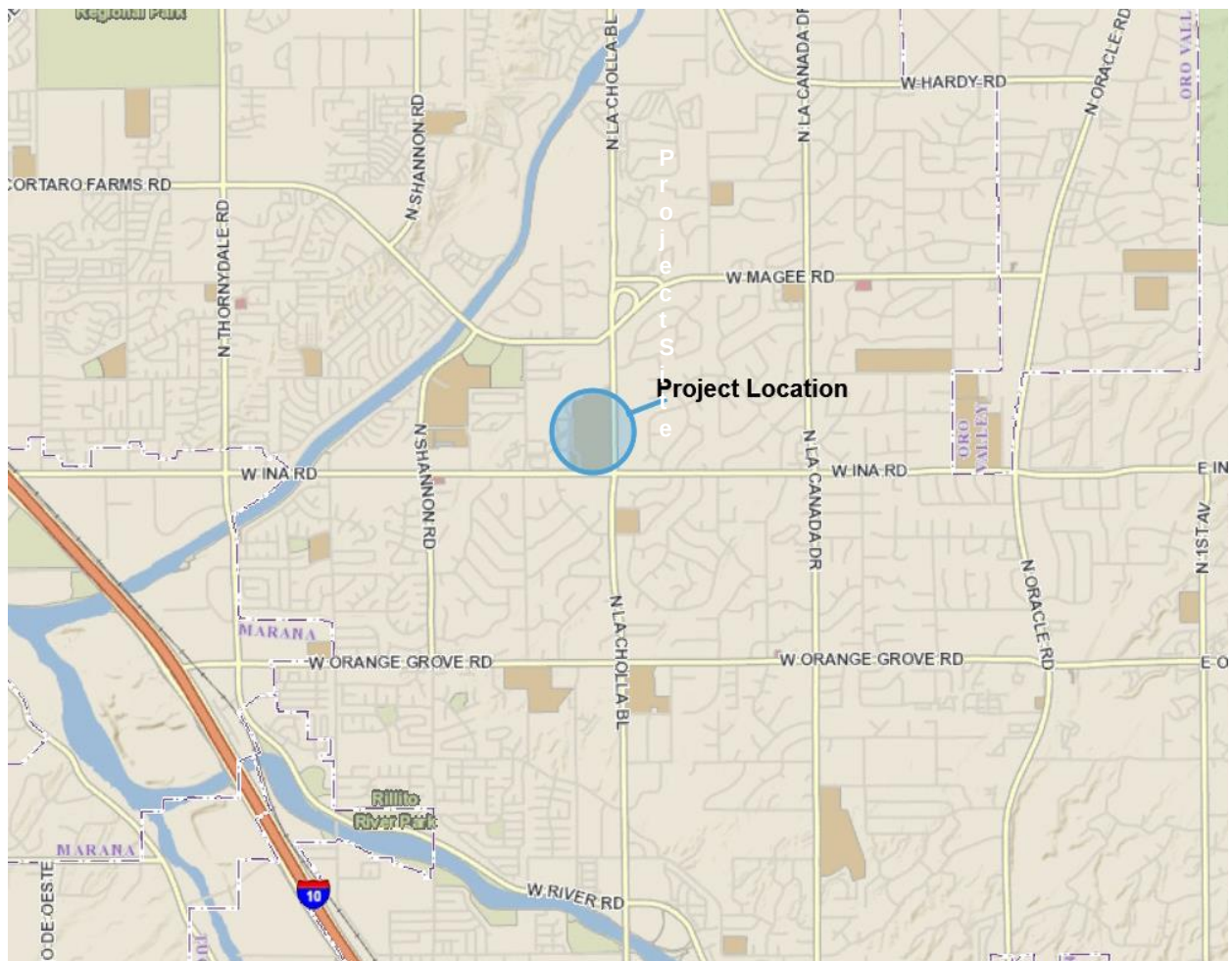
Exhibit 1	Site Location.....	1
Exhibit 2	Roadway Inventory – Existing Conditions	7
Exhibit 3	Map for Laneage and Volumes Exhibits.....	9
Exhibit 4	Existing Intersection Laneage and Traffic Control	10
Exhibit 5	Existing Peak Hour Volumes (Off-Site).....	11
Exhibit 6	Existing Peak Hour Volumes (Driveways).....	12
Exhibit 7	Driveway Intersections Performance (Existing Conditions).....	14
Exhibit 8	Off-Site Intersections Performance (Existing Conditions).....	15
Exhibit 9A	Roadway Segment Crash Rate Statistics	18
Exhibit 9B	Intersection Crash Rate Statistics	21
Exhibit 10	Trip Generation – Based on Driveway Counts.....	24
Exhibit 11	Trip Rates and Trip Generation.....	25
Exhibit 12	Trip Generation – Total New Trip Generation	25
Exhibit 13	Trip Rates and Trip Generation.....	27
Exhibit 14	Site Trips (Off-Site).....	28
Exhibit 15	Driveway Site Trips (Total)	29
Exhibit 16	2020 Peak Hour Intersection Volumes – Without Project	30
Exhibit 17	2025 Peak Hour Intersection Volumes – Without Project	31
Exhibit 18	2020 With Project Peak Hour Volumes (Off-Site)	32
Exhibit 19	2020 With Project Peak Hour Volumes (Driveways)	33
Exhibit 20	2025 With Project Peak Hour Intersection Volumes (Off-Site).....	34
Exhibit 21	2025 Peak Hour Intersection Volumes (Driveways)	35
Exhibit 22	Future Roadway Volumes and Capacity	36
Exhibit 23	Driveway Performance – 2020 and 2025(No Project)	38
Exhibit 24	Intersection Performance – 2020 and 2025(No Project)	39
Exhibit 25	Driveway Performance – 2020 and 2025 (With Project)	42
Exhibit 26	Intersection Performance – 2020 and 2025 (With Project)	43
Exhibit 27	Right Turn Lane Warrant Criteria	46
Exhibit 28	Full Occupancy Trip Generation (Existing Mall).....	49

1. Introduction and Summary

This traffic impact study (TIS) identifies the transportation-related impacts of a proposed redevelopment of the Foothills Mall and is a supporting technical analysis document for the Foothills Mall Redevelopment Specific Plan submittal. The Foothills Mall is an established regional shopping center on the northwest corner of the La Cholla Boulevard/Ina Road intersection in unincorporated Pima County. The site location is shown in Exhibit 1.

The current zoning is CB-1 and CB-2 (Local Business). Because the redevelopment will generate over 1,000 new peak hour trips, Pima County requires a Traffic Impact Study to support the Specific Plan submittal.

Exhibit 1 Site Location



Source: Pima County ITD GIS

This TIS, along with other documents supporting the project's development plan submittal, is subject to review by the County. This study has been prepared in accordance with Pima County's *Subdivision and Development Street Standards*, which provides guidance on conducting traffic studies within Pima County. The project is a large scaled development expected to generate over new 1,000 trips during the peak hour.

Accordingly, this report is a Category 3 TIS. For the purposes of this study, we have assumed that the project will have a build out year of 2020, although full buildout will be subject to market forces.

The specific study objectives are:

- Evaluate existing intersections adjacent to or near the project site including:
 - La Cholla Boulevard/Old Magee Trail (Unsignalized)
 - La Cholla Boulevard/Magee Road (Signalized)
 - La Cholla Boulevard/Foothills Mall/ (Signalized)
 - La Cholla Boulevard/Ina Road (Signalized)
 - La Cholla Boulevard/Omar Drive (Signalized)
 - La Cholla Boulevard/Orange Grove Road (Signalized)
 - Magee Road/Shannon Road/Tuscany Drive
 - Ina Road/Shannon Road (Signalized)
 - Ina Road/Mona Lisa Road (Signalized)
 - Ina Road/La Canada Drive (Signalized)
 - Five Foothills Mall Existing Unsignalized Driveways (three on Ina Road and two on La Cholla Boulevard (all unsignalized)
- Evaluate the impact of the project on the following streets:
 - La Cholla Boulevard
 - Ina Road
- Evaluate the feasibility and operations of the proposed driveway locations with regard to their impacts on La Cholla Boulevard and Ina Road
- Evaluate the effects the proposed development will have on pedestrian, bicycle and transit activity in the area.
- Provide recommendations to mitigate (if necessary) undesirable traffic conditions that the project may create.

Development Description

The land uses in the project will include many of the existing shops within Foothills Mall. The proposed redevelopment will add offices, multi-family residential units, and 300 hotel rooms. The theater will remain, although the number of seats will be reduced from over 3,000 to approximately 1,650 seats.

For the purposes of this project, the intensities of the land uses are:

- Shopping Center – 800,000 square feet
- Office – 300,000 square feet
- Multi-Family Residential – 500 units
- Hotel – 300 rooms
- Multiplex Movie Theater – 1,650 seats

These sizes are conceptual and will likely change. However, they represent a conservative estimate of the planned uses.

Trip generation rates and the resulting trips estimates are provided herein. Driveway counts at the project driveways were used to develop the shopping center land use trip generation rates. Applying average rates from the Institute of Transportation Engineers' *Trip Generation Manual (10th Edition)* for the other planned uses yield 1,519 am peak hour trips, 3,875 pm peak hour trips and 39,814 weekday trips. Another adjustment applied to the trip generation of the project is the offset of the existing operating land uses within the project.

According to the property owner/manager, the existing 619,519 square foot Foothills Mall is approximately 70% leased and operating. Reducing the projected trip generation by the existing recorded driveway trips, assuming a 5% alternate mode rate, and reductions for internal and pass-by trips results in an estimated 19,536 new external daily trips, 840 am peak hour trips and 1,863 pm peak hour trips. These numbers reflect the new external trips associated with the increase in size of the redevelopment.

Principal Findings

The project will generate approximately:

- 1,519 morning peak hour trips,
- 3,875 evening peak hour trips,
- 39,814 weekday trips.

However, when considering the existing mall traffic and the projected alternate mode, internal circulation and pass-by trip reductions, the new external trips are calculated to be:

- 840 morning peak hour trips,
- 1,863 evening peak hour trips,
- 19,536 weekday trips.

Two of the project driveways and two of the off-site study area intersections currently experience peak hour delays resulting in LOS E or F conditions. These are Ina Road/Driveway 1, La Cholla Boulevard/Driveway 5, Ina/La Canada and La Cholla/Orange Grove.

For the project driveways left turns out experience high delays during the weekday (and possibly weekend) peak periods. These delays will increase in future years. If access out is restricted to right-out only on La Cholla Boulevard, exiting drivers wishing to head north on La Cholla must exit at La Cholla/Foothills Drive to the north. Other options to mitigate the left turn delays could be to restrict access to directional left-in, right-in, right-out only; full signalization at the driveways; or a directional signalized intersection, such as a “Florida T” intersection. A Florida T intersection allows for free-flow through traffic in one direction (northbound at the La Cholla intersection) while providing traffic control for other movements.

By the year 2025, two of the project driveways and some of the off-site project area intersections will have turning movements that will operate at LOS E or F without the project.

A right turn lane warrant is met for the southbound right on La Cholla Boulevard at Driveway 5 under 2018 (existing) conditions and also under with project conditions in 2020 and 2025 based on Pima County Subdivision and Development Street Standards turn lane warrant criteria for four-lane roads. However, because the SDSS does not have criteria for six-lane roads (like La Cholla Boulevard), the turn lane may or may not be warranted under future conditions. The design of this turn lane, if and when warranted, should be evaluated at the development plan stage when the specific land uses are known.

Both La Cholla Boulevard and Ina Road will exceed their LOS D daily capacities by the year 2040 without the project. Ina Road will approach its LOS D capacity by 2025 without the redevelopment project and will exceed it soon afterwards, if the growth rate interpolated from year 2018 and PAG’s 2040 travel demand model projections are constant. The additional project traffic associated with the redevelopment will increase traffic on all study area roadways as expected and development impact fees can be applied to improving roadway capacities.

The mixed-uses within the proposed redevelopment will generate peak site traffic volumes during different times and days. For instance, the movie theater will continue to experience peaks during the weekends (including Friday evenings). The office and residential uses will have peaks associated with typical work

commuter periods during the weekdays. The retail component will continue to peak during the weekends and generally after late morning throughout the day. The analysis provided herein analyzes conditions only during the peak commuter weekday periods. It is recommended that traffic studies be conducted as the Mall develops, and that the impact of the project during the peak hours for each land use be considered.

On-site circulation must be carefully managed to promote pedestrian and bicycle use. The provision of safe pedestrian linkages on La Cholla Boulevard and Ina Road to the project and well-marked and signed pedestrian and bicycle routes within the site will provide for safe and efficient movement associated with Mall patronage.

As the project develops, traffic impact studies should be conducted to supplement the recommendations contained herein. The studies will consider travel culture at the time of the development such as patron or employee travel modes. The studies should also utilize up-to-date research on trip generation for shopping centers and other land uses planned for the redevelopment.

2. Proposed Development

Site Location

The project is an existing regional shopping center in unincorporated Pima County. It is on the northwest corner of the La Cholla Boulevard/Ina Road intersection.

Land Use and Intensity

The land uses in the project will include many of the existing shops within Foothills Mall. The proposed redevelopment will add offices, multi-family residential units, and 300 hotel rooms. The theater will remain, although the number of seats will be reduced from over 3,000 to approximately 1,650 seats.

For the purposes of this project, the intensities of the land uses are:

- Shopping Center – 800,000 square feet
- Office – 300,000 square feet
- Multi-Family Residential – 500 units
- Hotel – 300 rooms
- Multiplex Movie Theater – 1,650 seats

These sizes are conceptual and will likely change. However, they represent a conservative estimate of the planned uses.

Site Access

Access will be at the existing driveways on La Cholla Boulevard and Ina Road.

Access Geometrics

The report finds that a southbound right turn lane at the main entrance on La Cholla Boulevard (Driveway 5). This lane will be constructed to Pima County standards. The site plan has not been developed to the extent that specific design elements of the access locations have been determined, but they will be constructed to Pima County standards.

Development Phasing and Timing

This a unique site with existing active retail uses. The project will be redeveloped over time and the repurposing of existing building areas will occur before the construction of new buildings.

For the purposes of this analysis, the project is projected to open around 2020. However, it is likely that the project will be developed in phases as the market dictates.

3. Study Area Conditions

Study Area and Horizon Year

The study area is the area within one mile of the project site. The area includes the intersections of La Cholla Boulevard with Old Magee Trail, Magee Road, the signalized Foothill Mall Drive, Ina Road, Omar Road and Orange Grove Road. It also includes the signalized intersection at Magee Road/Shannon Road/Tuscany Drive. The study area also includes the intersections of Ina Road with Shannon Road, Mona Lisa Road and La Canada Drive. The analysis also includes operations at the project access driveways, and the segments of La Cholla Boulevard and Ina Road within one mile of the project.

Anticipated Future Development

Most of the area surrounding the project is built out. There is a parcel immediately to the north of the Foothills Mall on the southwest corner of La Cholla Boulevard/Magee Road that is in the development plan stage. The proposed land use is a convenience store with gas pumps.

Site Accessibility

Access is provided at six existing locations; three on Ina Road and three on La Cholla Boulevard. There are two other access locations on La Cholla Boulevard which primarily serve the Walmart and restaurants north of the Foothills Mall. Internal circulation allows access to and from the Foothills Mall from these access locations. However, the two additional access points are not considered primary access locations for this project.

Existing and Future Area Roadway System

La Cholla Boulevard, Ina Road and Magee Road are all major commuter arterials in the vicinity of the project. La Cholla Boulevard will be improved from a two-lane roadway to a four-lane arterial from Overton Road to Tangerine Road as part of a Regional Transportation Authority project with construction beginning in 2018.

Site Circulation

As part of the redevelopment, the site circulation will likely evolve as the development plan is prepared.

4. Existing and Future Conditions

Physical Characteristics

Roadway Characteristics

Exhibit 2 is an inventory of the physical features and recorded volumes of the project area roadways including Mona Lisa Road, La Cholla Boulevard, Ina Road, Old Magee Trail and Mona Lisa Road.

Exhibit 2 Roadway Inventory – Existing Conditions

Roadway Segment	Lanes	Year of Recorded ADT*	ADT(vpd)	Source	2018 ADT (vpd)**	Daily Capacity (vpd)***	Speed Limit	PC Major Streets Plan R/W (feet)	Bike Route	Bus Route	Sidewalks
Mona Lisa Road, North of Ina Road	2	2017	5,056	Pima County	5,157	15930	40	80	Residential Street	No	Yes, near Ina
Mona Lisa Road, South of Ina Road	2	2017	2,808		2,864	15930	40	80	Residential Street	No	No
La Cholla, Old Magee Trail to Magee Road	6	2013	22,857	PAG	25,236	53910	45	150	BRSS	None	Yes (West Side)
La Cholla, Magee Road to Foothills Mall Signal	6	2016	25,142	PAG	26,158	53910	45	150	BRSS	Sun Tran 61	Yes
La Cholla, Foothills Mall Road to Ina Road	6	2018	27,000	PAG	27,000	53910	45	150	BRSS	Sun Tran 61	Yes
La Cholla, Ina Road to Orange Grove Road	6	2016	22,916	PAG	23,842	53910	45	150	BRSS	Sun Tran 61	Yes
Old Magee Trail, East of La Cholla Boulevard	2	2016	1,700	Pima County	1,769	15930	45	N/A	No	No	No
La Cholla to Magee Loop Road	1	2015	1,673	Pima County	1,775	N/A	30 (Advisory)	N/A	No	No	No
Magee Road, West of La Cholla Boulevard	4	2016	16,723	PAG	17,399	35820	45	150	BRSS	Sun Tran 61	Yes
Magee Road, East of La Cholla Boulevard	4	2016	17,526	PAG	18,234	35820	45	150	BRSS	No	Yes
Ina Road, Shannon Road to Mona Lisa Road	4	2016	29,842	PAG	31,048	35820	45	150	BRSS	Sun Tran 16, 61, 102X, 103X, 203X	Partial
Ina Road, Mona Lisa Road to La Cholla Boulevard	4	2018	28,000	PAG	28,000	35820	45	150	BRSS	Sun Tran 16, 61, 102X, 103X, 203X	Partial
Ina Road, La Cholla Boulevard to La Canada Drive	4	2015	26,660	PAG	28,292	35820	45	150	BRSS	Sun Tran 16, 102X, 103X, 203X	No

*Daily Volumes for Old Magee Trail, Loop Road, Mona Lisa Road and Ina, west of La Cholla and La Cholla, north of Ina estimated by extrapolating peak hour volume counts to daily counts.

**Assumed 2%/year growth

**FDOT Generalized Annual Average Daily Volumes Table, 2012.

Note: Bike Route designations from Pima County Regional Bike Map. BRSS = Bike Route with Striped Shoulders

La Cholla Boulevard is a four-lane north/south Medium Volume Arterial north of Magee Road and a six-lane High Volume Arterial south of Magee Road according to Pima County Major Streets Plan. It has a posted speed limit of 45 mph. It is an important route providing commuter access from the Town of Oro Valley to its terminus at Gardner Lane in the City of Tucson.

The section from Overton Road to Tangerine Road is currently under design to be widened to a four-lane urban arterial. There is a striped bike lane and sidewalk along the frontage of the project site. A Sun Tran bus stop is near the Foothills Mall Drive, and there are bus stops at the intersection of Ina Road/La Cholla Boulevard.

Ina Road is a four-lane east/west High Volume Arterial east and west of La Cholla Boulevard according to Pima County's Major Streets Plan. It is also designated as a Major Scenic Route in Pima County's Scenic Routes Plan. It's posted speed limit is 45 mph. There are sidewalks on the south side west of La Cholla Boulevard. There are striped bike lanes in the vicinity of the project. There is a Sun Tran

bus stop on the south side of Ina Road along the project frontage, opposite the main Foothills Mall access road.

Mona Lisa Road is a two-lane collector as designated in the Pima County Major Streets Plan. It has a posted speed limit of 40 mph and provides access to residential uses along both sides of the street. Pima County recently restricted northbound access from Mona Lisa to Magee Road to right turns only. The intersection of Ina Road/Mona Lisa Road is signalized.

Magee Road is a four-lane east/west Medium Volume Arterial east and west of La Cholla Boulevard according to Pima County's Major Streets Plan. It is also designated as a Major Scenic Route in Pima County's Scenic Routes Plan. It's posted speed limit is 45 mph. There are sidewalks on both sides west of La Cholla Boulevard and on the south side east of La Cholla Boulevard. There are striped bike lanes in the vicinity of the project. There is a Sun Tran bus stop on the northeast corner of Magee/Mona Lisa.

Old Magee Trail is a two-lane east-west local roadway connecting La Cholla Boulevard and Magee Road. It was the former Magee Road (north) prior to the realignment of Magee Road. It has a posted speed limit of 30 mph and striped bike lanes on each side.

La Cholla Loop Road is a one-lane loop ramp providing access from northbound La Cholla Boulevard to westbound Magee Road. The ramp begins north of the La Cholla/Magee intersection and has an advisory speed limit of 30 mph.

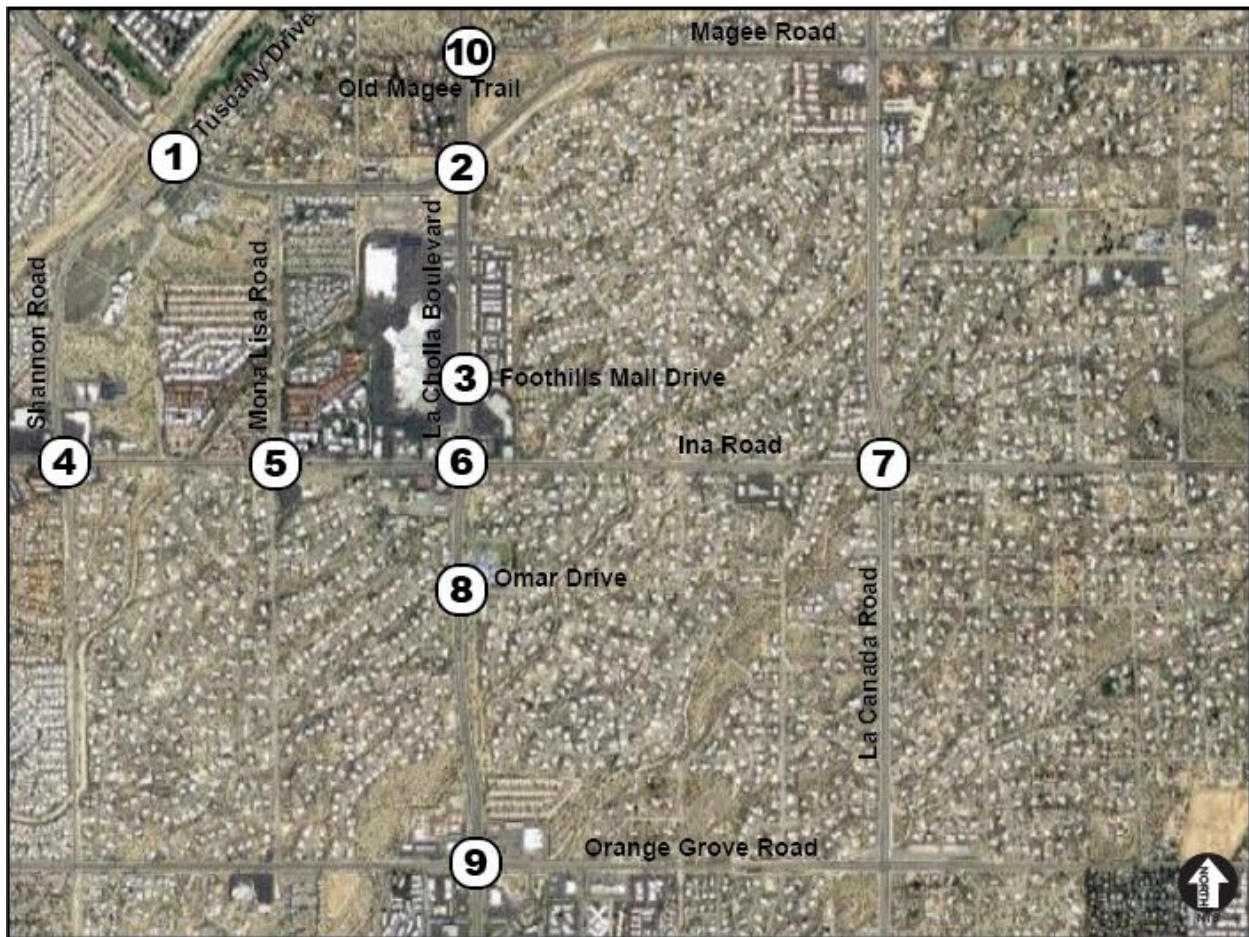
Traffic Control Devices

An intersection map key is provided as Exhibit 3. This map key is to be used to reference the location of the off-site intersections referenced in the Existing Intersection Laneage and Traffic Control exhibit (Exhibit 4) and the off-site intersection volumes exhibits.

The intersections of La Cholla/Magee, La Cholla/Foothills Mall, La Cholla/Ina, La Cholla/Omar, La Cholla/Orange Grove, Ina/Mona Lisa and Ina/La Canada are traffic signal controlled with protected/permitted left turn phases. The traffic control at the study area intersections are shown in Exhibit 4.

Although not shown, the Foothills Mall driveways are all unsignalized with the exception of the La Cholla/Foothills Mall Drive intersection. The westmost driveway on Ina (Driveway 1) and the second driveway (Driveway 5) on La Cholla Boulevard, north of Ina Road are full access driveways. All other driveways have right-in, right out-access. A continuous right turn lane on Ina Road from La Cholla Boulevard through to Driveway 1 provides right turn access into the Mall from Ina Road.

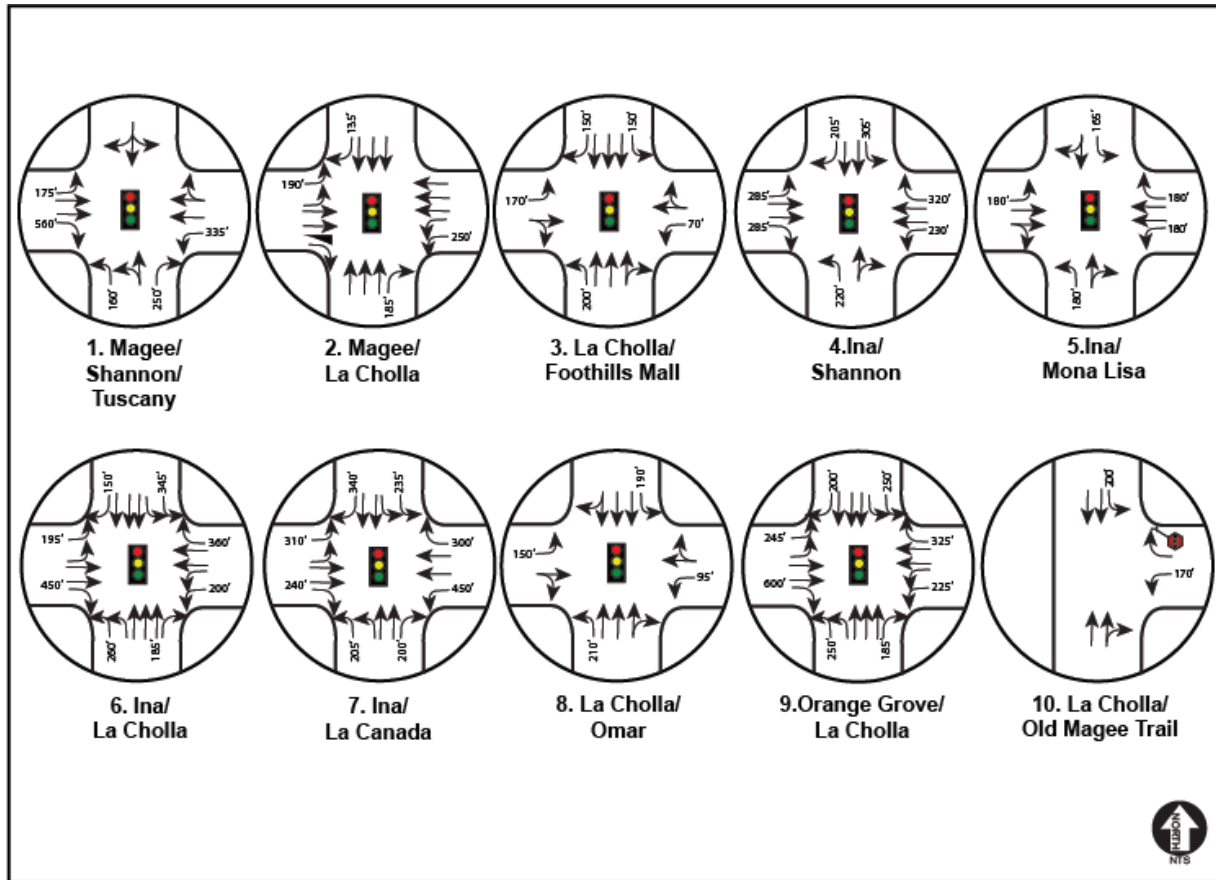
Exhibit 3 Map for Laneage and Volumes Exhibits



Map Key

- 1: Magee/Shannon/Tuscany
- 2: Magee/La Cholla
- 3: La Cholla/Foothills Mall Drive
- 4: Ina/Shannon
- 5: Ina/Mona Lisa
- 6: Ina/La Cholla
- 7: Ina/La Canada
- 8: La Cholla/Omar
- 9: La Cholla/Orange Grove

Exhibit 4 Existing Intersection Laneage and Traffic Control



Transit Service

Sun Tran Route 61 (La Cholla) runs along La Cholla and Magee along the frontage of the project. This route connects to the Tohono Tadaí Transit Center near Stone Avenue and Wetmore Avenue. Sun Tran Routes 16, 61, 102X, 103X and 203X run along Ina Road in the vicinity of the project. Bus stops are located on La Cholla Boulevard and Ina Road along the frontage of the Foothills Mall, and at the intersection of Ina Road/La Cholla Boulevard.

Traffic Volumes

Pima County provided daily and intersection volume counts for the major roadways and intersections in the study area. The daily volumes are provided in Exhibit 2 (Roadway Inventory).

Peak hour intersection turning movement volumes at La Cholla/Orange Grove and La Cholla/Old Magee Trail were collected in 2015. Intersection volumes for the La Cholla Boulevard/Magee Road, Ina/Shannon and Ina/La Cholla intersections were collected in 2016. Volumes at all other intersections were collected in 2017, including most of the driveway intersections. Turning movements into and out of the third driveway to the north of Ina Road on La Cholla (labeled Driveway 5 on the volumes exhibits) were collected in February 2018. Traffic data sources are found in the appendix. Traffic volumes that were recorded before 2018 were grown by 2%/year, based on historical traffic volumes in the vicinity of the project, to estimate 2018 conditions. Exhibit 5 (off-site intersections) and Exhibit 6 (driveways) show the 2018 intersection peak hour volumes at the study area intersections.

Exhibit 5 Existing Peak Hour Volumes (Off-Site)

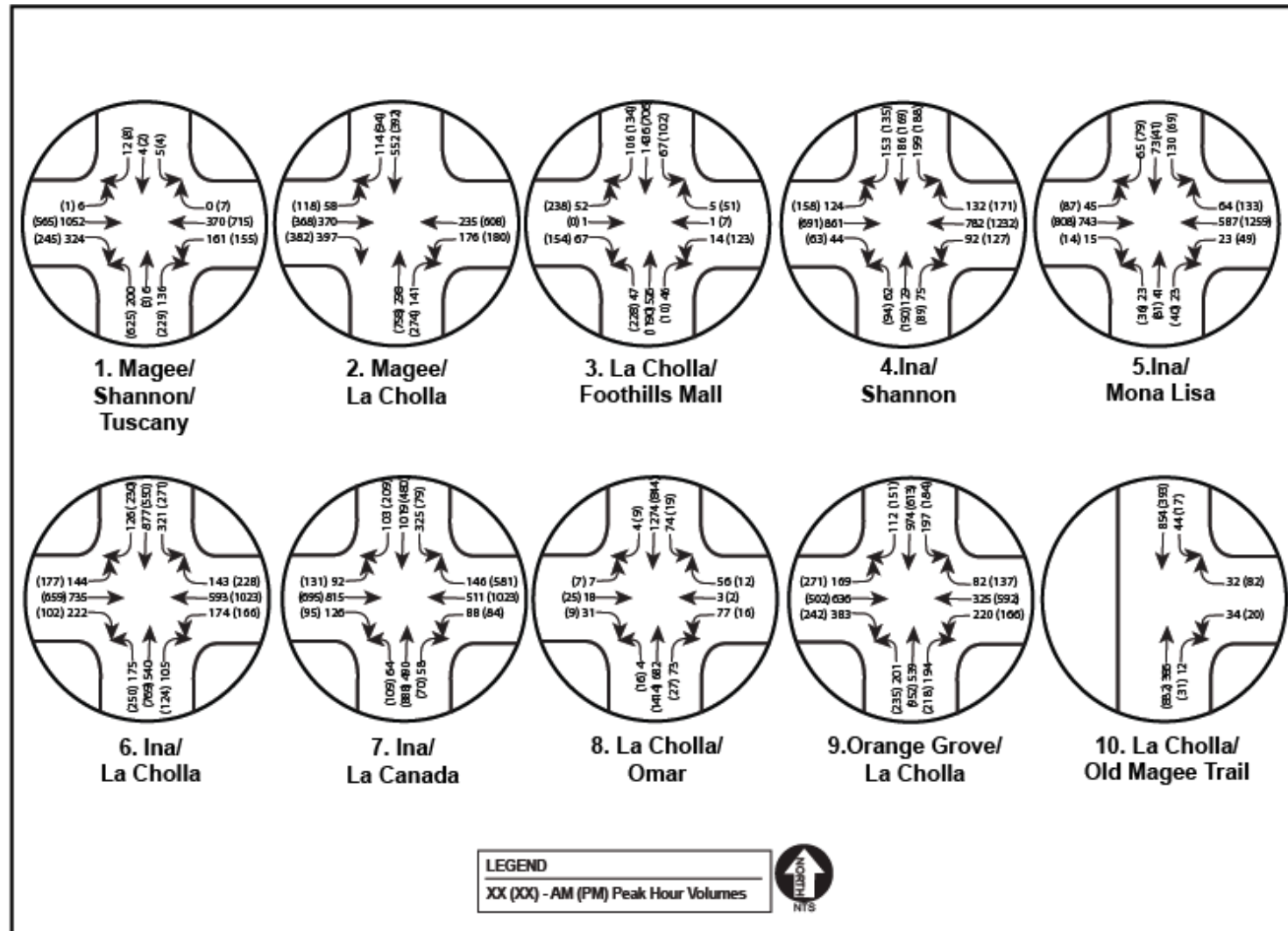
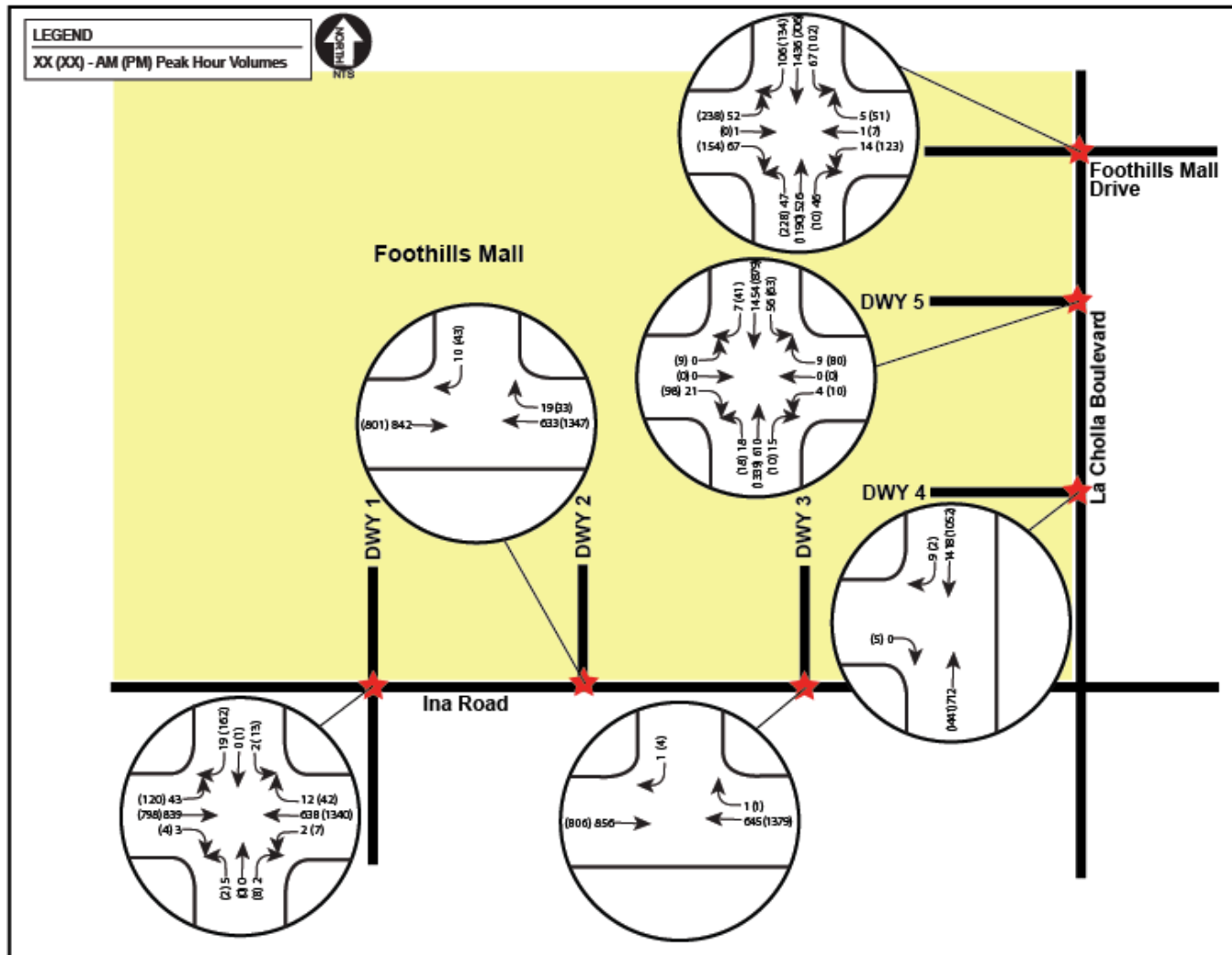


Exhibit 6 Existing Peak Hour Volumes (Driveways)



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 is often overshadowed by intersection performance when signals are closely spaced.

Roadway Performance

Based on daily level of service thresholds from the Florida Department of Transportation *Generalized Annual Average Daily Volumes for Florida's Urban Areas Level of Service Tables*, the estimated capacities of the project area roadways are provided in the Roadway Inventory exhibit (Exhibit 2).¹ Based on the adjusted 2018 volumes, all project roadways operate at acceptable levels of service. It should also be noted that for projects in urban areas, or areas approaching areas, performance is more dependent on intersection conditions than the roadway segments.

Intersection Performance

Under existing (Year 2018) conditions, most movements at the study area intersections and driveways operate at LOS D or better during the morning and afternoon/evening peak hours. The northbound lane opposite Driveway 1 and the westbound lane opposite Driveway 5 operate at LOS E or F during one or more of the peak hours.

The westbound left turn movement at Ina/La Canada operates at LOS E during the pm peak hour. The eastbound right turn movement at La Cholla/Orange Grove operates at LOS E during the am peak hour.

These movements are not associated with access into or out of the Mall driveways. The results are shown in Exhibits 7 (Driveways) and 8 (Off-Site Intersections).

Crash Data

Pima County provided crash data for the project intersections and roadways for the most recent three-year period, October 1, 2014 through September 30, 2017. Roadway crash summaries are found in Exhibit 9A. The roadway segment with the most crashes during the three-year study period was Ina Road from Shannon Road to Mona Lisa Road, with twenty-seven crashes (twenty-two property damage only and five injury crashes). This roadway segment also experienced the highest three-year crash rate, 1.65 crashes per million vehicle-miles. The predominant crash type for this segment was rear end (eight).

For the intersection crashes, the Ina Road/La Cholla intersection experienced the most crashes (fifty-four) during the three-year period. Thirty-one of these were rear-end crashes, which is typical for signalized intersections. The La Cholla Boulevard/La Canada Drive intersection experienced the highest crash rate (1.12 crashes per million entering vehicles). Forty of the fifty-three crashes were rear end crashes and eight were turning crashes. The intersection crash summaries are provided in Exhibit 9B.

Exhibit 7 Driveway Intersections Performance (Existing Conditions)

Ina/Dwy 1	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	9.2	A	15.9	C
Westbound				
Left	9.9	A	9.7	A
Northbound				
Left/Through/Right	34.6	D	60.1	F
Southbound				
Left	34.6	D	367.1	F
Through/Right	10.7	B	28.6	D

Ina/Dwy 2	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound				
Right	10.6	B	16.3	C

Ina/Dwy 3	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound				
Right	10.6	B	15.3	C

La Cholla/Dwy 4	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound				
Right	17.3	C	14.2	B

La Cholla/Dwy 5	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	0	A	143.8	F
Through/Right	18.8	C	15.7	C
Westbound				
Left/Through/Right	82.6	F	79.1	F
Northbound				
Left	24.8	C	16.9	C
Southbound				
Left	12.2	B	26.9	D

Exhibit 8 Off-Site Intersections Performance (Existing Conditions)

Magee Road/Shannon Road/Tuscany Road

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	9.7	A	15.1	B
Through	17.4	B	20.2	C
Right	12	B	17.2	B
Approach	16.1	B	19.3	B
Westbound				
Left	16.6	B	10.9	B
Through/Right	8.6	A	15.6	B
Approach	11	B	14.8	B
Northbound				
Left	29.9	C	30.9	C
Through	30.1	C	31.3	C
Right	26.6	C	20.4	C
Approach	28.7	C	28.2	C
Southbound				
Left/Through/Right	35.9	D	42.1	D
Approach	35.9	D	42.1	D
Intersection	17.3	B	20.8	C

La Cholla Boulevard/Foothills Mall

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	37.2	D	42.7	D
Through/Right	29.4	C	32.7	C
Approach	32.8	C	38.8	D
Westbound				
Left	37.4	D	39.6	D
Through/Right	26.9	C	34.9	C
Approach	34.1	C	38.1	D
Northbound				
Left	35.6	D	35.9	D
Through	8.4	A	17.5	B
Right	8.7	A	18.8	B
Approach	10.6	B	20.8	C
Southbound				
Left	37.2	D	48	D
Through	10.1	B	19.4	B
Right	7.4	A	16	B
Approach	11.1	B	22.9	C
Intersection	12.6	B	25	C

La Cholla Boulevard/Magee Road

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	21.8	C	22.4	C
Through	16.7	B	15.8	B
Approach	17.4	B	17.4	B
Westbound				
Left	21.6	C	23.2	C
Through	13.7	B	15.5	B
Approach	17.1	B	17.2	B
Northbound				
Through	9.4	A	12	B
Right	10.6	B	14.5	B
Approach	9.8	A	12.7	B
Southbound				
Through	10.4	B	10.7	B
Right	10.3	B	10.8	B
Approach	10.4	B	10.7	B
Intersection	13	B	14.6	B

Ina Road/Shannon Road

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	32	C	47.5	D
Through	26.1	C	29.5	C
Right	15.5	B	19.8	B
Approach	26.3	C	32	C
Westbound				
Left	35.8	D	27.2	C
Through	27.3	C	35.6	D
Right	15.2	B	14.5	B
Approach	26.5	C	32.5	C
Northbound				
Left	22.3	C	23.7	C
Through/Right	27.6	C	34	C
Approach	26.4	C	31.4	C
Southbound				
Left	27.3	C	38	D
Through	18.8	B	23.8	C
Right	20.9	C	26.6	C
Approach	22.6	C	30	C
Intersection	25.7	C	31.8	C

Exhibit 8 (cont.) Off-Site Intersections Performance (Existing Conditions)

Ina Road/Mona Lisa Road

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	22.2	C	32.6	C
Through	20.2	C	22.9	C
Right	20.1	C	22.9	C
Approach	20.3	C	23.8	C
Westbound				
Left	24.4	C	18.8	B
Through	20	C	16.8	B
Right	16.6	B	10.6	B
Approach	19.8	B	16.3	B
Northbound				
Left	11.3	B	23.9	C
Through/Right	9.8	A	22.8	C
Approach	10.2	B	23.1	C
Southbound				
Left	11.8	B	26.1	C
Through/Right	10.6	B	22	C
Approach	11.2	B	23.5	C
Intersection	18.3	B	19.8	B

Ina Road/La Canada Drive

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	28.9	C	49.8	D
Through	28.6	C	24.5	C
Right	14.7	B	16.8	B
Approach	26.9	C	27.3	C
Westbound				
Left	48.9	B	56.4	E
Through	18.9	D	35.4	D
Right	15.7	B	38.4	D
Approach	21.8	C	37.5	D
Northbound				
Left	29	C	42.3	D
Through	17.5	B	35.2	D
Right	12.4	B	18.4	B
Approach	18.3	B	34.8	C
Southbound				
Left	29.9	C	41.1	D
Through	70.4	F	22.6	C
Right	13.8	B	16.9	B
Approach	64.2	E	27	C
Intersection	36.5	D	32.9	C

Ina Road/La Cholla Boulevard

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	31.6	C	45.5	D
Through	27.6	C	32.5	C
Right	17.8	B	19.4	B
Approach	26.1	C	33.5	C
Westbound				
Left	37.5	D	31.6	C
Through	28.1	C	33.7	C
Right	15.7	B	14.6	B
Approach	27.9	C	30.4	C
Northbound				
Left	36.2	D	45.7	D
Through	26.7	C	32.1	C
Right	20.1	C	16.8	B
Approach	27.9	C	33.4	C
Southbound				
Left	32.7	C	42.7	D
Through	24.7	C	27.7	C
Right	14.5	B	25.5	C
Approach	25.7	C	31.1	C
Intersection	26.8	C	32	C

La Cholla Boulevard/Omar Road

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	24.8	C	27.7	C
Through/Right	22.1	C	27.7	C
Approach	22.4	C	27.7	C
Westbound				
Left	27.1	C	27.9	C
Through/Right	23.3	C	28.1	C
Approach	25.5	C	28	C
Northbound				
Left	7.4	A	2.1	A
Through	4.8	A	2.2	A
Right	5.1	A	2.5	A
Approach	4.9	A	2.3	A
Southbound				
Left	6.8	A	3	A
Through	5.9	A	1.8	A
Right	6.3	A	2	A
Approach	6.1	A	1.9	A
Intersection	8.3	A	2.9	A

Exhibit 8 (cont.) Off-Site Intersections Performance (Existing Conditions)

La Cholla Boulevard/Orange Grove Road

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	24.4	C	33.3	C
Through	27.1	C	26.1	C
Right	56.3	E	28.2	C
Approach	36.1	D	28.5	C
Westbound				
Left	41.7	D	28.2	C
Through	34.4	C	26.9	C
Right	32.1	C	22.5	C
Approach	36.7	D	26.5	C
Northbound				
Left	41.1	D	27.6	C
Through	30.7	C	24.3	C
Right	33.6	C	22.7	C
Approach	33.6	C	24.6	C
Southbound				
Left	30.5	C	34.4	C
Through	29.5	C	27	C
Right	23.6	C	26.7	C
Approach	29.1	C	28.4	C
Intersection	33.5	C	26.8	C

La Cholla/Old Magee Trail

	Existing (2018)			
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westbound				
Left	23.2	C	25.9	D
Right	9.8	A	12.8	B
Southbound				
Left	8.3	A	9.9	A

Exhibit 9A Roadway Segment Crash Rate Statistics

Ina Rd: Shannon to Mona Lisa

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	2	3	3	8	30%
Angle	0	0	2	2	7%
Sideswipe	0	3	1	4	15%
Out of Control	0	1	0	1	4%
Miscellaneous	1	3	2	6	22%
Fixed Object	1	1	1	3	11%
Pedestrian or Animal	0	1	0	1	4%
Turning	1	0	1	2	7%
Total	5	12	10	27	
Crash Rate (per MVM)	0.92	2.20	1.84	1.65	
Severity					Total %
Bodily Injury	1	3	1	5	19%
Property Damage	4	9	9	22	81%

Ina Rd: Mona Lisa to La Cholla

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	4	1	0	5	22%
Angle	4	1	1	6	26%
Sideswipe	0	1	0	1	4%
Miscellaneous	0	0	2	2	9%
Fixed Object	0	0	1	1	4%
Pedestrian or Animal	1	0	0	1	4%
Turning	5	0	2	7	30%
Total	14	3	6	23	
Crash Rate (per MVM)	2.74	0.59	1.17	1.50	
Severity					Total %
Bodily Injury	5	0	2	7	30%
Property Damage	9	3	4	16	70%

Ina Rd: La Cholla to La Canada

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	2	3	2	7	37%
Sideswipe	1	0	0	1	5%
Out of Control	0	1	0	1	5%
Miscellaneous	1	2	0	3	16%
Turning	3	3	1	7	37%
Total	7	9	3	19	
Crash Rate (per MVM)	0.72	0.92	0.31	0.65	
Severity					Total %
Bodily Injury	4	2	3	9	47%
Property Damage	3	7	0	10	53%

Exhibit 9A (cont.) Roadway Segment Crash Rate Statistics

La Cholla Blvd: Old Magee Trail to Magee

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	0	1	1	2	33%
Side Swipe	0	2	0	2	33%
Miscellaneous	0	1	0	1	17%
Out of Control	0	1	0	1	17%
Total	0	5	1	6	
Crash Rate (per MVM)	0.00	2.40	0.48	0.96	
Severity				Total	%
Bodily Injury	0	1	0	1	17%
Property Damage	0	4	1	5	83%

La Cholla Blvd: Magee to Foothills Mall

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	1	0	2	3	19%
Angle	1	2	2	5	31%
Side Swipe	2	0	2	4	25%
Miscellaneous	0	1	1	2	13%
Turning	0	0	2	2	13%
Total	4	3	9	16	
Crash Rate (per MVM)	0.87	0.65	1.96	1.16	
Severity				Total	%
Fatal	0	0	1	1	6%
Bodily Injury	0	1	1	2	13%
Property Damage	4	2	7	13	81%

La Cholla Blvd: Foothills Mall to Ina

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	1	1	1	3	33%
Angle	3	1	1	5	56%
Miscellaneous	1	0	0	1	11%
Fixed Object	0	0	0	0	0%
Total	5	2	2	9	
Crash Rate (per MVM)	1.01	0.41	0.41	0.61	
Severity				Total	%
Bodily Injury	0	1	1	2	22%
Property Damage	5	1	1	7	78%

Exhibit 9A (cont.) Roadway Segment Crash Rate Statistics

La Cholla Blvd: Ina to Omar

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	1	0	0	1	100%
Total	1	0	0	1	
Crash Rate (per MVM)	0.40	0.00	0.00	0.13	
Severity				Total	%
Property Damage	1	0	0	1	100%

La Cholla Blvd: Omar to Orange Grove

Crash Type	10/1/2014 to 9/30/2015	10/1/2015 to 9/30/2016	10/1/2016 to 9/30/2017	Total	%
Rear End	4	2	1	7	50%
Side Swipe	0	2	0	2	14%
Miscellaneous	1	1	1	3	21%
Pedestrian or Animal	0	0	1	1	7%
Out of Control	0	1	0	1	7%
Total	5	6	3	14	
Crash Rate (per MVM)	0.91	1.09	0.54	0.85	
Severity				Total	%
Bodily Injury	2	0	2	4	29%
Property Damage	3	6	1	10	71%

Exhibit 9B Intersection Crash Rate Statistics

Foothills Mall Dr/La Cholla Bl

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Rear End	3	3	7	13	52%
Turning	4	1	3	8	32%
Angle	2	0	1	3	12%
Backing	0	1	0	1	4%
Total	9	5	11	25	
Crash Rate (per MVE)	0.91	0.50	1.11	0.84	
Severity				Total	%
Property Damage	5	5	7	17	68%
Bodily Injury	4	0	4	8	32%

Ina Rd/La Canada Dr

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Head On	0	0	1	1	2%
Rear End	13	9	18	40	75%
Miscellaneous	0	4	3	7	13%
Turning	2	1	0	3	6%
Fixed Object	1	0	0	1	2%
Angle	1	0	0	1	2%
Total	17	14	22	53	
Crash Rate (per MVE)	1.08	0.89	1.40	1.12	
Severity				Total	%
Property Damage	11	13	17	41	77%
Bodily Injury	6	1	5	12	23%

Ina Rd/La Cholla Bl

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Turning	1	2	1	4	7%
Rear End	11	10	10	31	57%
Miscellaneous	2	5	3	10	19%
Head On	0	0	1	1	2%
Angle	2	1	1	4	7%
Fixed Object	1	1	0	2	4%
Backing	0	2	0	2	4%
Total	17	21	16	54	
Crash Rate (per MVE)	0.89	1.10	0.84	0.94	
Severity				Total	%
Bodily Injury	4	3	5	12	22%
Property Damage	13	18	11	42	78%

Exhibit 9B (cont.) Intersection Crash Rate Statistics

Ina Rd/Mona Lisa Rd

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Turning	3	2	4	9	33%
Rear End	7	7	2	16	59%
Miscellaneous	0	0	1	1	4%
Angle	0	1	0	1	4%
Total	10	10	7	27	
Crash Rate (per MVE)	0.83	0.83	0.58	0.75	
Severity				Total	%
Bodily Injury	4	5	2	11	41%
Property Damage	6	5	5	16	59%

Ina Rd/Shannon Rd

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Turning	6	3	1	10	21%
Rear End	12	10	8	30	64%
Miscellaneous	2	1	3	6	13%
Angle	1	0	0	1	2%
Total	21	14	12	47	
Crash Rate (per MVE)	1.40	0.94	0.80	1.05	
Severity				Total	%
Property Damage	16	11	10	37	79%
Bodily Injury	5	3	2	10	21%

La Cholla Bl/Magee Rd

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Turning	1	0	4	5	18%
Rear End	10	3	5	18	64%
Angle	0	0	3	3	11%
Miscellaneous	0	2	0	2	7%
Total	11	5	12	28	
Crash Rate (per MVE)	0.73	0.33	0.80	0.62	
Severity				Total	%
Property Damage	8	5	7	20	71%
Bodily Injury	3	0	5	8	29%

Exhibit 9B (cont.)

Intersection Crash Rate Statistics

La Cholla Bl/Old Magee Tr

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Angle	1	1	1	3	100%
Total	1	1	1	3	
Crash Rate (per MVE)	0.16	0.16	0.16	0.16	
Severity				Total	%
Property Damage	0	1	1	2	67%
Bodily Injury	1	0	0	1	33%

La Cholla Bl/Omar Dr

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Angle	0	1	0	1	100%
Total	0	1	0	1	
Crash Rate (per MVE)	0.00	0.11	0.00	0.04	
Severity				Total	%
Property Damage	0	1	0	1	100%

La Cholla Bl/ Orange Grove Rd

Crash Type	10/01/2014 to 09/30/2015	10/01/2015 to 09/30/2016	10/01/2016 to 09/30/2017	Total	%
Rear End	8	12	6	26	58%
Angle	3	1	3	7	16%
Backing	0	1	1	2	4%
Turning	3	1	1	5	11%
Miscellaneous	2	2	0	4	9%
Out Of Control	1	0	0	1	2%
Total	17	17	11	45	
Crash Rate (per MVE)	1.09	1.09	0.71	0.96	
Severity				Total	%
Bodily Injury	6	8	4	18	40%
Property Damage	10	9	7	26	58%
Fatality	1	0	0	1	2%

5. Projected Traffic

Site Traffic Forecasting

Trip Generation

Driveway counts were used to estimate the trip generation of the existing Foothills Mall. The counts were collected in early 2018 during a typical weekday when schools in the districts were in session. The counts were collected at the three driveways on Ina Road and the three southernmost driveways on La Cholla Boulevard. It is understood that there were vehicles accessing these driveways that were associated with non-Bourn-managed Foothills Mall properties on or near the site, but for the purposes of estimating trip generation, we assumed that all driveway counts were associated with the Mall. Bourn staff indicated that the Mall was seventy percent leased at the time of the counts. We estimated that the square footage of the Mall property was 619,951 square feet based on information from the Pima County Assessors site. Seventy percent of the total area is 433,966 square feet.

Based on this information, the trip generation for the weekday am, pm and daily time periods were applied to estimate the trip generation rates for the existing mall. These counts and rates are provided in Exhibit 10. In comparing the calculated rates to the average rates in the Institute of Traffic Engineers' *Trip Generation Manual*, 10th Edition for the land use Shopping Center (ITE Land Use Code 820), the average ITE am peak hour rate of 0.94 trips/1000 square feet of gross leasable space is close to the measured rate of 1.00 trips/1000 square feet of leased mall space. The measured rate of 3.26 trips/1000 square feet of leased space is less than the average rate of 3.81 trips/1000 square feet of gross leasable space in the ITE document.

To estimate the total trip generation for the proposed mall redevelopment, we applied the calculated trip generation rate for the commercial uses and the average trip rates in the *Trip Generation Handbook* for the other proposed land uses (office, multi-family residential, hotel and cineplex). Exhibit 11 shows the trip rates and estimated trip generation. Based on the applied trip rates for the project land uses, the project is projected to generate approximately 39,814 daily one-way trips, with 1,519 trips during the am peak hour and 3,875 during the pm peak hour.

Exhibit 10 Trip Generation – Based on Driveway Counts

	Bldg Size (Square Feet) or Units	ITE Code	AM Peak		PM Peak		Weekday	
			In	Out	In	Out	In	Out
Actual Driveway Counts Commercial	619951 X 0.70 = 433,966 sf	820	436		1,416		14,160	
			255	181	689	727	7,080	7,080
	Bldg Size (Square Feet) or Units	ITE Code	AM Peak		PM Peak		Weekday	
			In	Out	In	Out	In	Out
New Calculated Rate based on Existing Counts Commercial	433,966	820	1.00		3.26		32.63	
			0.58	0.42	0.49	0.51	0.50	0.50

Exhibit 11 Trip Rates and Trip Generation

Description (Sub-Area)	Bldg Size (Square Feet) or Units or Seats	ITE Code	In	Out	In	Out	In	Out	No Units	Unit
Office	300,000	710	1.16		1.15		9.74		300	1,000 SF
			86%	14%	16%	84%	50%	50%		
Commercial	800,000	820	1.00		3.26		32.63		800	1,000 SF
			58%	42%	49%	51%	50%	50%		
Apartment	500	220	0.46		0.56		7.32		500	Dwelling Unit
			23%	77%	63%	37%	50%	50%		
Hotel	300	310	0.47		0.6		8.36		300	Rooms
			59%	41%	51%	49%	50%	50%		
Multiplex Movie Theater	1,650	445	0.00		0.28		2.8		1,650	Seats
			0%	0%	51%	49%	50%	50%		

Movie Theater Rate based on Weekday PM Generator

Daily Rate based on 10 times PM Generator Rate

Description (Sub-Area)	Bldg Size (Square Feet) or Units or Seats	ITE Code	AM Peak		PM Peak		Weekday		No Units	Unit
			In	Out	In	Out	In	Out		
Office	300,000	710	348		345		2,922		300	1,000 SF
			299	49	55	290	1,461	1,461		
Commercial	800,000	820	800		2,608		26,104		800	1,000 SF
			464	336	1,278	1,330	13,052	13,052		
Apartment	500	220	230		280		3,660		500	Dwelling Unit
			53	177	176	104	1,830	1,830		
Hotel	300	310	141		180		2,508		300	Rooms
			83	58	92	88	1,254	1,254		
Multiplex Movie Theater	1,650	445	0		462		4,620		1,650	Seats
			0	0	236	226	2,310	2,310		
Totals			1,519		3,875		39,814			
			899	620	1,837	2,038	19,907	19,907		
		In%/Out%	59%	41%	47%	53%	50%	50%		

Trip Generation Reductions

Existing Use

Because of the existing mall uses, it is necessary to reduce the trip generation associated with the proposed land uses. Subtracting the existing trip generation from the proposed trip generation results in the total new trip generation shown in Exhibit 12.

Exhibit 12 Trip Generation – Total New Trip Generation

Net Total Trip Generation

Description (Sub-Area)	Bldg Size (Square Feet) or Units	ITE Code	In	Out	In	Out	In	Out	No Units	Unit
Office	300,000	710	348		345		2,922		300	1,000 SF
			299	49	55	290	1,461	1,461		
Commercial	800000 - 70% existing	820	364		1,192		11,944		800000 - 70% existing	1,000 SF
			209	155	589	603	5,972	5,972		
Apartment	500	220	230		280		3,660		500	Dwelling Unit
			53	177	176	104	1,830	1,830		
Hotel	300	310	141		180		2,508		300	Rooms
			83	58	92	88	1,254	1,254		
Multiplex Movie Theater	1,650	445	0		462		4,620		1,650	Seats
			0	0	236	226	2,310	2,310		
Totals			1,083		2,459		25,654			
			644	439	1,148	1,311	12,827	12,827		
		In%/Out%	59%	41%	47%	53%	50%	50%		

Alternate Modes

For the purpose of the analysis, the net total trips were reduced by 5% to account for trips via alternative modes of transportation (pedestrian, bicycle, transit).

Internal Trips

For the purpose of the analysis, trips associated with the office, residential and hotel land uses were further reduced by 10% to account for internal trip use.

Pass-by Trips

Based on information found in the ITE Trip Generation Handbook, pass-by rates of 35% for the commercial uses were applied. This reduced the commercial trip rates at the off-site intersections by 35% to indicated that these trips would already be on the roadway network, and not be “new” trips.

Estimate of External and Net Trips

Based on the reductions applied, Exhibit 13 shows the total new external trips. It should be noted that the trips distributed at the project driveways include the pass-by trips, but the off-site intersections do not.

Trip Distribution and Assignment

Trips were distributed based on their existing distribution at the project driveways and at the off-site intersections. No restrictions were applied to turning movements at the project driveways – if an existing left turn lane exists at a driveway, it was assumed that the left turn lane would remain with the redevelopment. The site trips at the off-site intersections and the project driveways are shown in Exhibits 14 and 15.

It should be noted that all trips were assigned at the project driveways. Pass-by trips were not added to the off-site intersections as they would already be in the background traffic volumes.

No Project Traffic Forecasting

Projections of No Project Traffic

We estimated year 2020 and 2025 traffic volumes based on a 2%/year growth rate. Exhibits 16 and 17 show the future turning movement intersection counts under the no-project conditions for the horizon years. Volumes for only the off-site intersections are shown.

Total Traffic

We added the site traffic volumes to the no-project traffic volumes for the years 2020 and 2025. The resulting total peak hour turning volumes at the project intersections and driveways are illustrated in Exhibits 18-21.

We did not analyze peak hour conditions for the year 2040 because the volumes were assumed to be too speculative for a year so far in the future.

Exhibit 13 Trip Rates and Trip Generation

Daily

		Total Trips	Mode Reduction	Internal Capture	External Trips	Pass-by Trips	New External*
Office	Percent	100%	95%	10%	90%	0%	90%
	Volume	2,922	2,776	278	2,498	0	2,498
Commercial	Percent	100%	95%	0%	100%	35%	65%
	Volume	11,944	11,347	0	11,347	3,971	7,375
Apartment	Percent	100%	95%	10%	90%	0%	90%
	Volume	3,660	3,477	348	3,129	0	3,129
Hotel	Percent	100%	95%	10%	90%	0%	90%
	Volume	2,508	2,383	238	2,144	0	2,144
Movie Theater	Percent	100%	95%	0%	100%	0%	90%
	Volume	4,620	4,389	0	4,389	0	4,389
Total Project	Percent	100%	95%	3%	92%	15%	76%
	Volume	25,654	24,371	864	23,508	3,971	19,536

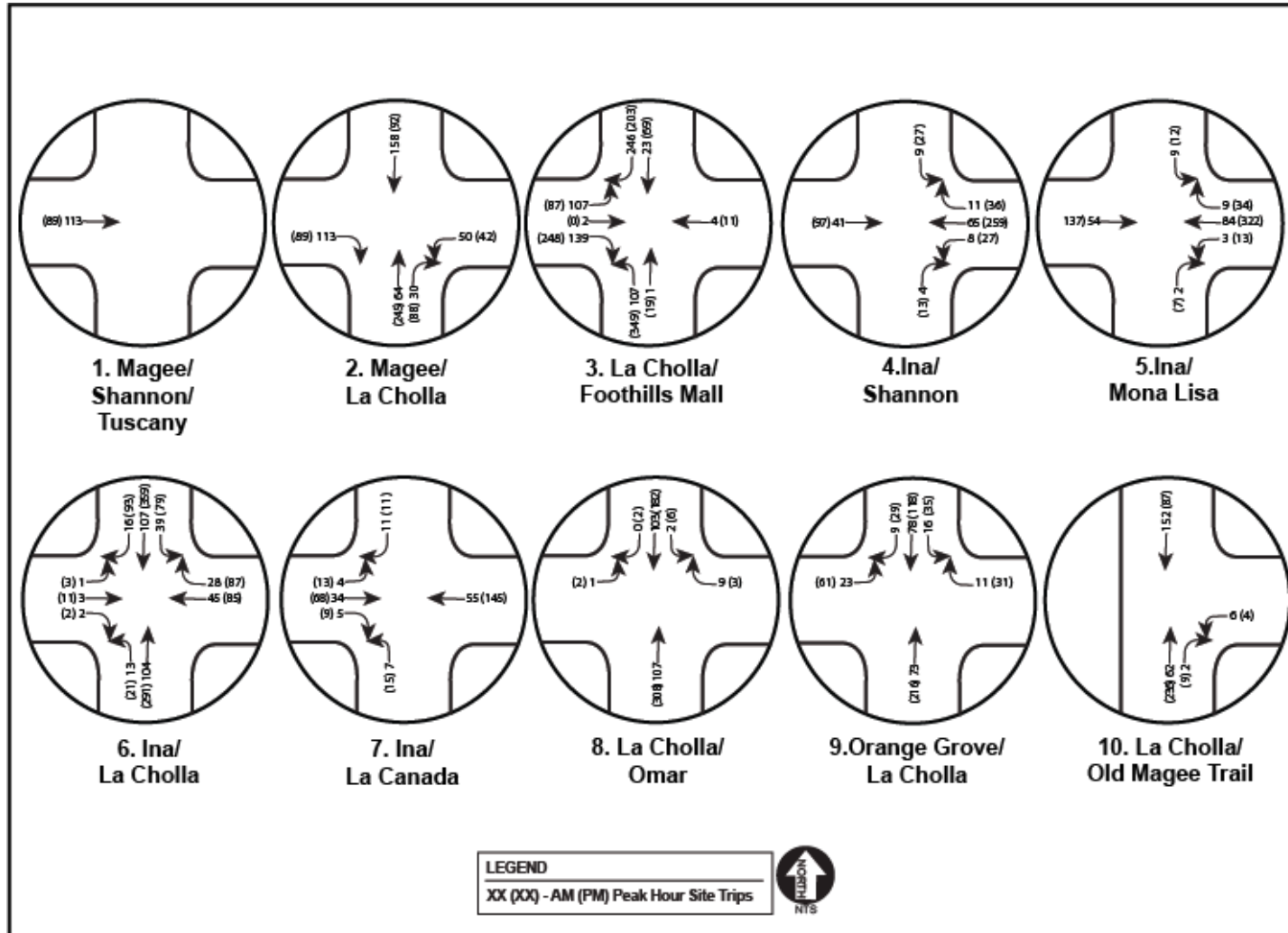
AM Peak Hour

		Total Trips	Mode Reduction	Internal Capture	External Trips	Pass-by Trips	New External*
Office	Percent	100%	95%	10%	90%	0%	90%
	Volume	348	331	33	298	0	298
Commercial	Percent	100%	95%	0%	100%	35%	65%
	Volume	364	346	0	346	121	225
Apartment	Percent	100%	95%	10%	90%	0%	90%
	Volume	230	219	22	197	0	197
Hotel	Percent	100%	95%	10%	90%	0%	90%
	Volume	141	134	13	121	0	121
Movie Theater	Percent	100%	95%	0%	100%	0%	90%
	Volume	0	0	0	0	0	0
Total Project	Percent	100%	95%	6%	89%	11%	78%
	Volume	1,083	1,029	68	961	121	840

PM Peak Hour

		Total Trips	Mode Reduction	Internal Capture	External Trips	Pass-by Trips	New External*
Office	Percent	100%	95%	10%	90%	0%	90%
	Volume	345	328	33	295	0	295
Commercial	Percent	100%	95%	0%	100%	35%	65%
	Volume	1,192	1,132	0	1,132	396	736
Apartment	Percent	100%	95%	10%	90%	0%	90%
	Volume	280	266	27	239	0	239
Hotel	Percent	100%	95%	10%	90%	0%	90%
	Volume	180	171	17	154	0	154
Movie Theater	Percent	100%	95%	0%	100%	0%	90%
	Volume	462	439	0	439	0	439
Total Project	Percent	100%	95%	3%	92%	16%	76%
	Volume	2,459	2,336	76	2,260	396	1,863

Exhibit 14 Site Trips (Off-Site)



Note: Pass-by trips are integrated into the no-project and total trips as they would already be on the roadway network.

Exhibit 15 Driveway Site Trips (Total)

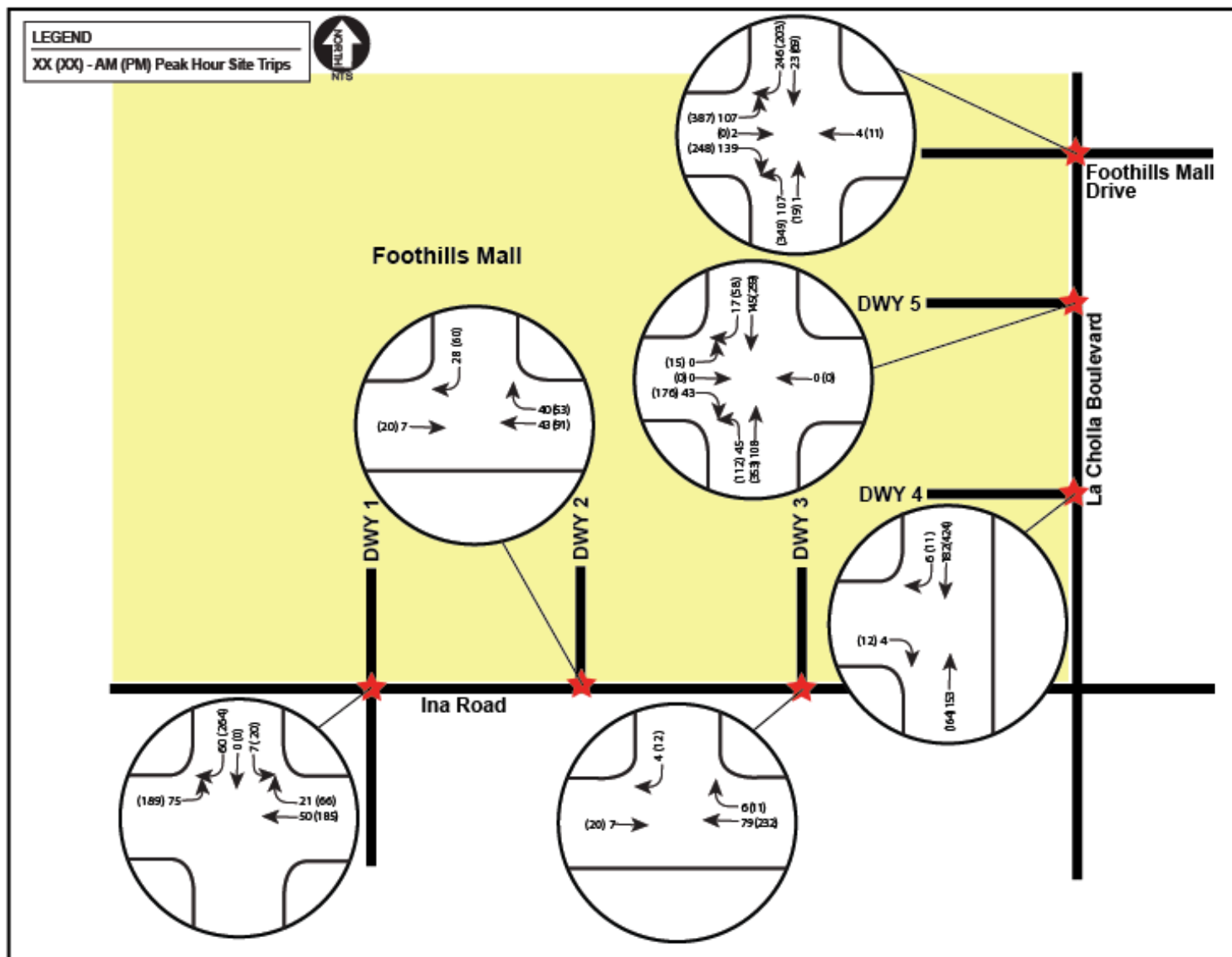


Exhibit 16

2020 Peak Hour Intersection Volumes – Without Project

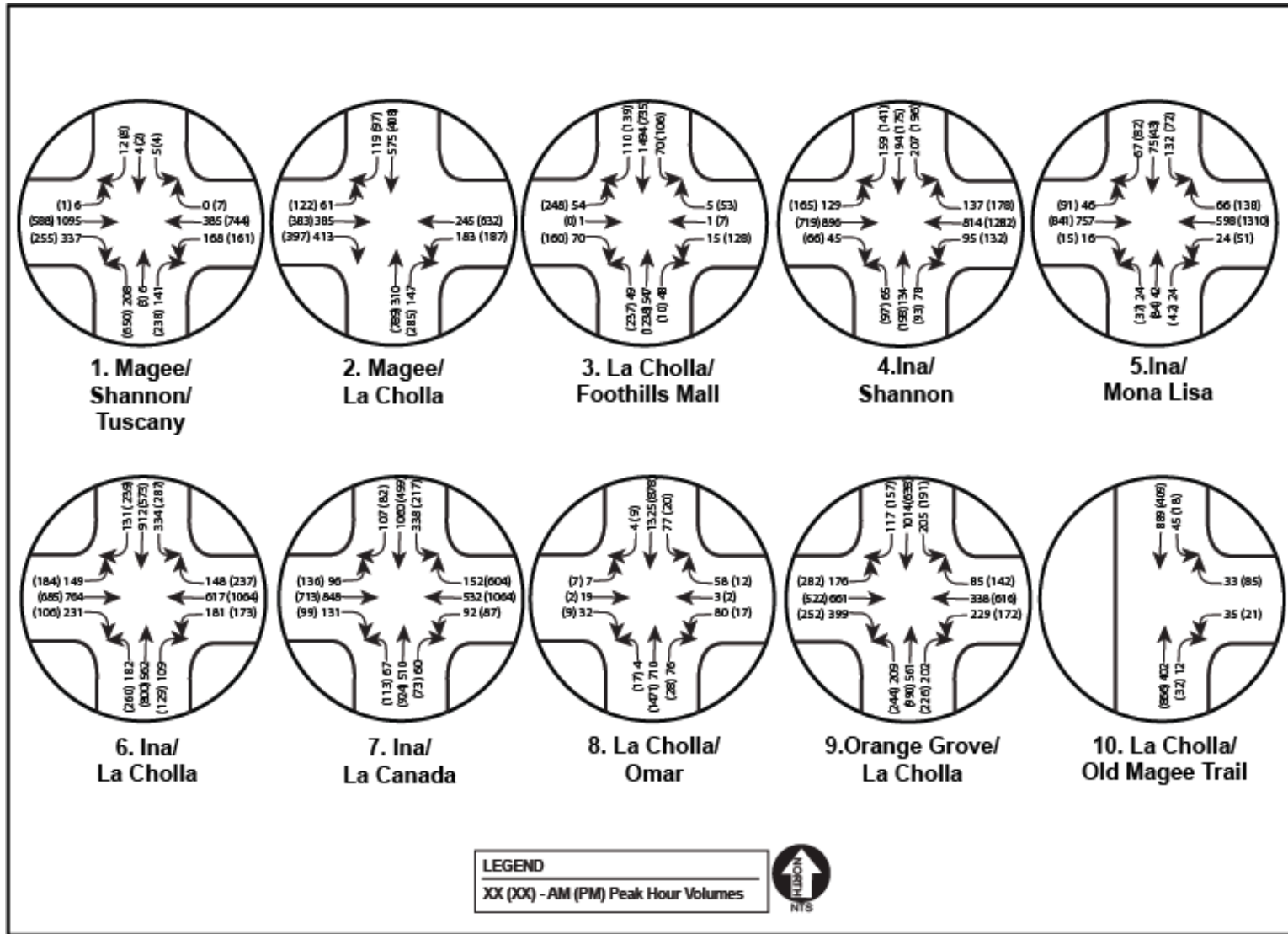


Exhibit 17 2025 Peak Hour Intersection Volumes – Without Project

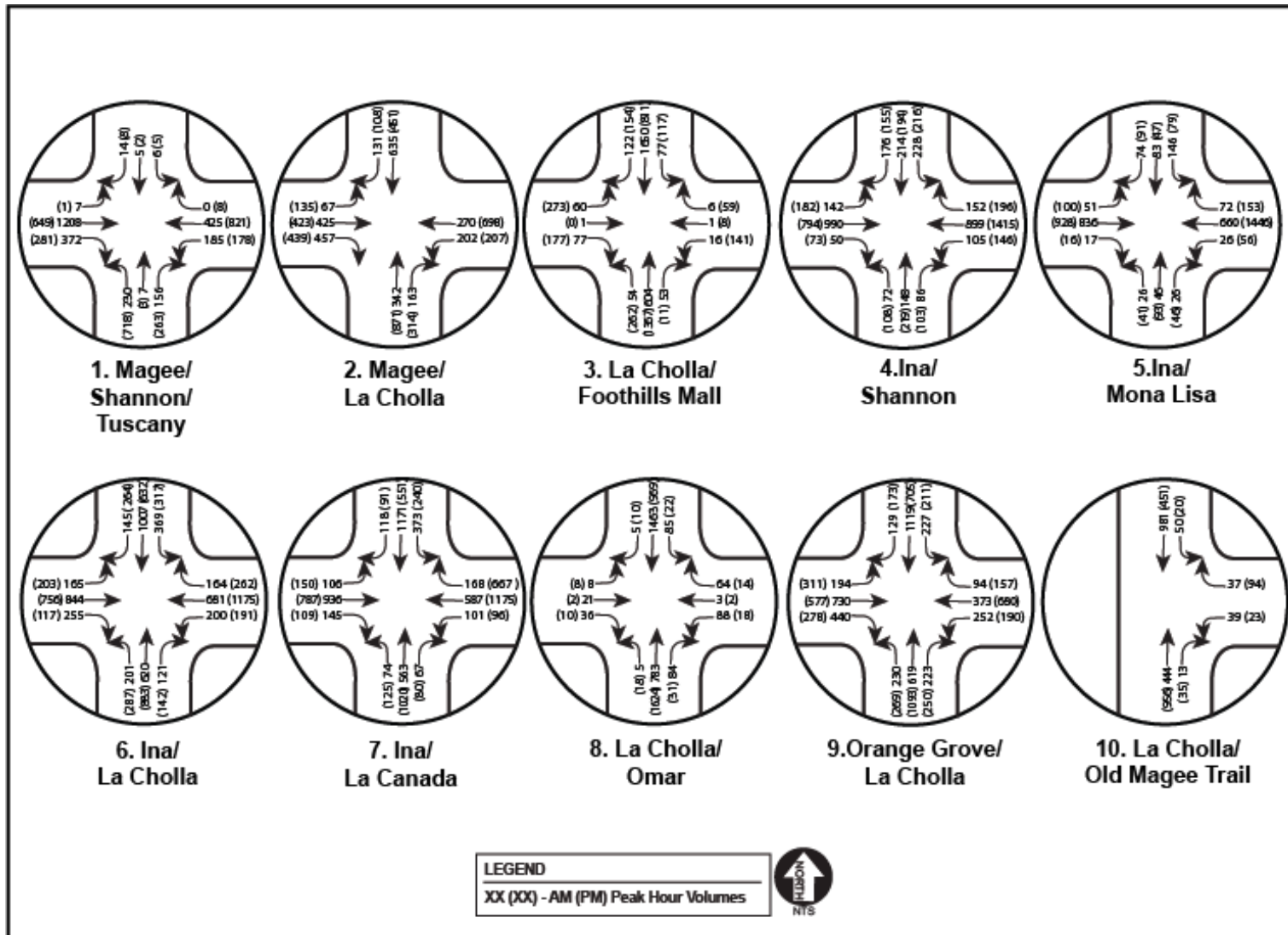


Exhibit 18 2020 With Project Peak Hour Volumes (Off-Site)

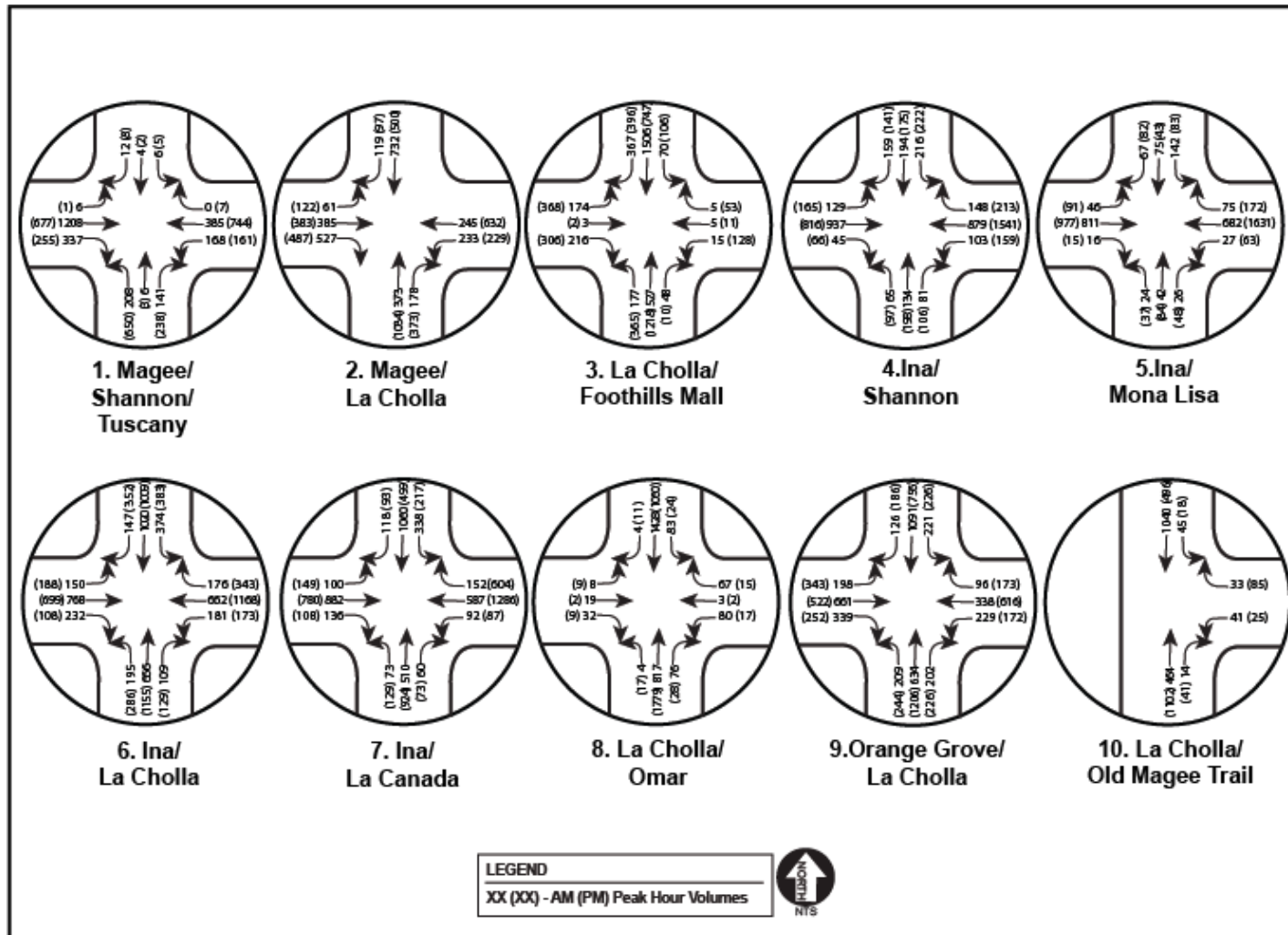


Exhibit 19 2020 With Project Peak Hour Volumes (Driveways)

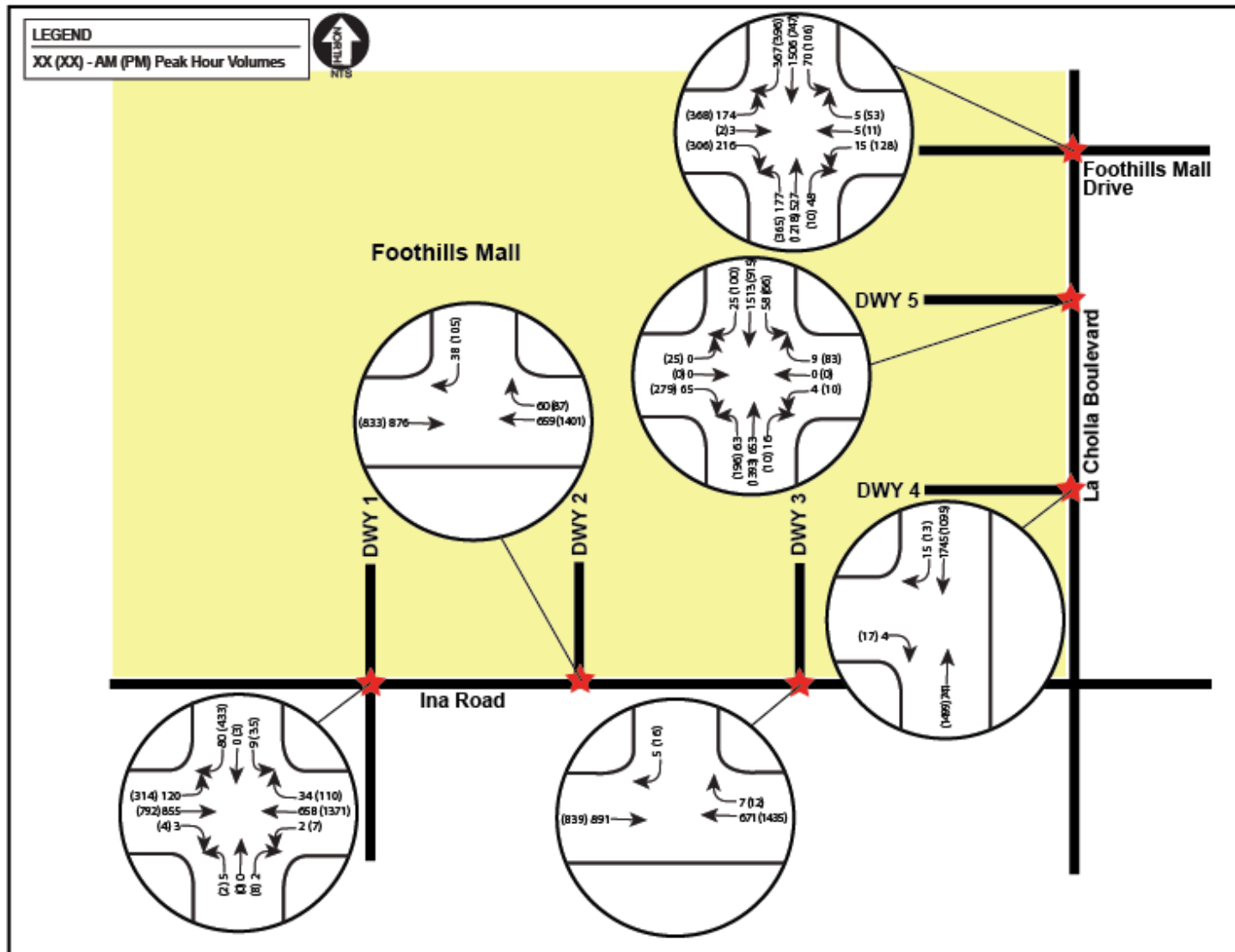


Exhibit 20

2025 With Project Peak Hour Intersection Volumes (Off-Site)

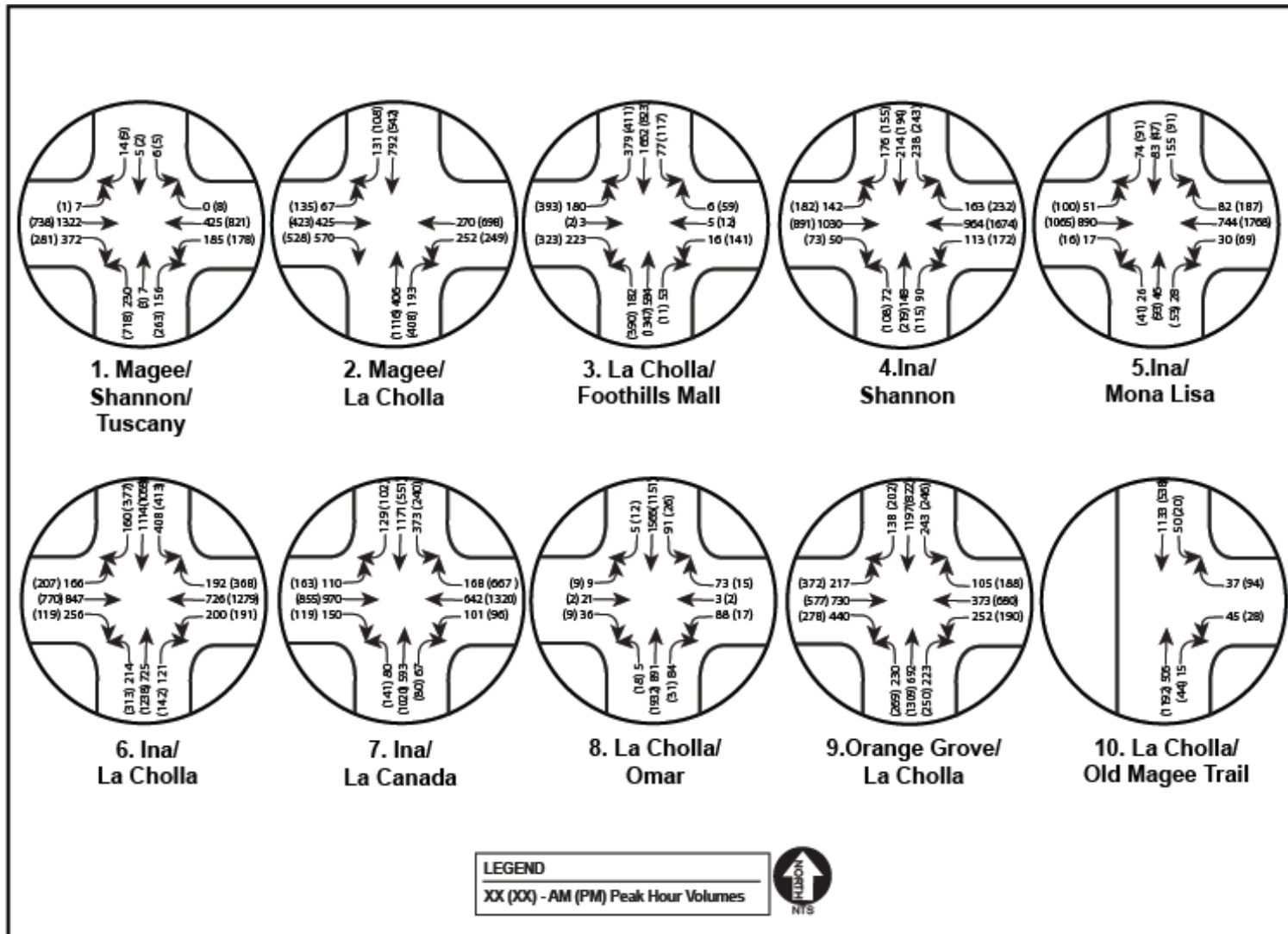
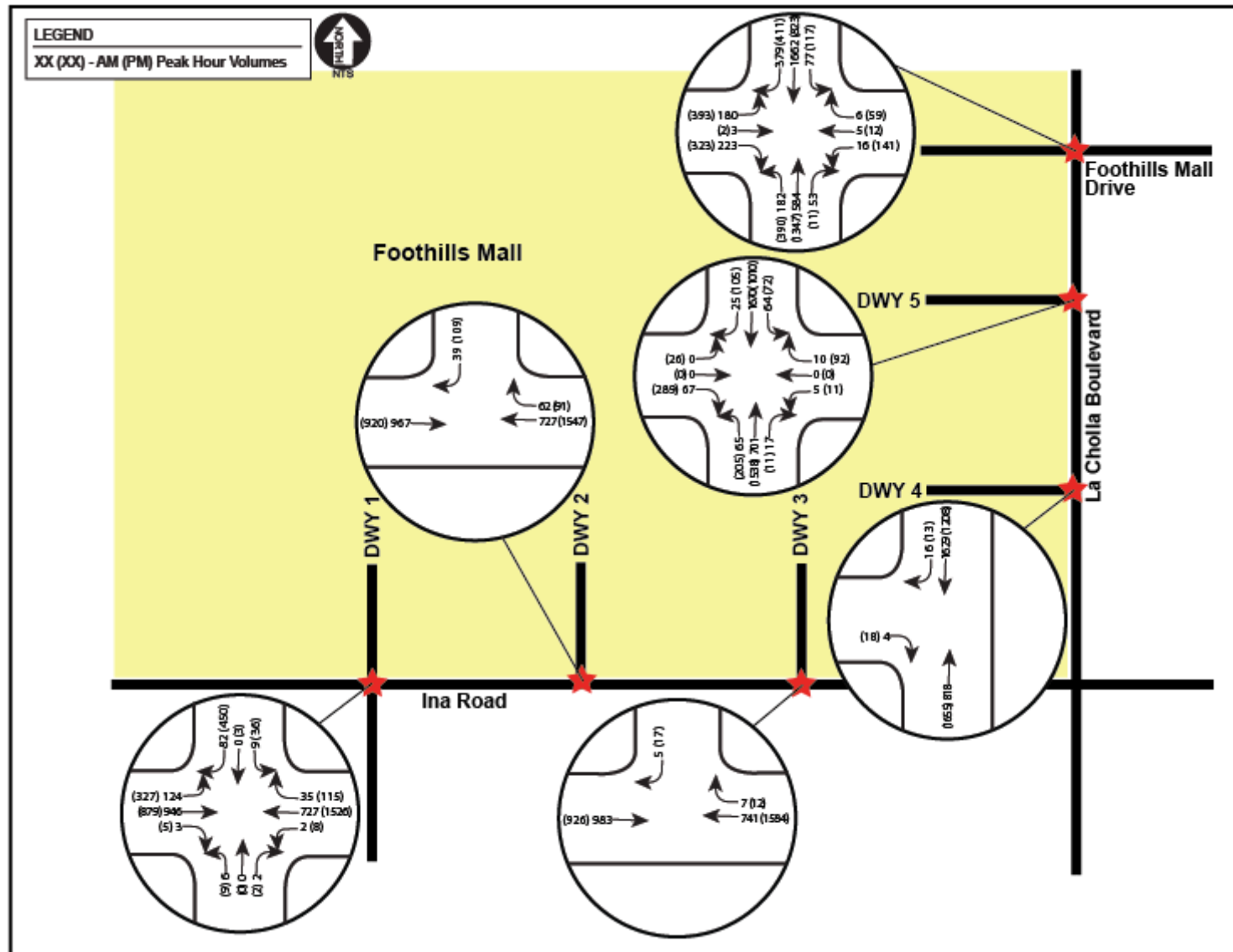


Exhibit 21 2025 Peak Hour Intersection Volumes (Driveways)



6. Traffic and Improvement Analysis

Level of Service Analysis

Roadway Performance

Exhibit 22 summarizes the new ADT and daily volume capacity (LOS D) of the roadway segment with and without the project in 2020, 2025 and 2040. The daily LOS D criteria is found in FDOT's *Generalized Annual Average Traffic Volumes in Urbanized Areas*. The daily capacity of the roadway is generally based on the type of roadway, the number of lanes, the speed limit and the provision of turn lanes. The LOS D capacity is provided as this is the design "LOS" Pima County applies to roadway planning.

For the years 2020 and 2025, a general growth of 2%/year was applied. For the year 2040, we reviewed PAG's travel demand model volume forecasts. For the segment of Ina Road between Mona Lisa and La Cholla Boulevard, the yearly growth rate between 2018 and the 2040 volumes was 1.675%/year. For the segment of La Cholla Boulevard between Ina Road and Foothills Mall Drive, the yearly growth rate between 2018 and 2040 was 3.447%/year. The "No Project" ADTs for the roadway segments for the year 2040 were estimated by applying these growth rates (3.447%/year to La Cholla Boulevard, Old Magee Trail and the La Cholla Loop Road; 1.675%/year for other roadways).

Site trips were added to the No Project (NP) ADTs to estimate the ADTs with the Foothills Mall redeveloped. The table show that based on the projected growth, four-lane Ina Road and six-lane La Cholla Boulevard will approach the its LOS D capacity by the year 2025 without the redevelopment, and will exceed it with the project traffic added. By the year 2040, Ina Road will exceed its LOS D capacity without the project.

Exhibit 22 Future Roadway Volumes and Capacity

Roadway Segment	Lanes	2020 NP ADT	Site Trips	2020 WP ADT	2025 NP ADT	2025 WP ADT	2040 NP	2040 WP	LOS D Threshold (vpd)	LOS D Threshold Volume Exceeded (2025/2040) No Project	LOS D Threshold Volume Exceeded (2025/2040) With Project
Mona Lisa Road, North of Ina Road	2	5,365	220	5,585	5,924	6,144	7,433	7,652	15,930	No/No	No/No
Mona Lisa Road, South of Ina Road	2	2,980	499	3,479	3,290	3,789	4,128	4,627	15,930	No/No	No/No
La Cholla, Old Magee Trail to Magee Road	6	26,256	3,195	29,451	28,988	32,183	53,184	56,379	53,910	No/No	Approaches/Yes
La Cholla, Magee Road to Foothills Mall Signal	6	27,215	3,195	30,410	30,047	33,242	55,127	58,322	53,910	No/Yes	Yes/Yes
La Cholla, Foothills Mall Road to Ina Road	6	28,091	9,986	38,076	31,015	41,000	56,902	66,888	53,910	No/Yes	Yes/Yes
La Cholla, Ina Road to Orange Grove Road	6	24,805	3,395	28,200	27,387	30,782	50,246	53,641	53,910	No/No	Approaches/Approaches
Old Magee Trail, East of La Cholla Boulevard	2	1,840	0	1,840	2,032	2,032	3,727	3,727	15,930	No/No	No/No
La Cholla to Magee Loop Road	1	1,847	1,199	3,046	2,039	3,238	3,742	4,940	N/A	N/A	N/A
Magee Road, West of La Cholla Boulevard	4	18,102	2,397	20,499	19,986	22,383	25,076	27,473	35,820	No/No	No/No
Magee Road, East of La Cholla Boulevard	4	18,971	2,596	21,567	20,945	23,541	26,280	28,876	35,820	No/No	No/No
Ina Road, Shannon Road to Mona Lisa Road	4	32,302	4,394	36,696	35,664	40,058	44,747	49,141	35,820	Approaches/Yes	Yes/Yes
Ina Road, Mona Lisa Road to La Cholla Boulevard	4	29,131	9,986	39,117	32,163	42,149	40,355	50,341	35,820	Approaches/Yes	Yes/Yes
Ina Road, La Cholla Boulevard to La Canada Drive	4	29,435	3,994	33,429	32,498	36,492	40,776	44,770	35,820	Approaches/Yes	Yes/Yes

Intersection Performance

For the years 2020 and 2025 we analyzed the project intersections with and without project trips. The results for the peak hour intersection analysis are provided in Exhibit 23 (2020 and 2025, Driveways, No Project), Exhibit 24 (2020 and 2025, Off-Site Intersections, No Project), Exhibit 25 (2020 and 2025, Driveways, With Project) and Exhibit 26 (2020 and 2025, Off-Site Intersections, With Project).

As shown in the summary tables, the following turning movements, approaches and intersections will operate at LOS E or F during the peak hours

Driveways

Ina Road/Dwy 1

Northbound and southbound movements operate at LOS E or F under existing conditions. Delays will continue to grow with additional background and project site traffic. The eastbound left turn lane will experience LOS F with the project by the year 2025.

La Cholla/Dwy 5

Eastbound and westbound movements operate at LOS E or F under existing conditions. Delays will continue to grow with additional background and project site traffic. The northbound left turn lane will experience LOS E with the project by the year 2020 with the project. The southbound left will be at LOS E by the year 2025, although this movement does not access the Mall.

La Cholla/Foothills Mall Drive

All movements associated with access to the Mall (eastbound left and right, northbound left, and southbound right) will operate at LOS E or F by the year 2020 with the project traffic.

Off-Site Intersections

Ina Road/La Cholla Boulevard

Northbound through and southbound left turn movements will operate at LOS E or F with the project by 2020. The westbound through and northbound left turn movements will also experience delays associated with LOS E and F conditions by 2025 with the project. The intersection itself will average a delay of 68.8 seconds per vehicle (LOS E) during the pm peak hour by 2025.

Ina Road/Shannon Road

The eastbound left movement will operate at LOS E during the pm peak hour by 2020 without the project. This movement is not specifically associated with Mall site traffic. The northbound through/right turn lane and the southbound left turn lane will operate at LOS E by 2025 without the project. The westbound through movement will operate at LOS F by 2020 with the project. By 2025, the southbound through movement will operate at LOS F with the project.

Ina Road/La Canada Drive

The eastbound left and through movements and all westbound and southbound movements and operate at LOS E or F without the project by 2025.

La Cholla Boulevard/Orange Grove Road

The eastbound right turn movement will operate at F without the project by 2020.

Exhibit 23 Driveway Performance – 2020 and 2025(No Project)

Ina/Dwy 1	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	9.4	A	16.9	C	9.7	A	20.5	C
Westbound								
Left	10	B	9.9	A	10.5	B	10.3	B
Northbound								
Left/Through/Right	37.6	E	79.3	F	50.3	F	181.1	F
Southbound								
Left	37.5	E	486.2	F	46	E	1040	F
Through/Right	10.9	B	33	D	11.2	B	56.2	F

Ina/Dwy 2	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound								
Right	10.7	B	17	C	11.1	B	19.1	C

Ina/Dwy 3	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound								
Right	10.7	B	15.8	C	11	B	17.3	C

La Cholla/Dwy 4	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound								
Right	18	C	14.5	B	19.8	C	15.5	C

La Cholla/Dwy 5	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	0	A	182.7	F	0	A	429.9	F
Through/Right	19.6	A	16.3	C	22.1	C	18.1	C
Westbound								
Left/Through/Right	NR	NR	114.1	F	26.7	D	365.5	F
Northbound								
Left	26.6	D	17.7	C	32.6	D	20.6	C
Southbound								
Left	12.5	B	29.6	D	13.4	B	39.6	E

NR = Not recorded - Synchro does not report an LOS result at times. However, it may be due to variables that are outside of calculation ranges.

Exhibit 24 Intersection Performance – 2020 and 2025(No Project)

Magee Road/Shannon Road/Tuscany Road

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	9.8	A	15.3	B	10.7	B	16.8	B
Through	18.2	B	20.8	C	22.6	C	23.6	C
Right	12.2	B	17.5	B	13.4	B	19.2	B
Approach	16.7	B	19.8	B	20.4	C	22.3	C
Westbound								
Left	22.2	C	11.5	B	40.4	D	14.6	B
Through/Right	8.7	A	16.2	B	9.9	A	18.9	B
Approach	12.8	B	15.4	B	19.2	B	18.1	B
Northbound								
Left	30.3	C	31.7	C	31.4	C	36.3	D
Through	30.3	C	31.8	C	31.4	C	36.6	D
Right	26.5	C	20.3	C	26.9	C	20.8	C
Approach	28.8	C	28.7	C	29.6	C	32.3	C
Southbound								
Left/Through/Right	36.1	D	42.4	D	35.1	D	38.2	D
Approach	36.1	D	42.4	D	35.1	D	38.2	D
Intersection	18.1	B	21.4	C	21.9	C	24.2	C

La Cholla Boulevard/Foothills Mall

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	37.8	D	44.5	D	40.2	D	49.9	D
Through/Right	29.9	C	33.2	C	31.1	C	34.4	C
Approach	33.3	C	40.1	D	35.1	D	43.8	D
Westbound								
Left	37.2	D	39.7	D	37.7	D	40.6	D
Through/Right	26.9	C	35.4	D	27.6	C	36.6	D
Approach	34.2	C	38.3	D	34.5	C	39.3	D
Northbound								
Left	35.8	D	37.3	D	36.9	D	41.6	D
Through	8.6	A	18.5	B	8.9	A	21.7	C
Right	8.9	A	20	B	9.3	A	24	C
Approach	10.7	B	21.9	C	11.1	B	25.6	C
Southbound								
Left	37.8	D	49.7	D	39.6	D	54.8	D
Through	10.5	B	20.4	C	11.5	B	23.4	C
Right	7.5	A	19.5	B	7.8	A	22.2	C
Approach	11.4	B	23.4	C	12.4	B	26.6	C
Intersection	13	B	25.8	C	13.8	B	29.2	C

La Cholla Boulevard/Magee Road

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	21.9	C	22.6	C	22.3	C	23.4	C
Through	16.7	B	15.8	B	16.7	B	16	B
Approach	17.4	B	17.5	B	17.5	B	17.8	B
Westbound								
Left	22.3	C	23.9	C	24.4	C	26	C
Through	13.7	B	15.5	B	13.7	B	15.5	B
Approach	17.4	B	17.4	B	18.3	B	17.9	B
Northbound								
Through	9.6	A	12.4	B	10.2	B	13.4	B
Right	10.9	B	15.1	B	11.8	B	17	B
Approach	10	B	13.1	B	10.7	B	14.4	B
Southbound								
Through	10.7	B	10.9	B	11.5	B	11.7	B
Right	10.6	B	11.1	B	11.3	B	11.8	B
Approach	10.7	B	11	B	11.5	B	11.7	B
Intersection	13.2	B	14.8	B	13.9	B	15.6	B

Ina Road/Shannon Road

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	32.6	C	62.1	E	34.4	C	79.3	E
Through	26.6	C	31.2	C	28.8	C	31.9	C
Right	15.4	B	21	C	15	B	19.3	B
Approach	26.9	C	35.9	D	28.9	C	39.3	D
Westbound								
Left	36.6	D	28.2	C	38.8	D	29	C
Through	27.8	C	37.3	D	29.4	C	46.9	D
Right	15.1	B	14.2	B	15	B	12.6	B
Approach	26.9	C	33.9	C	28.4	C	41.6	D
Northbound								
Left	23.1	C	27	C	25.1	C	30.2	C
Through/Right	28.8	C	40.3	D	32.1	C	69.1	E
Approach	27.5	C	37	D	30.5	C	59.3	E
Southbound								
Left	28.6	C	44.8	D	32.1	C	76.5	E
Through	19.4	B	25.1	C	21	C	28.3	C
Right	21.7	C	28.1	C	23.9	C	32.9	C
Approach	23.5	C	33.5	C	25.9	C	48	D
Intersection	26.3	C	34.8	C	28.3	C	44.1	D

Exhibit 24 (cont.)

Intersection Performances – 2020 and 2025 (No Project)

Ina Road/Mona Lisa Road

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	22.4	C	33.4	C	23.1	C	35.4	D
Through	20.2	C	23.1	C	20.3	C	23.2	C
Right	20.2	C	23	C	20.3	C	23.1	C
Approach	20.3	C	24	C	20.5	C	24.3	C
Westbound								
Left	24.6	C	19.3	B	25.6	C	20.6	C
Through	20.1	C	17.3	B	20.2	C	19.3	B
Right	16.6	B	10.4	B	16.4	B	10.2	B
Approach	19.9	B	16.8	B	20	C	18.5	B
Northbound								
Left	11.6	B	24.9	C	13.1	B	27.9	C
Through/Right	10	B	23.9	C	11	B	26.7	C
Approach	10.4	B	24.2	C	11.6	B	27	C
Southbound								
Left	12.1	B	27.5	C	13.6	B	31.4	C
Through/Right	10.9	B	23	C	12.1	B	25.4	C
Approach	11.4	B	24.6	C	12.8	B	27.6	C
Intersection	18.4	B	20.3	C	18.7	B	21.7	C

Ina Road/La Canada Drive

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	29.1	C	53.1	D	29.7	C	64.3	E
Through	32.2	C	25.6	C	51.4	F	29	C
Right	14.8	B	17.3	B	15.2	B	18.2	B
Approach	29.8	C	28.7	C	45	D	33	C
Westbound								
Left	50	D	58	E	52.7	D	61.4	E
Through	19.1	B	41.2	D	20	B	69.6	F
Right	13.8	B	44.8	D	14.1	B	68.7	F
Approach	21.8	C	43.3	D	22.7	C	68.9	E
Northbound								
Left	29.2	C	42.8	D	29.6	C	43.8	D
Through	20.4	C	37.8	D	21.6	C	51.6	D
Right	14.2	B	18.2	B	14.1	B	18.2	B
Approach	20.7	C	37	D	21.7	C	48.6	D
Southbound								
Left	195.3	F	41.3	D	262.9	F	43	D
Through	88.6	F	22.6	C	142.8	F	23	C
Right	13.9	B	16.9	B	14.3	B	16.9	B
Approach	107.3	F	27.1	C	160.6	F	27.8	C
Intersection	56	E	36	D	80.5	F	49.6	D

Ina Road/La Cholla Boulevard

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	32.2	C	47.2	D	33.7	C	50.7	D
Through	28.4	C	33.2	C	31.4	C	34.5	C
Right	17.9	B	19.3	B	17.9	B	18.6	B
Approach	26.8	C	34.3	C	29	C	35.8	D
Westbound								
Left	38.1	D	32.3	C	41	D	34.2	C
Through	28.5	C	36.6	D	30.2	C	53.1	D
Right	15.7	B	14.7	B	15.7	B	15	B
Approach	28.4	C	32.6	C	30	C	44.8	D
Northbound								
Left	36.9	D	47.7	D	39.7	D	53.8	D
Through	27.8	C	33.7	C	31.1	C	37.8	D
Right	20.8	C	17.4	B	22.5	C	19.1	B
Approach	28.9	C	35	D	31.8	C	39.3	D
Southbound								
Left	33.9	C	44.7	D	37.5	D	50.5	D
Through	26.1	C	28.8	C	30.2	C	30.8	C
Right	15.1	B	26.5	C	16.6	B	28.5	C
Approach	26.9	C	32.4	C	30.7	C	35.4	D
Intersection	27.6	C	33.5	C	30.3	C	39.3	D

La Cholla Boulevard/Omar Road

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	24.7	C	27.6	C	24.7	C	27.7	C
Through/Right	22	C	27.7	C	21.6	C	27.7	C
Approach	22.3	C	27.7	C	22	C	27.7	C
Westbound								
Left	27.2	C	28	C	27.4	C	28	C
Through/Right	23.2	C	28.1	C	22.9	C	28.1	C
Approach	25.5	C	28	C	25.4	C	28.1	C
Northbound								
Left	8	A	2.2	A	9.7	A	2.4	A
Through	5	A	2.3	A	5.7	A	2.5	A
Right	5.3	A	2.6	A	6	A	2.9	A
Approach	5.2	A	2.4	A	5.9	A	2.6	A
Southbound								
Left	7.3	A	3.2	A	8.9	A	3.7	A
Through	6.2	A	1.8	A	7.3	A	2	A
Right	6.7	A	2	A	7.9	A	2.2	A
Approach	6.4	A	1.9	A	7.6	A	2.1	A
Intersection	8.6	A	3	A	9.4	A	3.1	A

Exhibit 24 (cont.) Intersection Performances – 2020 and 2025 (No Project)

La Cholla Boulevard/Orange Grove Road

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	25.4	C	35.2	D	27.8	C	41	D
Through	29	C	26.9	C	36.2	D	29.4	C
Right	72.1	F	29.1	C	122.8	F	33.5	C
Approach	42.4	D	29.7	C	63	E	33.5	C
Westbound								
Left	43.3	D	29.2	C	47.7	D	31.9	C
Through	34.8	C	28.6	C	35.8	D	34.3	C
Right	32.4	C	23.1	C	33	C	25	C
Approach	37.5	D	27.9	C	39.6	D	32.5	C
Northbound								
Left	42.6	D	28.7	C	46.5	D	31.8	C
Through	31.1	C	25.5	C	31.8	C	29.8	C
Right	34.1	C	23.6	C	36	D	26.5	C
Approach	34.2	C	25.8	C	35.8	D	29.6	C
Southbound								
Left	31	C	35.8	D	32.4	C	41.1	D
Through	30.5	C	27.9	C	34.1	C	30.8	C
Right	23.8	C	27.6	C	24.5	C	30	C
Approach	30	C	29.4	C	33	C	32.6	C
Intersection	36	D	28	C	43.9	D	31.8	C

La Cholla/Old Magee Trail

	2020 No Project				2025 No Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westbound								
Left	24.6	C	27.8	D	29.8	D	44.2	E
Right	9.9	A	13.2	B	10.1	B	14.2	B
Southbound								
Left	8.4	A	10	B	8.6	A	10.5	B

Exhibit 25 Driveway Performance – 2020 and 2025 (With Project)

Ina/Dwy 1	2020 With Project				2025 With Project			
	AM		PM		AM		PM	
	Delay		Delay		Delay		Delay	
	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS
Eastbound								
Left	9.8	A	34.7	D	10.2	B	62.3	F
Westbound								
Left	10	A	9.7	A	10.4	B	10.1	B
Northbound								
Left/Through/Right	55.4	F	NR	NR	77.7	F	NR	NR
Southbound								
Left	55.5	F	5562	F	71.1	F	23889	F
Through/Right	11.5	B	685.7	F	12	B	1806	F

Ina/Dwy 2	2020 With Project				2025 With Project			
	AM		PM		AM		PM	
	Delay		Delay		Delay		Delay	
	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS
Southbound								
Right	11	B	20.3	C	11.4	B	23.8	C

Ina/Dwy 3	2020 With Project				2025 With Project			
	AM		PM		AM		PM	
	Delay		Delay		Delay		Delay	
	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS
Southbound								
Right	10.7	B	16.2	C	11.1	B	17.8	C

La Cholla/Dwy 4	2020 With Project				2025 With Project			
	AM		PM		AM		PM	
	Delay		Delay		Delay		Delay	
	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS
Southbound								
Right	18.2	C	15	C	20	C	16	C

La Cholla/Dwy 5	2020 With Project				2025 With Project			
	AM		PM		AM		PM	
	Delay		Delay		Delay		Delay	
	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS	(sec/veh)	LOS
Eastbound								
Left	0	A	1093.5	F	0	A	2843	F
Through/Right	23.3	C	35	E	27.2	D	47	E
Westbound								
Left/Through/Right	NR	NR	1608.4	F	48.4	E	5956.0	F
Northbound								
Left	36	E	30.2	D	48.7	E	41.8	E
Southbound								
Left	12.5	B	29.6	D	13.4	B	39.6	E

NR = Not recorded - Synchro does not report an LOS result at times. However, it may be due to variables that are outside of calculation ranges.

Exhibit 26 Intersection Performance – 2020 and 2025 (With Project)

Magee Road/Shannon Road/Tuscany Road

	2020 With 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	9.9	A	15.4	B	10.7	B	16.8	B
Through	20.5	C	22.2	C	27.3	C	25.3	C
Right	12.2	B	17.6	B	13.4	B	19.2	B
Approach	18.7	B	20.9	C	24.2	C	23.6	C
Westbound								
Left	25.3	C	12.4	B	41.4	D	17.1	B
Through/Right	8.8	A	16.3	B	9.9	A	18.9	B
Approach	13.8	B	15.6	B	19.5	B	18.6	B
Northbound								
Left	30	C	31.9	C	31.4	C	36.3	D
Through	30.2	C	32.2	C	31.4	C	36.6	D
Right	26.5	C	20.4	C	26.9	C	20.8	C
Approach	28.6	C	28.9	C	29.6	C	32.3	C
Southbound								
Left/Through/Right	36.4	D	41.4	D	35.1	D	38.2	D
Approach	36.4	D	41.4	D	35.1	D	38.2	D
Intersection	19.4	B	21.8	C	24.1	C	24.8	C

La Cholla Boulevard/Foothills Mall

	2020 With 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	50.9	D	140.9	F	344	F	181.4	F
Through/Right	36	D	57.3	E	56.5	E	67.9	E
Approach	42.6	D	102.8	F	183.9	F	130.1	F
Westbound								
Left	45.4	D	44.8	D	49.5	D	45.8	D
Through/Right	31.7	C	33.2	C	29.9	C	32.8	C
Approach	39.9	D	40.9	D	41.3	D	41.5	D
Northbound								
Left	52.6	D	60.6	E	67.2	E	81.9	F
Through	13.6	B	24.1	C	13.9	B	27.9	C
Right	14	B	26.2	C	14.3	B	31.2	C
Approach	22.9	C	33	C	25.9	C	40.9	D
Southbound								
Left	47.6	D	59.5	E	49.4	D	63.3	E
Through	26.2	C	33.1	C	27.1	C	36.2	D
Right	22.7	C	140.1	F	21.8	C	165.5	F
Approach	26.3	C	69.3	E	27	C	77.9	E
Intersection	28.3	C	58.3	E	50.6	D	68.8	E

La Cholla Boulevard/Magee Road

	2020 With 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	22.2	C	22.9	C	22.5	C	23.6	C
Through	17	B	16.1	B	16.9	B	16.2	B
Approach	17.7	B	17.8	B	17.7	B	18	B
Westbound								
Left	25.6	C	26.4	C	29.8	C	30.4	C
Through	13.6	B	15.3	B	13.5	B	15.4	B
Approach	19.4	B	18.2	B	21.4	B	19.3	B
Northbound								
Through	10.1	B	14	B	10.6	B	15.2	B
Right	11.9	B	19.3	B	12.7	B	22.3	C
Approach	10.6	B	15.4	B	11.3	B	17.1	B
Southbound								
Through	11.8	B	11.6	B	12.6	B	12.2	B
Right	10.9	B	11.4	B	11.5	B	12	B
Approach	11.7	B	11.5	B	12.5	B	12.2	B
Intersection	14	B	15.9	B	14.8	B	17	B

Ina Road/Shannon Road

	2020 With 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	33.7	C	62.8	E	35.6	D	79.3	E
Through	27.4	C	31	C	30	C	31.8	C
Right	15.2	B	17.8	B	14.8	B	17.7	B
Approach	27.7	C	34.8	C	30	C	38.5	D
Westbound								
Left	37.4	D	33.1	C	39.7	D	31.5	C
Through	28.4	C	91.6	F	30.4	C	110.6	F
Right	14.8	B	14.5	B	14.7	B	13	B
Approach	27.4	C	78.2	E	29.2	C	93.1	F
Northbound								
Left	23.8	C	27.1	C	25.7	C	30.2	C
Through/Right	29.9	C	43.2	D	33.3	C	78.2	E
Approach	28.5	C	39.3	D	31.5	C	66.5	E
Southbound								
Left	29.8	C	59.8	E	33.8	C	78.2	E
Through	20	C	25.4	C	21.5	C	124.2	F
Right	22.4	C	28.5	C	24.5	C	28.3	C
Approach	24.4	C	40.4	D	27	C	68.9	E
Intersection	27.1	C	56.4	E	29.3	C	72.1	E

Exhibit 26 (cont.)

Intersection Performances – 2020 and 2025 (With Project)

Ina Road/Mona Lisa Road

	2020 With 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	23.4	C	36.6	D	24.3	C	37.3	D
Through	20.4	C	23.8	C	20.5	C	25.1	C
Right	20.3	C	23.7	C	20.4	C	25	C
Approach	20.5	C	24.8	C	20.7	C	26.3	C
Westbound								
Left	24.5	C	21.5	C	25.5	C	20.3	C
Through	19.6	B	24.9	C	19.8	B	37.5	D
Right	15.8	B	10	A	15.6	B	10.1	B
Approach	19.5	B	23.4	C	19.6	B	34.4	C
Northbound								
Left	12.5	B	28.5	C	13.9	B	30.1	C
Through/Right	10.7	B	27.9	C	11.8	B	29.5	C
Approach	11.2	B	28.1	C	12.4	B	29.6	C
Southbound								
Left	13.1	B	33.1	C	14.8	B	36	D
Through/Right	11.6	B	26.3	C	12.9	B	27.4	C
Approach	12.4	B	29	C	13.8	B	30.8	C
Intersection	18.5	B	24.6	C	18.9	B	31.5	C

Ina Road/La Canada Drive

	2020 With 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	29.3	C	61.1	E	29.8	C	77.2	E
Through	36.8	D	27.1	C	62	F	31.6	C
Right	14.8	B	17.2	B	15.2	B	18.1	B
Approach	33.4	C	31	C	53.4	D	36.7	D
Westbound								
Left	50.4	D	58.1	E	52.8	D	61.4	E
Through	20	C	74.6	F	21.1	C	119.5	F
Right	13.9	B	44.8	D	14.2	B	68.7	F
Approach	22.3	C	64.4	E	23.3	C	100.5	F
Northbound								
Left	29.3	C	43.1	D	29.6	C	44.4	D
Through	20.4	C	37.7	D	21.6	C	51.6	D
Right	14.2	B	18.2	B	14.1	B	18.2	B
Approach	20.9	C	37.1	D	21.8	C	48.6	D
Southbound								
Left	198.4	F	41.3	D	264.1	F	43	D
Through	91.2	F	22.9	C	145.1	F	23.3	C
Right	14.2	B	17.2	B	14.5	B	17.4	B
Approach	109.1	F	27.2	C	161.6	F	28	C
Intersection	57.1	E	44.9	D	82.4	F	63.1	E

Ina Road/La Cholla Boulevard

	2020 With 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	33.8	C	48.9	D	35.2	D	51.2	D
Through	28.8	C	34.1	C	31.8	C	34.6	C
Right	17.7	B	19.3	B	17.8	B	18.5	B
Approach	27.2	C	35.3	D	29.5	C	36	D
Westbound								
Left	38.5	D	32.7	C	41.4	D	34.5	C
Through	28.5	C	50.1	D	30.4	C	80.4	F
Right	15.2	B	16	B	15.2	B	16.7	B
Approach	28	C	41.4	D	29.8	C	62.9	E
Northbound								
Left	37.3	D	52.9	D	40.7	D	64.7	E
Through	29.8	C	70	F	33.8	C	99.2	F
Right	21.1	C	17.9	B	22.8	C	19.3	B
Approach	30.4	C	62.6	E	34	C	86.1	F
Southbound								
Left	36	D	80.3	F	40.7	D	105.4	F
Through	28.1	C	41.2	D	33.3	C	47.7	D
Right	16.5	B	36.4	D	18	B	39.1	D
Approach	28.9	C	48.8	D	33.6	C	58.8	E
Intersection	28.6	C	48.2	D	31.8	C	63.3	E

La Cholla Boulevard/Omar Road

	2020 With 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	25.4	C	27.8	C	25.3	C	27.8	C
Through/Right	21.9	C	27.5	C	21.5	C	27.5	C
Approach	22.4	C	27.7	C	22	C	27.7	C
Westbound								
Left	27.1	C	27.9	C	27.4	C	27.9	C
Through/Right	23.6	C	28.3	C	23.3	C	28.3	C
Approach	25.5	C	28.1	C	25.5	C	28.1	C
Northbound								
Left	8.6	A	2.5	A	10.5	B	2.7	A
Through	5.3	A	2.7	A	6	A	2.9	A
Right	5.6	A	3.1	A	6.3	A	3.4	A
Approach	5.4	A	2.8	A	6.1	A	3	A
Southbound								
Left	8.2	A	4.3	A	10.1	B	5.1	A
Through	6.5	A	2	A	7.7	A	2.1	A
Right	7.1	A	2.3	A	8.4	A	2.4	A
Approach	6.8	A	2.2	A	8	A	2.3	A
Intersection	8.8	A	3.2	A	9.7	A	3.4	A

Exhibit 26 (cont.) Intersection Performances – 2020 and 2025 (With Project)

La Cholla Boulevard/Orange Grove Road

	2020 With 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	26.4	C	43.7	D	28.6	C	49.9	D
Through	30.1	C	30.6	C	37.4	D	32.8	C
Right	77.2	F	34	C	127.8	F	38.2	D
Approach	44.5	D	35.4	D	64.7	E	39.2	D
Westbound								
Left	44.3	D	31.4	C	48.4	D	33.4	C
Through	35.4	D	34	C	36.1	D	40.2	D
Right	33.4	C	27.4	C	33.8	C	29	C
Approach	38.2	D	32.4	C	40	D	37	D
Northbound								
Left	43.5	D	31.5	C	47.2	D	34.6	C
Through	32.1	C	32.6	C	32.8	C	44.5	D
Right	34.1	C	25.1	C	36	D	28.6	C
Approach	34.8	C	31.4	C	36.4	D	40.9	D
Southbound								
Left	31.2	C	43.1	D	32.8	C	48.5	D
Through	32	C	31.5	C	37.3	D	34.4	C
Right	23.8	C	30.2	C	24.5	C	32.4	C
Approach	31.2	C	33.5	C	35.5	D	36.8	D
Intersection	37.1	D	33	C	45.1	D	38.7	D

La Cholla/Old Magee Trail

	2020 With Project				2025 With Project			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westbound								
Left	31.5	D	46.6	E	34.9	D	56	F
Right	10.1	B	15.4	C	10.4	B	16.7	C
Southbound								
Left	8.6	A	11.3	B	8.8	A	11.8	B

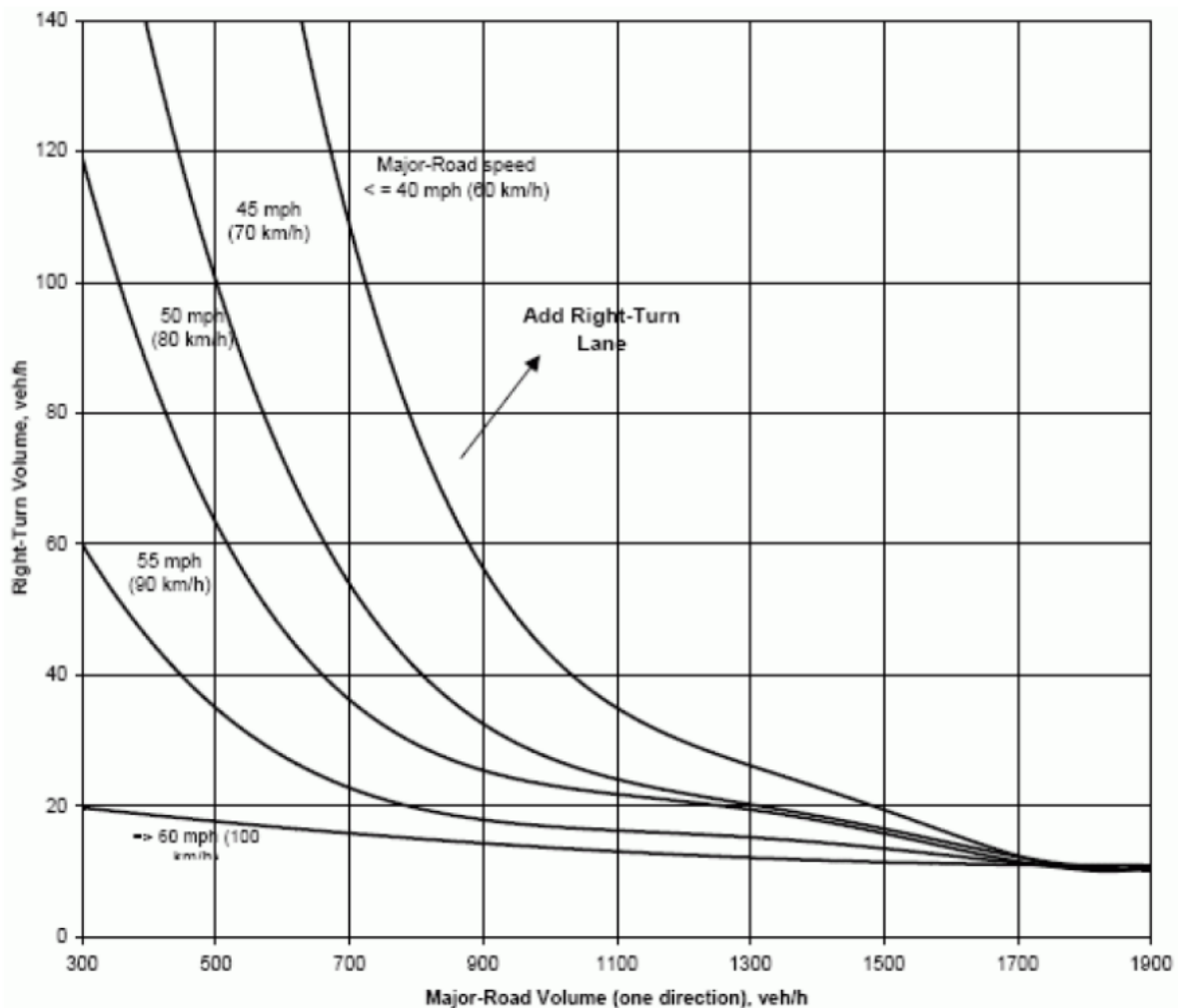
Auxiliary Lane Warrants

A turn lane “warrant” is a justification for constructing a turn lane, based on traffic volumes at an intersection. Turn lanes are warranted based on these criteria when the peak hour turn lane volume exceeds a trigger based on the two-way daily volume (ADT, or Average Daily Traffic as indicated in the table) on the roadway.

Pima County’s Subdivision and Development Street Standards (SDSS) provides turn lane warrant guidelines for County roadways. Left turn lanes are not considered in this study. The guidelines for right turn lanes on four-lane roads are shown in Exhibit 27. The SDSS does not have criteria for six-lane roads like La Cholla Boulevard.

Exhibit 27 Right Turn Lane Warrant Criteria

A-3 RIGHT TURN LANE GUIDELINES FOR FOUR-LANE ROADS⁹



There is an existing continuous westbound right turn lane on Ina Road for access into the Foothills Mall driveways. There is also an existing southbound right turn lane on La Cholla Boulevard at its intersection with Foothills Mall Drive.

A southbound right turn lane is warranted on La Cholla Boulevard at Driveway 5 based on the criteria for a four-lane road. This is the main access to the Mall as shown on the conceptual site plan. The average major road volume per lane on La Cholla Boulevard is 920/3, or 307 vehicles per hour per lane during the existing pm peak hour. If this volume were “normalized” for a four-lane roadway, the volume would be approximately $307 \times 2 = 614$ vehicles per hour. Based on this, a right turn lane would not be warranted under existing conditions. Even under with project conditions and normalizing the volumes to a four-lane roadway, a turn lane may still not be warranted.

Queuing Analysis and Turn Lane Design

Pima County requires an assessment of storage length estimates for intersection turn lanes based on anticipated traffic at study area intersections. For roadways that are posted for 40 mph or above, the minimum storage length standard in Pima County is 150 feet for turn lanes on roadways.

Because the land uses are conceptual for this report, a storage length assessment for the existing and warranted turn lanes is not included in this report. A more detailed turn lane storage length analysis should be conducted when specific land uses and their intensities are planned. It is possible that existing turn lanes at study area intersections may need to be extended to accommodate the potential queues associated with volume growth and project site traffic.

Turn lane design standards are found in the Pima County Roadway Design Manual and the Pima County/City of Tucson Pavement Marking Standards Manual.

Pedestrian, Bicycle, and Transit Considerations

The redevelopment is planned to include facilities to encourage the safe use of alternative modes of transportation, and will support current County efforts to reduce personal vehicle usage. For instance, Pima County is planning on extending the sidewalk system on Ina Road along the frontage of the Foothills Mall. Currently, there are few pedestrian facilities on Ina Road in the vicinity of the project.

The entire project will be integrated to provide pedestrian linkages between the project land uses. The redevelopment will include the provision of clearly marked pathways from adjacent bike routes and public sidewalks and walkways and will separate them from auto traffic access. The existing main structure will be reconstructed to allow for spaces between buildings for pedestrian and bicycle access. There will be designated bicycle parking spaces for short and long-term parking.

The location of transit stops on La Cholla Boulevard and Ina Road will be reviewed. If better access from transit stops to the Mall land uses is determined when a more detailed land use plan is developed, the developer will discuss potential changes to the location of transit stops with Sun Tran.

The popularity of on-demand transportation services such as Uber and Lyft provides an opportunity to reduce the parking demand at the mall. A dedicated pick-up/drop-off location for this service can be provided at a strategic location, preferably near the retail or entertainment components of the project.

Speed Considerations

No changes in the speed limits are recommended.

Travel Demand Management

There are no TDM elements associated with this project.

Traffic Safety

Sight Distance

The project driveways and intersections should be designed to allow for acceptable sight distance. Sight distance is typically shown on the development plan and improvement drawings. The guidelines for sight distance are provided in Pima County's Roadway Design Manual.

Crash Predictions

Pima County requires the evaluation of crash potential as part of the traffic impact analysis. However, because this project is a planning level study, any assessment of the crash potential at the project driveways or intersections is premature, but should be conducted when the specific land uses and intensities are better defined.

On-site Street System

The proposed on-site street system will be reconfigured to provide more direct access to the land uses. This will be accomplished by providing a new east-west access through the south building area.

The on-site lanes will consist primarily of two-way, two-lane access drives as shown on the site plan. As the current main access from La Cholla Boulevard (Driveway 5) will be the primary access to the mall and it is recommended that there will be two ingress and two egress lanes if left turns out remain.

La Cholla Main Access (Driveway 5)

Inbound and outbound left turning traffic out experience high delays during the weekday (and possibly weekend) peak periods. If access out is restricted to right-out only on La Cholla Boulevard, exiting drivers wishing to head north on La Cholla must exit at La Cholla/Foothills Drive to the north. Some options for managing turning movements at this intersection could be to restrict movements to directional left-in, right in/right out only; providing standard signalization at the intersection; or, providing a directional signalized intersection, such as a "Florida T" intersection at La Cholla/Driveway 5. A Florida T intersection allows for free-flow through traffic in one direction (northbound in this case) while providing traffic control for other movements. There is a Florida T intersection on Wilmot Road at the Park Place entrance, and is approximately 1,200 feet from the nearest signalized intersection (Broadway/Wilmot). A Florida T at this intersection would allow for signal-controlled movements for the northbound left turn, and the eastbound and southbound movements. The southbound through movement would be stopped when the eastbound left turn green phase is on. Access from the driveway on the east leg would be restricted to right-in, right-out access.

Ina Road Main Access (Driveway 1)

As is the case with the La Cholla/Driveway 5 access, inbound and outbound left turning traffic out experience high delays during the weekday (and possibly weekend) peak periods. If access out is restricted to right-out only on Ina Road, exiting drivers wishing to head east on Ina Road can U-turn at a downstream median opening, either at Omar Drive or at Mona Lisa Road. Options for managing turns at this intersection that were discussed for the La Cholla/Driveway 5 intersection could also be considered for this location.

Timing for Mitigation

Members of the project team met with Pima County staff on February 27, 2018 to discuss mitigation phasing. Pima County staff indicated that when the trip generation of the project exceeds the trips generated by the existing mall at full occupancy, then the developer may be subject to providing the recommended

mitigation discuss in this report. The trip generation of the existing mall at full occupancy was calculated by applying the 619,951 square feet of the existing mall buildings to the calculated shopping center trip rates based on actual driveway counts. Exhibit 28 shows the AM, PM and daily trip generation under full occupancy of the existing mall. Refer to Exhibit 10 for the calculated trip generation rates based on driveway counts.

Exhibit 28 Full Occupancy Trip Generation (Existing Mall)

Actual Driveway Counts	Bldg Size (SF)	ITE Code	AM Peak		PM Peak		Weekday	
			In	Out	In	Out	In	Out
Commercial	619,951	820	620		2,021		20,223	
			363	257	983	1,038	10,111	10,111

As the project develops, traffic impact studies should be conducted to supplement the recommendations contained herein. The studies will consider travel culture at the time of the development such as patron or employee travel modes. The studies should also utilize up-to-date research on trip generation for shopping centers and other land uses planned for the redevelopment.

7. Conclusions and Recommendations

1. The project will generate approximately:

- 1,519 morning peak hour trips,
- 3,875 evening peak hour trips,
- 39,814 weekday trips.

However, when considering the existing mall traffic and the projected alternate mode, internal circulation and pass-by trip reductions, the new external trips are calculated to be:

- 840 morning peak hour trips,
- 1,863 evening peak hour trips,
- 19,536 weekday trips.

2. Two of the project driveways and two of the off-site study area intersections currently experience peak hour delays resulting in LOS E or F conditions. These are Ina Road/Driveway 1, La Cholla Boulevard/Driveway 5, Ina/La Canada and La Cholla/Orange Grove.

For the project driveways left turns out experience high delays during the weekday (and possibly weekend) peak periods. These delays will increase in future years. If access out is restricted to right-out only on La Cholla Boulevard, exiting drivers wishing to head north on La Cholla must exit at La Cholla/Foothills Drive to the north. Other options to mitigate the left turn delays could be to restrict access to directional left-in, right-in, right-out only; full signalization at the driveways; or a directional signalized intersection, such as a “Florida T” intersection. A Florida T intersection allows for free-flow through traffic in one direction (northbound at the La Cholla intersection) while providing traffic control for other movements.

3. By the year 2025, two of the project driveways and some of the off-site project area intersections will have turning movements that will operate at LOS E or F without the project.
4. A right turn lane warrant is met for the southbound right on La Cholla Boulevard at Driveway 5 under 2018 (existing) conditions and also under with project conditions in 2020 and 2025 based on Pima County Subdivision and Development Street Standards turn lane warrant criteria for four-lane roads. However, because the SDSS does not have criteria for six-lane roads (like La Cholla Boulevard), the turn lane may or may not be warranted under future conditions. The design of this turn lane, if and when warranted, should be evaluated at the development plan stage when the specific land uses are known.
5. Both La Cholla Boulevard and Ina Road will exceed their LOS D daily capacities by the year 2040 without the project. Ina Road will approach its LOS D capacity by 2025 without the redevelopment project and will exceed it soon afterwards, if the growth rate interpolated from year 2018 and PAG’s 2040 travel demand model projections are constant. The additional project traffic associated with the redevelopment will increase traffic on all study area roadways as expected and development impact fees can be applied to improving roadway capacities.
6. The mixed-uses within the proposed redevelopment will generate peak site traffic volumes during different times and days. For instance, the movie theater will continue to experience peaks during the weekends (including Friday evenings). The office and residential uses will have peaks associated with typical work commuter periods during the weekdays. The retail component will

continue to peak during the weekends and generally after late morning throughout the day. The analysis provided herein analyzes conditions only during the peak commuter weekday periods. It is recommended that traffic studies be conducted as the Mall develops, and that the impact of the project during the peak hours for each land use be considered.

7. On-site circulation must be carefully managed to promote pedestrian and bicycle use. The provision of safe pedestrian linkages on La Cholla Boulevard and Ina Road to the project and well-marked and signed pedestrian and bicycle routes within the site will provide for safe and efficient movement associated with Mall patronage.
8. As the project develops, traffic impact studies should be conducted to supplement the recommendations contained herein. The studies will consider travel culture at the time of the development such as patron or employee travel modes. The studies should also utilize up-to-date research on trip generation for shopping centers and other land uses planned for the redevelopment.

APPENDIX

- Traffic Data
- Synchro Analysis Sheets
 - Crash Data

Traffic Data – Intersections

Daily volumes were gathered from PAG and Pima County sources on their traffic data web pages. See Roadway Inventory exhibit for sources.

Project: Ina-Dwy 1
Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																	
	7:00 AM	NB Dwy 1				SB Dwy 1				EB Ina				WB Ina			
	END	Left	Right			Left	Right			Left	Right			Left	Right		
	Time	Turn	THRU	Turn	RTOR	Turn	THRU	Turn	RTOR	Turn	THRU	Turn	RTOR	Turn	THRU	Turn	RTOR
	7:15 AM	0	0	0	0	0	0	3	0	7	191	0	0	0	90	2	0
	7:30 AM	0	0	0	0	1	0	6	0	10	214	0	0	0	118	1	0
	7:45 AM	1	0	0	0	0	0	9	0	7	211	0	0	0	131	1	0
	8:00 AM	1	0	2	0	1	0	2	0	14	235	1	0	0	166	3	0
	8:15 AM	1	0	0	0	0	0	3	0	10	200	0	0	1	174	4	0
	8:30 AM	2	0	0	0	1	0	5	0	12	193	2	0	1	167	4	0
	8:45 AM	0	1	2	0	0	0	10	0	11	178	1	0	0	146	3	0
	9:00 AM	0	0	0	0	3	0	10	0	16	154	2	0	0	161	2	0
7:00 AM	8:00 AM	2	0	2	0	2	0	20	0	38	851	1	0	0	505	7	0
7:15 AM	8:15 AM	3	0	2	0	2	0	20	0	41	860	1	0	1	589	9	0
7:30 AM	8:30 AM	5	0	2	0	2	0	19	0	43	839	3	0	2	638	12	0
7:45 AM	8:45 AM	4	1	4	0	2	0	20	0	47	806	4	0	2	653	14	0
8:00 AM	9:00 AM	3	1	2	0	4	0	28	0	49	725	5	0	2	648	13	0
7:00 AM	9:00 AM	5	1	4	0	6	0	48	0	87	1576	6	0	2	1153	20	0
% Out	10% 0% 90%																
% In	78% 22%																
Site Trips (Pass-By Trips included at Driveways)	7 0 60 75 21																
Reduction in Pass-By Trips	-18 -6																
2018 Exist	5	0	2	0	2	0	19	0	43	839	3	0	2	638	12	0	
2020 NP	5	0	2	0	2	0	20	0	45	873	3	0	2	664	12	0	
2025 NP	6	0	2	0	2	0	22	0	49	964	3	0	2	733	14	0	
2040 NP	8	0	3	0	3	0	29	0	66	1297	5	0	3	986	19	0	
2020 WP	5	0	2	0	9	0	80	0	120	855	3	0	2	658	34	0	
2025 WP	6	0	2	0	9	0	82	0	124	946	3	0	2	727	35	0	
2040 WP	8	0	3	0	10	0	90	0	141	1279	5	0	3	980	40	0	

TOTALS						END
NB	SB	EB	WB	Total		Time
0	3	198	92	293	7:15 AM	
0	7	224	119	350	7:30 AM	
1	9	218	132	360	7:45 AM	
3	3	250	169	425	8:00 AM	
1	3	210	179	393	8:15 AM	
2	6	207	172	387	8:30 AM	
3	10	190	149	352	8:45 AM	
0	13	172	163	348	9:00 AM	
4	22	890	512	1428	7:00 AM	8:00 AM
5	22	902	599	1528	7:15 AM	8:15 AM
7	21	885	652	1565	7:30 AM	8:30 AM
9	22	857	669	1557	7:45 AM	8:45 AM
6	32	779	663	1480	8:00 AM	9:00 AM
10	54	1669	1175	2908	7:00 AM	9:00 AM

0.58 0.58 0.89 0.91

Count Starts at																	
	4:00 PM	NB Dwy 1				SB Dwy 1				EB Ina				WB Ina			
	END	Left	Right		Left	Right		Left	Right		Left	Right		Left	Right		
	Time	Turn	THRU	Turn	THRU	THRU	Turn	THRU	THRU	Turn	THRU	THRU	Turn	THRU	THRU	Turn	
	4:15 PM	2	0	0	0	5	0	36	0	37	185	2	0	6	288	9	0
	4:30 PM	2	0	2	0	2		53	0	28	188	0	0	7	320	19	0
	4:45 PM	0	0	4	0	1		43	0	35	205	0	0	0	339	9	0
	5:00 PM	2	0	0	0	3	1	45	0	29	190	1	0	0	323	14	0
	5:15 PM	0	0	3	0	3	0	35	0	26	211	0	0	5	315	6	0
	5:30 PM	0	0	1	0	6	0	39	0	30	192	3	0	2	363	13	0
	5:45 PM	1	0	2	0	6	0	28	0	42	191	5	0	3	340	7	0
	6:00 PM	1	0	0	0	3	0	40	0	31	165	1	0	1	312	7	0
4:00 PM	5:00 PM	6	0	6	0	11	1	177	0	129	768	3	0	13	1270	51	0
4:15 PM	5:15 PM	4	0	9	0	9	1	176	0	118	794	1	0	12	1297	48	0
4:30 PM	5:30 PM	2	0	8	0	13	1	162	0	120	798	4	0	7	1340	42	0
4:45 PM	5:45 PM	3	0	6	0	18	1	147	0	127	784	9	0	10	1341	40	0
5:00 PM	6:00 PM	2	0	6	0	18	0	142	0	129	759	9	0	11	1330	33	0
4:00 PM	6:00 PM	8	0	12	0	29	1	319	0	258	1527	12	0	24	2600	84	0
% Out						7%	1%	92%									
% In										74%					26%		
Site Trips (Pass-By Trips included at Driveways)						21	2	264					189				
Reduction in Pass-By Trips										-38					-13		
2018 Exist		2	0	8	0	13	1	162	0	120	798	4	0	7	1340	42	0
2020 NP		2	0	8	0	14	1	169	0	125	830	4	0	7	1394	44	0
2025 NP		2	0	9	0	15	1	186	0	138	917	5	0	8	1539	48	0
2040 NP		3	0	12	0	20	2	250	0	186	1234	6	0	11	2072	65	0
2020 WP		2	0	8	0	35	3	433	0	314	792	4	0	7	1381	110	0
2025 WP		2	0	9	0	36	3	450	0	327	879	5	0	8	1526	115	0
2040 WP		3	0	12	0	41	3	515	0	374	1196	6	0	11	2059	131	0

TOTALS						END
NB	SB	EB	WB	Total		Time
2	41	224	303	570	4:15 PM	
4	55	216	346	621	4:30 PM	
4	44	240	348	636	4:45 PM	
2	49	220	337	608	5:00 PM	
3	38	237	326	604	5:15 PM	
1	45	225	378	649	5:30 PM	
3	34	238	350	625	5:45 PM	
1	43	197	320	561	6:00 PM	
12	189	900	1334	2435	4:00 PM	5:00 PM
13	186	913	1357	2469	4:15 PM	5:15 PM
10	176	922	1389	2497	4:30 PM	5:30 PM
9	166	920	1391	2486	4:45 PM	5:45 PM
8	160	897	1374	2439	5:00 PM	6:00 PM
20	349	1797	2708	4874	4:00 PM	6:00 PM

0.63 0.90 0.96 0.92

Project: Ina-Dwy 2

Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																	
	7:00 AM	NB Dwy 2				SB Dwy 2				EB Ina				WB Ina			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	0	0	0	0	0	0	1	0	0	186	0	0	0	96	1	0
	7:30 AM	0	0	0	0	0	0	1	0	0	219	0	0	0	113	5	0
	7:45 AM	0	0	0	0	0	0	3	0	0	213	0	0	0	128	8	0
	8:00 AM	0	0	0	0	0	0	3	0	0	240	0	0	0	163	6	0
	8:15 AM	0	0	0	0	0	0	0	0	0	199	0	0	0	174	0	0
	8:30 AM	0	0	0	0	0	0	4	0	0	190	0	0	0	168	5	0
	8:45 AM	0	0	0	0	0	0	4	0	0	186	0	0	0	141	2	0
	9:00 AM	0	0	0	0	0	0	2	0	0	158	0	0	0	160	11	0
7:00 AM	8:00 AM	0	0	0	0	0	0	8	0	0	858	0	0	0	500	20	0
7:15 AM	8:15 AM	0	0	0	0	0	0	7	0	0	871	0	0	0	578	19	0
	8:30 AM	0	0	0	0	0	0	10	0	0	842	0	0	0	633	19	0
7:45 AM	8:45 AM	0	0	0	0	0	0	11	0	0	815	0	0	0	646	13	0
8:00 AM	9:00 AM	0	0	0	0	0	0	10	0	0	733	0	0	0	643	18	0
7:00 AM	9:00 AM	0	0	0	0	0	0	18	0	0	1591	0	0	0	1143	38	0

% Out

100%

% In

100%

Site Trips (Pass-By Trips included at Driveways)

28

40

2018 Exist	0	0	0	0	0	0	10	0	0	842	0	0	0	633	19	0
2020 NP	0	0	0	0	0	0	10	0	0	876	0	0	0	659	20	0
2025 NP	0	0	0	0	0	0	11	0	0	967	0	0	0	727	22	0
2040 NP	0	0	0	0	0	0	15	0	0	1302	0	0	0	979	29	0

2020 WP	0	0	0	0	0	0	38	0	0	876	0	0	0	659	60	0
2025 WP	0	0	0	0	0	0	39	0	0	967	0	0	0	727	62	0
2040 WP	0	0	0	0	0	0	43	0	0	1302	0	0	0	979	69	0

TOTALS						END Time
NB	SB	EB	WB	Total		
0	1	186	97	284		7:15 AM
0	1	219	118	338		7:30 AM
0	3	213	136	352		7:45 AM
0	3	240	169	412		8:00 AM
0	0	199	174	373		8:15 AM
0	4	190	173	367		8:30 AM
0	4	186	143	333		8:45 AM
0	2	158	171	331		9:00 AM
0	8	858	520	1386		7:00 AM
0	7	871	597	1475		7:15 AM
0	10	842	652	1504		7:30 AM
0	11	815	659	1485		7:45 AM
0	10	733	661	1404		8:00 AM
0	18	1591	1181	2790		7:00 AM

#####

0.63

0.88

0.94

Count Starts at																		
	4:00 PM		NB Dwy 2				SB Dwy 2				EB Ina				WB Ina			
	END		Left	THRU	Right	RTOR	Left	THRU	Right	RTOR	Left	THRU	Right	RTOR	Left	THRU	Right	RTOR
	Time		Turn		Turn		Turn		Turn		Turn		Turn		Turn		Turn	
	4:15 PM		0	0	0	0	0	0	20	0	0	189	0	0	0	280	18	0
	4:30 PM		0	0	0	0	0	0	21	0	0	188	0	0	0	324	16	0
	4:45 PM		0	0	0	0	0	0	21	0	0	214	0	0	0	332	12	0
	5:00 PM		0	0	0	0	0	0	13	0	0	188	0	0	0	319	12	0
	5:15 PM		0	0	0	0	0	0	11	0	0	213	0	0	0	321	9	0
	5:30 PM		0	0	0	0	0	0	13	0	0	200	0	0	0	367	7	0
	5:45 PM		0	0	0	0	0	0	6	0	0	200	0	0	0	340	5	0
	6:00 PM		0	0	0	0	0	0	12	0	0	163	0	0	0	310	5	0
4:00 PM	5:00 PM		0	0	0	0	0	0	75	0	0	779	0	0	0	1255	58	0
4:15 PM	5:15 PM		0	0	0	0	0	0	66	0	0	803	0	0	0	1296	49	0
4:30 PM	5:30 PM		0	0	0	0	0	0	58	0	0	815	0	0	0	1339	40	0
4:45 PM	5:45 PM		0	0	0	0	0	0	43	0	0	801	0	0	0	1347	33	0
5:00 PM	6:00 PM		0	0	0	0	0	0	42	0	0	776	0	0	0	1338	26	0
4:00 PM	6:00 PM		0	0	0	0	0	0	117	0	0	1555	0	0	0	2593	84	0

% Out

100%

% In

100%

Site Trips (Pass-By Trips included at Driveways)

60

53

2018 Exist	0	0	0	0	0	0	43	0	0	801	0	0	0	1347	33	0
2020 NP	0	0	0	0	0	0	45	0	0	833	0	0	0	1401	34	0
2025 NP	0	0	0	0	0	0	49	0	0	920	0	0	0	1547	38	0
2040 NP	0	0	0	0	0	0	66	0	0	1238	0	0	0	2082	51	0

2020 WP	0	0	0	0	0	0	105	0	0	833	0	0	0	1401	87	0
2025 WP	0	0	0	0	0	0	109	0	0	920	0	0	0	1547	91	0
2040 WP	0	0	0	0	0	0	126	0	0	1238	0	0	0	2082	104	0

TOTALS						END Time
NB	SB	EB	WB	Total		
0	20	189	298	507		4:15 PM
0	21	188	340	549		4:30 PM
0	21	214	344	579		4:45 PM
0	13	188	331	532		5:00 PM
0	11	213	330	554		5:15 PM
0	13	200	374	587		5:30 PM
0	6	200	345	551		5:45 PM
0	12	163	315	490		6:00 PM
0	75	779	1313	2167		4:00 PM
0	66	803	1345	2214		4:15 PM
0	58	815	1379	2252		4:30 PM
0	43	801	1380	2224		4:45 PM
0	42	776	1364	2182		5:00 PM
0	117	1555	2677	4349		4:00 PM

#####

0.83

0.94

0.92

Project: Ina-Dwy 3

Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																	
	7:00 AM	NB Dwy 3				SB Dwy 3				EB Ina				WB Ina			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	0	0	0	0	0	0	0	0	0	185	0	0	0	103	2	0
	7:30 AM	0	0	0	0	0	0	0	0	0	234	0	0	0	118	1	0
	7:45 AM	0	0	0	0	0	0	1	0	0	219	0	0	0	137	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	241	0	0	0	169	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	210	0	0	0	171	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	186	0	0	0	168	1	0
	8:45 AM	0	0	0	0	0	0	1	0	0	173	0	0	0	144	1	0
	9:00 AM	0	0	0	0	0	0	1	0	0	144	0	0	0	175	0	0
7:00 AM	8:00 AM	0	0	0	0	0	0	1	0	0	879	0	0	0	527	3	0
7:15 AM	8:15 AM	0	0	0	0	0	0	1	0	0	904	0	0	0	595	1	0
7:30 AM	8:30 AM	0	0	0	0	0	0	1	0	0	856	0	0	0	645	1	0
7:45 AM	8:45 AM	0	0	0	0	0	0	1	0	0	810	0	0	0	652	2	0
8:00 AM	9:00 AM	0	0	0	0	0	0	2	0	0	713	0	0	0	658	2	0
7:00 AM	9:00 AM	0	0	0	0	0	0	3	0	0	1592	0	0	0	1185	5	0

% Out

% In

Site Trips (Pass-By Trips included at Driveways)

2018 Exist	0	0	0	0	0	0	1	0	0	856	0	0	0	645	1	0	
2020 NP	0	0	0	0	0	0	1	0	0	891	0	0	0	671	1	0	
2025 NP	0	0	0	0	0	0	1	0	0	983	0	0	0	741	1	0	
2040 NP	0	0	0	0	0	0	2	0	0	1323	0	0	0	997	2	0	

2020 WP	0	0	0	0	0	0	5	0	0	891	0	0	0	671	7	0	
2025 WP	0	0	0	0	0	0	5	0	0	983	0	0	0	741	7	0	
2040 WP	0	0	0	0	0	0	6	0	0	1323	0	0	0	997	8	0	

TOTALS						END Time
NB	SB	EB	WB	Total		
0	0	185	105	290		7:15 AM
0	0	234	119	353		7:30 AM
0	1	219	137	357		7:45 AM
0	0	241	169	410		8:00 AM
0	0	210	171	381		8:15 AM
0	0	186	169	355		8:30 AM
0	1	173	145	319		8:45 AM
0	1	144	175	320		9:00 AM
0	1	879	530	1410		7:00 AM
0	1	904	596	1501		7:15 AM
0	1	856	646	1503		7:30 AM
0	1	810	654	1465		7:45 AM
0	2	713	660	1375		8:00 AM
0	3	1592	1190	2785		7:00 AM

0.25 0.89 0.94

	Count Starts at																	
	4:00 PM		NB Dwy 3				SB Dwy 3				EB Ina				WB Ina			
	END		Left	Right		Left	Right		Left	Right		Left	Right		Left	Right		
	Time		Turn	THRU	Turn	RTOR	Turn	THRU	Turn	RTOR	Turn	THRU	Turn	RTOR	Turn	THRU	Turn	RTOR
	4:15 PM	0	0	0	0	0	0	0	0	0	0	194	0	0	0	305	1	0
	4:30 PM	0	0	0	0	0	0	0	2	0	0	186	0	0	0	334	0	0
	4:45 PM	0	0	0	0	0	0	0	1	0	0	213	0	0	0	351	1	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	177	0	0	0	334	0	0
	5:15 PM	0	0	0	0	0	0	0	2	0	0	202	0	0	0	323	0	0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	212	0	0	0	371	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	215	0	0	0	351	1	0	
	6:00 PM	0	0	0	0	0	0	2	0	0	160	0	0	0	312	0	0	
4:00 PM	5:00 PM	0	0	0	0	0	0	3	0	0	770	0	0	0	1324	2	0	
4:15 PM	5:15 PM	0	0	0	0	0	0	5	0	0	778	0	0	0	1342	1	0	
4:30 PM	5:30 PM	0	0	0	0	0	0	4	0	0	804	0	0	0	1379	1	0	
4:45 PM	5:45 PM	0	0	0	0	0	0	4	0	0	806	0	0	0	1379	1	0	
5:00 PM	6:00 PM	0	0	0	0	0	0	6	0	0	789	0	0	0	1357	1	0	
4:00 PM	6:00 PM	0	0	0	0	0	0	9	0	0	1559	0	0	0	2681	3	0	

% Out

% In

Site Trips (Pass-By Trips included at Driveways)

2018 Exist	0	0	0	0	0	0	4	0	0	806	0	0	0	1379	1	0	
2020 NP	0	0	0	0	0	0	4	0	0	839	0	0	0	1435	1	0	
2025 NP	0	0	0	0	0	0	5	0	0	926	0	0	0	1584	1	0	
2040 NP	0	0	0	0	0	0	6	0	0	1246	0	0	0	2132	2	0	

2020 WP	0	0	0	0	0	0	16	0	0	839	0	0	0	1435	12	0	
2025 WP	0	0	0	0	0	0	17	0	0	926	0	0	0	1584	12	0	
2040 WP	0	0	0	0	0	0	18	0	0	1246	0	0	0	2132	13	0	

TOTALS						END Time
NB	SB	EB	WB	Total		
0	0	194	306	500		4:15 PM
0	2	186	334	522		4:30 PM
0	1	213	352	566		4:45 PM
0	0	177	334	511		5:00 PM
0	2	202	323	527		5:15 PM
0	1	212	371	584		5:30 PM
0	1	215	352	568		5:45 PM
0	2	160	312	474		6:00 PM
0	3	770	1326	2099		4:00 PM
0	5	778	1343	2126		4:15 PM
0	4	804	1380	2188		4:30 PM
0	4	806	1380	2190		4:45 PM
0	6	789	1358	2153		5:00 PM
0	9	1559	2684	4252		4:00 PM

0.50 0.94 0.93

Project: La Cholla-Dwy 4

Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at		NB La Cholla				SB La Cholla				EB Dwy 4				WB Dwy 4			
7:00 AM		Left	THRU	Right	RTOR	Left	THRU	Right	RTOR	Left	THRU	Right	RTOR	Left	THRU	Right	RTOR
END Time		Turn		Turn		Turn		Turn		Turn		Turn		Turn		Turn	
7:15 AM		0	162	0	0	0	299	1	0	0	0	1	0	0	0	0	0
7:30 AM		0	184	0	0	0	355	4	0	0	0	0	0	0	0	0	0
7:45 AM		0	167	0	0	0	374	1	0	0	0	0	0	0	0	0	0
8:00 AM		0	193	0	0	0	374	3	0	0	0	0	0	0	0	0	0
8:15 AM		0	168	0	0	0	315	1	0	0	0	0	0	0	0	0	0
8:30 AM		0	166	0	0	0	363	3	0	0	0	0	0	0	0	0	0
8:45 AM		0	178	0	0	0	248	2	0	0	0	1	0	0	0	0	0
9:00 AM		0	188	0	0	0	253	1	0	0	0	0	0	0	0	0	0
7:00 AM	8:00 AM	0	706	0	0	0	1402	9	0	0	0	1	0	0	0	0	0
7:15 AM	8:15 AM	0	712	0	0	0	1418	9	0	0	0	0	0	0	0	0	0
7:30 AM	8:30 AM	0	694	0	0	0	1426	8	0	0	0	0	0	0	0	0	0
7:45 AM	8:45 AM	0	705	0	0	0	1300	9	0	0	0	1	0	0	0	0	0
8:00 AM	9:00 AM	0	700	0	0	0	1179	7	0	0	0	1	0	0	0	0	0
7:00 AM	9:00 AM	0	1406	0	0	0	2581	16	0	0	0	2	0	0	0	0	0

% Out

% In

Site Trips (Pass-By Trips included at Driveways)

2018 Exist	0	712	0	0	0	1418	9	0	0	0	0	0	0	0	0	0	0
2020 NP	0	741	0	0	0	1475	9	0	0	0	0	0	0	0	0	0	0
2025 NP	0	818	0	0	0	1629	10	0	0	0	0	0	0	0	0	0	0
2040 NP	0	1101	0	0	0	2192	14	0	0	0	0	0	0	0	0	0	0

2020 WP	0	741	0	0	0	1475	15	0	0	0	4	0	0	0	0	0	0
2025 WP	0	818	0	0	0	1629	16	0	0	0	4	0	0	0	0	0	0
2040 WP	0	1101	0	0	0	2192	20	0	0	0	4	0	0	0	0	0	0

TOTALS					END Time
NB	SB	EB	WB	Total	
162	300	1	0	463	7:15 AM
184	359	0	0	543	7:30 AM
167	375	0	0	542	7:45 AM
193	377	0	0	570	8:00 AM
168	316	0	0	484	8:15 AM
166	366	0	0	532	8:30 AM
178	250	1	0	429	8:45 AM
188	254	0	0	442	9:00 AM
706	1411	1	0	2118	7:00 AM 8:00 AM
712	1427	0	0	2139	7:15 AM 8:15 AM
694	1434	0	0	2128	7:30 AM 8:30 AM
705	1309	1	0	2015	7:45 AM 8:45 AM
700	1186	1	0	1887	8:00 AM 9:00 AM
1406	2597	2	0	4005	7:00 AM 9:00 AM

0.92 0.95 #DIV/0! #####

Count Starts at		NB La Cholla				SB La Cholla				EB Dwy 4				WB Dwy 4			
4:00 PM		Left	THRU	Right	RTOR	Left	THRU	Right	RTOR	Left	THRU	Right	RTOR	Left	THRU	Right	RTOR
END Time		Turn		Turn		Turn		Turn		Turn		Turn		Turn		Turn	
4:15 PM		0	328	0	0	0	228	0	0	0	0	1	0	0	0	0	0
4:30 PM		0	341	0	0	0	241	1	0	0	0	1	0	0	0	0	0
4:45 PM		0	344	0	0	0	244	0	0	0	0	2	0	0	0	0	0
5:00 PM		0	369	0	0	0	258	1	0	0	0	1	0	0	0	0	0
5:15 PM		0	376	0	0	0	263	0	0	0	0	0	0	0	0	0	0
5:30 PM		0	343	0	0	0	252	0	0	0	0	2	0	0	0	0	0
5:45 PM		0	353	0	0	0	279	1	0	0	0	2	0	0	0	0	0
6:00 PM		0	300	0	0	0	232	1	0	0	0	0	0	0	0	0	0
4:00 PM	5:00 PM	0	1382	0	0	0	971	2	0	0	0	5	0	0	0	0	0
4:15 PM	5:15 PM	0	1430	0	0	0	1006	2	0	0	0	4	0	0	0	0	0
4:30 PM	5:30 PM	0	1432	0	0	0	1017	1	0	0	0	5	0	0	0	0	0
4:45 PM	5:45 PM	0	1441	0	0	0	1052	2	0	0	0	5	0	0	0	0	0
5:00 PM	6:00 PM	0	1372	0	0	0	1026	2	0	0	0	4	0	0	0	0	0
4:00 PM	6:00 PM	0	2754	0	0	0	1997	4	0	0	0	9	0	0	0	0	0

% Out

% In

Site Trips (Pass-By Trips included at Driveways)

2018 Exist	0	1441	0	0	0	1052	2	0	0	0	5	0	0	0	0	0	0
2020 NP	0	1499	0	0	0	1095	2	0	0	0	5	0	0	0	0	0	0
2025 NP	0	1655	0	0	0	1208	2	0	0	0	6	0	0	0	0	0	0
2040 NP	0	2228	0	0	0	1626	3	0	0	0	8	0	0	0	0	0	0

2020 WP	0	1499	0	0	0	1095	13	0	0	0	17	0	0	0	0	0	0
2025 WP	0	1655	0	0	0	1208	13	0	0	0	18	0	0	0	0	0	0
2040 WP	0	2228	0	0	0	1626	14	0	0	0	20	0	0	0	0	0	0

TOTALS					END Time
NB	SB	EB	WB	Total	
328	228	1	0	557	4:15 PM
341	242	1	0	584	4:30 PM
344	244	2	0	590	4:45 PM
369	259	1	0	629	5:00 PM
376	263	0	0	639	5:15 PM
343	252	2	0	597	5:30 PM
353	280	2	0	635	5:45 PM
300	233	0	0	533	6:00 PM
1382	973	5	0	2360	4:00 PM 5:00 PM
1430	1008	4	0	2442	4:15 PM 5:15 PM
1432	1018	5	0	2455	4:30 PM 5:30 PM
1441	1054	5	0	2500	4:45 PM 5:45 PM
1372	1028	4	0	2404	5:00 PM 6:00 PM
2754	2001	9	0	4764	4:00 PM 6:00 PM

0.96 0.94 0.63 #####

Project: La Cholla-Dwy 5

Date: Tuesday, February 6, 2018

Count period: 0:15

Count Starts at																	
7:00 AM		NB La Cholla				SB La Cholla				EB Dwy 5				WB Dwy 5			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM																
	7:30 AM	3		5		15		3		0		4		0		4	
	7:45 AM	5		4		15		0		5		5		1		1	
	8:00 AM	5		2		11		4		0		3		3		4	
	8:15 AM	5		4		15		0		0		9		1		0	
	8:30 AM	6		10		16		4		3		3		1		7	
	8:45 AM																
	9:00 AM																
7:00 AM	8:00 AM	13	0	11	0	41	0	7	0	0	0	12	0	3	0	9	0
7:15 AM	8:15 AM	18	610	15	0	56	1454	7	0	0	0	21	0	4	0	9	0
7:30 AM	8:30 AM	21	0	20	0	57	0	8	0	3	0	20	0	5	0	12	0
7:45 AM	8:45 AM	16	0	16	0	42	0	8	0	3	0	15	0	5	0	11	0
8:00 AM	9:00 AM	11	0	14	0	31	0	4	0	3	0	12	0	2	0	7	0
7:00 AM	9:00 AM	24	0	25	0	72	0	11	0	3	0	24	0	5	0	16	0

% Out

% In

Site Trips (Pass-By Trips included at Driveways)

2018 Exist	18	610	15	0	56	1454	7	0	0	0	21	0	4	0	9	0
2020 NP	19	635	16	0	58	1513	7	0	0	0	22	0	4	0	9	0
2025 NP	21	701	17	0	64	1670	8	0	0	0	24	0	5	0	10	0
2040 NP	28	943	23	0	87	2248	11	0	0	0	32	0	6	0	14	0

2020 WP	63	635	16	0	58	1513	25	0	0	0	65	0	4	0	9	0
2025 WP	65	701	17	0	64	1670	25	0	0	0	67	0	5	0	10	0
2040 WP	72	943	23	0	87	2248	28	0	0	0	75	0	6	0	14	0

TOTALS					END	
NB	SB	EB	WB	Total	Time	
0	0	0	0	0	7:15 AM	
8	18	4	4	34	7:30 AM	
9	15	5	1	30	7:45 AM	
7	15	3	7	32	8:00 AM	
9	15	9	1	34	8:15 AM	
16	20	6	8	50	8:30 AM	
0	0	0	0	0	8:45 AM	
0	0	0	0	0	9:00 AM	
24	48	12	12	96	7:00 AM	8:00 AM
33	63	21	13	130	7:15 AM	8:15 AM
41	65	23	17	146	7:30 AM	8:30 AM
32	50	18	16	116	7:45 AM	8:45 AM
25	35	15	9	84	8:00 AM	9:00 AM
49	83	27	21	180	7:00 AM	9:00 AM

0.92 0.88 0.58 0.46

	Count Starts at																
	4:00 PM	NB La Cholla				SB La Cholla				EB Dwy 5				WB Dwy 5			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	4:15 PM																
	4:30 PM																
	4:45 PM	15		3		17		10		1		24		2		13	
	5:00 PM	26		4		20		7		4		30		6		24	
	5:15 PM	17		1		18		15		4		28		2		20	
	5:30 PM	23		2		8		9		0		16		0		23	
	5:45 PM																
	6:00 PM																
4:00 PM	5:00 PM	41	0	7	0	37	0	17	0	5	0	54	0	8	0	37	0
4:15 PM	5:15 PM	58	0	8	0	55	0	32	0	9	0	82	0	10	0	57	0
4:30 PM	5:30 PM	81	1339	10	0	63	879	41	0	9	0	98	0	10	0	80	0
4:45 PM	5:45 PM	66	0	7	0	46	0	31	0	8	0	74	0	8	0	67	0
5:00 PM	6:00 PM	40	0	3	0	26	0	24	0	4	0	44	0	2	0	43	0
4:00 PM	6:00 PM	81	0	10	0	63	0	41	0	9	0	98	0	10	0	80	0

% Out

% In

Site Trips (Pass-By Trips included at Driveways)

2018 Exist	81	1339	10	0	63	879	41	0	9	0	98	0	10	0	80	0
2020 NP	84	1393	10	0	66	915	43	0	9	0	102	0	10	0	83	0
2025 NP	93	1538	11	0	72	1010	47	0	10	0	113	0	11	0	92	0
2040 NP	125	2070	15	0	97	1359	63	0	14	0	152	0	15	0	124	0

2020 WP	196	1393	10	0	66	915	100	0	25	0	279	0	10	0	83	0
2025 WP	205	1538	11	0	72	1010	105	0	26	0	289	0	11	0	92	0
2040 WP	237	2070	15	0	97	1359	121	0	29	0	328	0	15	0	124	0

TOTALS					END	
NB	SB	EB	WB	Total	Time	
0	0	0	0	0	4:15 PM	
0	0	0	0	0	4:30 PM	
18	27	25	15	85	4:45 PM	
30	27	34	30	121	5:00 PM	
18	33	32	22	105	5:15 PM	
25	17	16	23	81	5:30 PM	
0	0	0	0	0	5:45 PM	
0	0	0	0	0	6:00 PM	
48	54	59	45	206	4:00 PM	5:00 PM
66	87	91	67	311	4:15 PM	5:15 PM
91	104	107	90	392	4:30 PM	5:30 PM
73	77	82	75	307	4:45 PM	5:45 PM
43	50	48	45	186	5:00 PM	6:00 PM
91	104	107	90	392	4:00 PM	6:00 PM

0.61 0.58 0.60 0.63

Project: Magee at Shannon/Tuscany
Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at		NB Shannon				SB Tuscany				EB Magee				WB Magee			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	31	0	25	0	0	0	3	0	0	191	50	0	27	63	0	0
	7:30 AM	34	1	35	0	1	2	2	0	0	229	66	0	24	73	0	0
	7:45 AM	53	2	37	0	1	0	5	0	1	270	84	0	33	111	0	0
	8:00 AM	64	1	40	0	3	0	4	0	4	281	90	0	55	105	0	0
	8:15 AM	49	2	24	0	0	2	1	0	1	272	84	0	49	81	0	0
	8:30 AM	27	0	22	0	1	0	1	0	1	223	52	0	36	72	0	0
	8:45 AM	33	1	17	0	2	1	1	0	1	188	66	0	37	53	0	0
	9:00 AM	51	1	24	0	0	1	1	0	1	184	73	0	49	81	0	0
7:00 AM	8:00 AM	182	4	137	0	5	2	14	0	5	971	290	0	139	352	0	0
7:15 AM	8:15 AM	200	6	136	0	5	4	12	0	6	1052	324	0	161	370	0	0
7:30 AM	8:30 AM	193	5	123	0	5	2	11	0	7	1046	310	0	173	369	0	0
7:45 AM	8:45 AM	173	4	103	0	6	3	7	0	7	964	292	0	177	311	0	0
8:00 AM	9:00 AM	160	4	87	0	3	4	4	0	4	867	275	0	171	287	0	0
7:00 AM	9:00 AM	342	8	224	0	8	6	18	0	9	1838	565	0	310	639	0	0

% Out
% In
Non Pass By Site Trips

	0%	0%	100%
	0		113
			0

2018 Exist	200	6	136	0	5	4	12	0	6	1052	324	0	161	370	0	0
2020 NP	208	6	141	0	5	4	12	0	6	1095	337	0	168	385	0	0
2025 NP	230	7	156	0	6	5	14	0	7	1208	372	0	185	425	0	0
2040 NP	309	9	210	0	8	6	19	0	9	1626	501	0	249	572	0	0
2020 WP	208	6	141	0	6	4	12	0	6	1208	337	0	168	385	0	0
2025 WP	230	7	156	0	6	5	14	0	7	1322	372	0	185	425	0	0
2040 WP	309	9	210	0	8	6	19	0	9	1740	501	0	249	572	0	0

TOTALS						END Time
NB	SB	EB	WB	Total		
56	3	241	90	390	7:15 AM	
70	5	295	97	467	7:30 AM	
92	6	355	144	597	7:45 AM	
105	7	375	160	647	8:00 AM	
75	3	357	130	565	8:15 AM	
49	2	276	108	435	8:30 AM	
51	4	255	90	400	8:45 AM	
76	2	258	130	466	9:00 AM	
323	21	1266	491	2101	7:00 AM	8:00 AM
342	21	1382	531	2276	7:15 AM	8:15 AM
321	18	1363	542	2244	7:30 AM	8:30 AM
280	16	1263	488	2047	7:45 AM	8:45 AM
251	11	1146	458	1866	8:00 AM	9:00 AM
574	32	2412	949	3967	7:00 AM	9:00 AM

0.76 0.64 0.91 0.85

Count Starts at		NB Shannon				SB Tuscany				EB Magee				WB Magee			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	4:15 PM	98	2	55	0	1	0	0	0	1	144	75	0	31	170	0	0
	4:30 PM	117	3	51	0	1	1	0	0	7	140	65	0	51	176	0	0
	4:45 PM	117	1	47	0	1	1	1	0	0	144	54	0	48	167	0	0
	5:00 PM	123	0	64	0	2	1	1	0	0	119	60	0	28	137	1	0
	5:15 PM	154	1	60	0	0	0	2	0	1	120	56	0	33	164	1	0
	5:30 PM	174	1	44	0	1	0	2	0	0	140	65	0	47	186	1	0
	5:45 PM	139	1	77	0	3	1	1	0	0	153	69	0	33	199	1	0
	6:00 PM	158	0	48	0	0	1	3	0	0	152	55	0	42	166	4	0
4:00 PM	5:00 PM	455	6	217	0	5	3	2	0	8	547	254	0	158	650	1	0
4:15 PM	5:15 PM	511	5	222	0	4	3	4	0	8	523	235	0	160	644	2	0
4:30 PM	5:30 PM	568	3	215	0	4	2	6	0	1	523	235	0	156	654	3	0
4:45 PM	5:45 PM	590	3	245	0	6	2	6	0	1	532	250	0	141	686	4	0
5:00 PM	6:00 PM	625	3	229	0	4	2	8	0	1	565	245	0	155	715	7	0
4:00 PM	6:00 PM	1080	9	446	0	9	5	10	0	9	1112	499	0	313	1365	8	0

% Out
% In
Non Pass By Site Trips

	0%	0%	100%
	0		89
			0

2018 Exist	625	3	229	0	4	2	8	0	1	565	245	0	155	715	7	0
2020 NP	650	3	238	0	4	2	8	0	1	588	255	0	161	744	7	0
2025 NP	718	3	263	0	5	2	9	0	1	649	281	0	178	821	8	0
2040 NP	966	5	354	0	6	3	12	0	2	873	379	0	240	1105	11	0
2020 WP	650	3	238	0	5	2	8	0	1	677	255	0	161	744	7	0
2025 WP	718	3	263	0	5	2	9	0	1	738	281	0	178	821	8	0
2040 WP	966	5	354	0	7	3	12	0	2	963	379	0	240	1105	11	0

TOTALS						END Time
NB	SB	EB	WB	Total		
155	1	220	201	577	4:15 PM	
171	2	212	227	612	4:30 PM	
165	3	198	215	581	4:45 PM	
187	4	179	166	536	5:00 PM	
215	2	177	198	592	5:15 PM	
219	3	205	234	661	5:30 PM	
217	5	222	233	677	5:45 PM	
206	4	207	212	629	6:00 PM	
678	10	809	809	2306	4:00 PM	5:00 PM
738	11	766	806	2321	4:15 PM	5:15 PM
786	12	759	813	2370	4:30 PM	5:30 PM
838	14	783	831	2466	4:45 PM	5:45 PM
857	14	811	877	2559	5:00 PM	6:00 PM
1535	24	1620	1686	4865	4:00 PM	6:00 PM

0.90 0.75 0.93 0.87

Project: La Cholla at Old Magee Trail
Date: Tuesday, March 31, 2015

Count period: 0:15

Count Starts at													
	7:00 AM		NB La Cholla			SB La Cholla				WB Old Magee Trail			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	0	66	2	0	8	123	0	0	7	0	3	0
	7:30 AM	0	72	2	0	9	179	0	0	4	0	11	0
	7:45 AM	0	93	5	0	11	200	0	0	9	0	11	0
	8:00 AM	0	92	2	0	10	216	0	0	9	0	2	0
	8:15 AM	0	96	0	0	13	210	0	0	7	0	8	0
	8:30 AM	0	83	4	0	7	179	0	0	7	0	9	0
	8:45 AM	0	74	5	0	9	170	0	0	4	0	3	0
	9:00 AM	0	85	2	0	15	159	0	0	6	0	2	0
7:00 AM	8:00 AM	0	323	11	0	38	718	0	0	29	0	27	0
7:15 AM	8:15 AM	0	353	9	0	43	805	0	0	29	0	32	0
7:30 AM	8:30 AM	0	364	11	0	41	805	0	0	32	0	30	0
7:45 AM	8:45 AM	0	345	11	0	39	775	0	0	27	0	22	0
8:00 AM	9:00 AM	0	338	11	0	44	718	0	0	24	0	22	0
7:00 AM	9:00 AM	0	661	22	0	82	1436	0	0	53	0	49	0
% Out			97%	3%									
% In						96%				4%			
Non-Pass By Trips			62	2		152				6			
2018 Exist		0	386	12	0	44	854	0	0	34	0	32	0
2020 NP		0	402	12	0	45	889	0	0	35	0	33	0
2025 NP		0	444	13	0	50	981	0	0	39	0	37	0
2040 NP		0	597	18	0	67	1321	0	0	52	0	49	0
2020 WP		0	464	14	0	45	1040	0	0	41	0	33	0
2025 WP		0	506	15	0	50	1133	0	0	45	0	37	0
2040 WP		0	659	20	0	67	1472	0	0	59	0	49	0

TOTALS					END Time
NB	SB	WB	Total		
68	131	10	209	7:15 AM	
74	188	15	277	7:30 AM	
98	211	20	329	7:45 AM	
94	226	11	331	8:00 AM	
96	223	15	334	8:15 AM	
87	186	16	289	8:30 AM	
79	179	7	265	8:45 AM	
87	174	8	269	9:00 AM	
334	756	56	1146	7:00 AM	8:00 AM
362	848	61	1271	7:15 AM	8:15 AM
375	846	62	1283	7:30 AM	8:30 AM
356	814	49	1219	7:45 AM	8:45 AM
349	762	46	1157	8:00 AM	9:00 AM
683	1518	102	2303	7:00 AM	9:00 AM

0.96	0.94	0.78
------	------	------

TOTALS				END Time
NB	SB	WB	Total	
68	131	10	209	7:15 AM
74	188	15	277	7:30 AM
98	211	20	329	7:45 AM
94	226	11	331	8:00 AM
96	223	15	334	8:15 AM
87	186	16	289	8:30 AM
79	179	7	265	8:45 AM
87	174	8	269	9:00 AM
334	756	56	1146	7:00 AM
362	848	61	1271	7:15 AM
375	846	62	1283	7:30 AM
356	814	49	1219	7:45 AM
349	762	46	1157	8:00 AM
683	1518	102	2303	7:00 AM
0.96	0.94	0.78		

Count Starts at													
4:00 PM	END	NB La Cholla				SB La Cholla				WB Old Magee Trail			
	Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	4:15 PM	0	183	10	0	5	101	0	0	3	0	8	0
	4:30 PM	0	160	2	0	8	102	0	0	11	0	11	0
	4:45 PM	0	161	6	0	2	90	0	0	2	0	20	0
	5:00 PM	0	193	7	0	5	88	0	0	7	0	23	0
	5:15 PM	0	195	8	0	5	86	0	0	6	0	16	0
	5:30 PM	0	204	6	0	3	98	0	0	1	0	26	0
	5:45 PM	0	192	8	0	3	98	0	0	5	0	12	0
	6:00 PM	0	169	10	0	6	100	0	0	6	0	13	0
4:00 PM	5:00 PM	0	697	25	0	20	381	0	0	23	0	62	0
4:15 PM	5:15 PM	0	709	23	0	20	366	0	0	26	0	70	0
4:30 PM	5:30 PM	0	753	27	0	15	362	0	0	16	0	85	0
4:45 PM	5:45 PM	0	784	29	0	16	370	0	0	19	0	77	0
5:00 PM	6:00 PM	0	760	32	0	17	382	0	0	18	0	67	0
4:00 PM	6:00 PM	0	1457	57	0	37	763	0	0	41	0	129	0
% Out		0%	96%	4%		4%	96%	0%		20%	0%	80%	
% In				95%			95%			5%			
			236	9			87			4			
2018 Exist		0	832	31	0	17	393	0	0	20	0	82	0
2020 NP		0	866	32	0	18	409	0	0	21	0	85	0
2025 NP		0	956	35	0	20	451	0	0	23	0	94	0
2040 NP		0	1286	48	0	26	607	0	0	31	0	126	0
2020 WP		0	1102	41	0	18	496	0	0	25	0	85	0
2025 WP		0	1192	44	0	20	538	0	0	28	0	94	0
2040 WP		0	1522	56	0	26	694	0	0	36	0	126	0

TOTALS					END
NB	SB	WB	Total	Time	
193	106	11	310	4:15 PM	
162	110	22	294	4:30 PM	
167	92	22	281	4:45 PM	
200	93	30	323	5:00 PM	
203	91	22	316	5:15 PM	
210	101	27	338	5:30 PM	
200	101	17	318	5:45 PM	
179	106	19	304	6:00 PM	
722	401	85	1208	4:00 PM	
732	386	96	1214	4:15 PM	
780	377	101	1258	4:30 PM	
813	386	96	1295	4:45 PM	
792	399	85	1276	5:00 PM	
1514	800	170	2484	4:00 PM	
				6:00 PM	

TOTALS				END Time
NB	SB	WB	Total	
193	106	11	310	4:15 PM
162	110	22	294	4:30 PM
167	92	22	281	4:45 PM
200	93	30	323	5:00 PM
203	91	22	316	5:15 PM
210	101	27	338	5:30 PM
200	101	17	318	5:45 PM
179	106	19	304	6:00 PM
722	401	85	1208	4:00 PM
732	386	96	1214	4:15 PM
780	377	101	1258	4:30 PM
813	386	96	1295	4:45 PM
792	399	85	1276	5:00 PM
1514	800	170	2484	4:00 PM
0.97	0.96	0.80		

Project: La Cholla at Magee
Date: Thursday, October 13, 2016

Count period: 0:15

Count Starts at																	
	7:00 AM	NB La Cholla			SB La Cholla			EB Magee			WB Magee						
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	0	57	28	0	0	119	20	0	17	58	72	0	31	33	0	0
	7:30 AM	0	66	31	0	0	128	19	0	23	59	76	0	24	59	0	0
	7:45 AM	0	62	25	0	0	124	24	0	12	108	101	0	45	44	0	0
	8:00 AM	0	86	39	0	0	166	40	0	12	82	89	0	45	62	0	0
	8:15 AM	0	75	34	0	0	114	22	0	22	77	94	0	38	62	0	0
	8:30 AM	0	63	38	0	0	127	24	0	10	89	98	0	41	58	0	0
	8:45 AM	0	68	33	0	0	111	29	0	13	71	69	0	43	80	0	0
	9:00 AM	0	69	48	0	0	113	41	0	21	114	99	0	41	103	0	0
7:00 AM	8:00 AM	0	271	123	0	0	537	103	0	64	307	338	0	145	198	0	0
7:15 AM	8:15 AM	0	289	129	0	0	532	105	0	69	326	360	0	152	227	0	0
7:30 AM	8:30 AM	0	286	136	0	0	531	110	0	56	356	382	0	169	226	0	0
7:45 AM	8:45 AM	0	292	144	0	0	518	115	0	57	319	350	0	167	262	0	0
8:00 AM	9:00 AM	0	275	153	0	0	465	116	0	66	351	360	0	163	303	0	0
7:00 AM	9:00 AM	0	546	276	0	0	1002	219	0	130	658	698	0	308	501	0	0
% Out		0%	68%	32%													
% In						49%				35%				16%			
Non Pass By Site Trips		64				30				158				113			
2018 Exist		0	298	141	0	0	552	114	0	58	370	397	0	176	235	0	0
2020 NP		0	310	147	0	0	575	119	0	61	385	413	0	183	245	0	0
2025 NP		0	342	163	0	0	635	131	0	67	425	457	0	202	270	0	0
2040 NP		0	460	219	0	0	854	177	0	90	573	614	0	272	364	0	0
2020 WP		0	373	178	0	0	732	119	0	61	385	527	0	233	245	0	0
2025 WP		0	406	193	0	0	792	131	0	67	425	570	0	252	270	0	0
2040 WP		0	524	249	0	0	1012	177	0	90	573	728	0	322	364	0	0

TOTALS					END
NB	SB	EB	WB	Total	Time
85	139	147	64	435	7:15 AM
97	147	158	83	485	7:30 AM
87	148	221	89	545	7:45 AM
125	206	183	107	621	8:00 AM
109	136	193	100	538	8:15 AM
101	151	197	99	548	8:30 AM
101	140	153	123	517	8:45 AM
117	154	234	144	649	9:00 AM
394	640	709	343	2086	7:00 AM
418	637	755	379	2189	7:15 AM
422	641	794	395	2252	7:30 AM
436	633	726	429	2224	7:45 AM
428	581	777	466	2252	8:00 AM
822	1221	1486	809	4338	7:00 AM
0.84	0.78	0.90	0.92		9:00 AM

Count Starts at																					
4:00 PM	END	NB La Cholla				SB La Cholla				EB Magee				WB Magee							
	Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR				
	4:15 PM	0	164	71	0	0	91	25	0	21	100	76	0	57	144	0	0				
	4:30 PM	0	173	58	0	0	74	22	0	25	71	83	0	47	167	0	0				
	4:45 PM	0	180	76	0	0	101	20	0	33	92	102	0	50	150	0	0				
	5:00 PM	0	190	68	0	0	100	27	0	22	90	85	0	39	127	0	0				
	5:15 PM	0	186	61	0	0	102	21	0	33	101	97	0	37	140	0	0				
	5:30 PM	0	179	63	0	0	101	22	0	27	7	89	0	52	147	0	0				
	5:45 PM	0	201	58	0	0	96	20	0	21	94	94	0	36	160	0	0				
	6:00 PM	0	173	48	0	0	83	21	0	31	89	90	0	43	137	0	0				
4:00 PM	5:00 PM	0	707	273	0	0	366	94	0	101	353	346	0	193	588	0	0				
4:15 PM	5:15 PM	0	729	263	0	0	377	90	0	113	354	367	0	173	584	0	0				
4:30 PM	5:30 PM	0	735	268	0	0	404	90	0	115	290	373	0	178	564	0	0				
4:45 PM	5:45 PM	0	756	250	0	0	399	90	0	103	292	365	0	164	574	0	0				
5:00 PM	6:00 PM	0	739	230	0	0	382	84	0	112	291	370	0	168	584	0	0				
4:00 PM	6:00 PM	0	1446	503	0	0	748	178	0	213	644	716	0	361	1172	0	0				
% Out		0%	73%	27%	0%				81%	19%	14%				42%	44%	23%	77%	0%		
% In						41%				40%				19%							
Non Pass By Site Trips		245				88				92				89				42			
2018 Exist		0	758	274	0	0	392	94	0	118	368	382	0	180	608	0	0	3173.2			
2020 NP		0	789	285	0	0	408	97	0	122	383	397	0	187	632	0	0	3301.4			
2025 NP		0	871	314	0	0	451	108	0	135	423	439	0	207	698	0	0				
2040 NP		0	1173	423	0	0	606	145	0	182	569	590	0	278	939	0	0				
2020 WP		0	1034	373	0	0	500	97	0	122	383	487	0	229	632	0	0				
2025 WP		0	1116	403	0	0	542	108	0	135	423	528	0	249	698	0	0				
2040 WP		0	1417	511	0	0	698	145	0	182	569	680	0	320	939	0	0				

TOTALS					END
NB	SB	EB	WB	Total	Time
235	116	197	201	749	4:15 PM
231	96	179	214	720	4:30 PM
256	121	227	200	804	4:45 PM
258	127	197	166	748	5:00 PM
247	123	231	177	778	5:15 PM
242	123	123	199	687	5:30 PM
259	116	209	196	780	5:45 PM
221	104	210	180	715	6:00 PM
980	460	800	781	3021	4:00 PM
992	467	834	757	3050	4:15 PM
1003	494	778	742	3017	4:30 PM
1006	489	760	738	2993	4:45 PM
969	466	773	752	2960	5:00 PM
1949	926	1573	1533	5981	4:00 PM
0.97	0.97	0.84	0.93		6:00 PM

Project: La Cholla at Foothills Mall
Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																	
	7:00 AM	NB La Cholla				SB La Cholla				EB Foothills Mall				WB Private DW			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	8	131	13	0	13	315	17	0	6	0	11	0	3	0	0	0
	7:30 AM	14	140	12	0	17	360	15	0	18	1	24	0	2	0	0	0
	7:45 AM	5	138	10	0	14	371	26	0	10	0	12	0	3	0	3	0
	8:00 AM	13	127	15	0	18	384	40	0	9	0	17	0	6	1	1	0
	8:15 AM	15	121	9	0	18	321	25	0	15	0	14	0	3	0	1	0
	8:30 AM	16	103	8	0	15	345	33	0	9	3	12	0	9	0	1	0
	8:45 AM	14	121	15	0	17	232	36	0	9	5	13	0	4	1	6	0
	9:00 AM	18	111	12	0	11	239	26	0	18	4	19	0	11	1	5	0
7:00 AM	8:00 AM	40	536	50	0	62	1430	98	0	43	1	64	0	14	1	4	0
7:15 AM	8:15 AM	47	526	46	0	67	1436	106	0	52	1	67	0	14	1	5	0
7:30 AM	8:30 AM	49	489	42	0	65	1421	124	0	43	3	55	0	21	1	6	0
7:45 AM	8:45 AM	58	472	47	0	68	1282	134	0	42	8	56	0	22	2	9	0
8:00 AM	9:00 AM	63	456	44	0	61	1137	120	0	51	12	58	0	27	2	13	0
7:00 AM	9:00 AM	103	992	94	0	123	2567	218	0	94	13	122	0	41	3	17	0

TOTALS						END Time
NB	SB	EB	WB	Total		
152	345	17	3	517		7:15 AM
166	392	43	2	603		7:30 AM
153	411	22	6	592		7:45 AM
155	442	26	8	631		8:00 AM
145	364	29	4	542		8:15 AM
127	393	24	10	554		8:30 AM
150	285	27	11	473		8:45 AM
141	276	41	17	475		9:00 AM
626	1590	108	19	2343		7:00 AM
619	1609	120	20	2368		7:15 AM
580	1610	101	28	2319		7:30 AM
577	1484	106	33	2200		7:45 AM
563	1318	121	42	2044		8:00 AM
1189	2908	229	61	4387		7:00 AM
0.93	0.91	0.70	0.63			9:00 AM

Non-Pass By Site Trips	107	1				23	246			107	2	139			4		
Pass By Site Trips	21	-21				-11	11			13		7					
2018 Exist	47	526	46	0	67	1436	106	0	52	1	67	0	14	1	5	0	2368
2020 NP	49	547	48	0	70	1494	110	0	54	1	70	0	15	1	5	0	2463.7
2025 NP	54	604	53	0	77	1650	122	0	60	1	77	0	16	1	6	0	
2040 NP	73	813	71	0	104	2220	164	0	80	2	104	0	22	2	8	0	
2020 WP	177	527	48	0	70	1506	367	0	174	3	216	0	15	5	5	0	
2025 WP	182	584	53	0	77	1662	379	0	180	3	223	0	16	5	6	0	
2040 WP	201	793	71	0	104	2232	421	0	200	4	250	0	22	6	8	0	

Count Starts at																	
4:00 PM	4:00 PM	NB La Cholla				SB La Cholla				EB Foothills Mall				WB Private DW			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	4:15 PM	56	212	7	0	24	192	18	0	57	1	41	0	35	3	9	0
	4:30 PM	58	257	10	0	24	165	39	0	66	1	45	0	14	3	8	0
	4:45 PM	71	287	3	0	26	162	29	0	52	0	38	0	34	2	9	0
	5:00 PM	44	297	3	0	22	192	33	0	61	0	42	0	33	0	15	0
	5:15 PM	43	299	3	0	30	158	32	0	63	0	36	0	33	2	15	0
	5:30 PM	70	307	1	0	24	194	40	0	62	0	38	0	23	3	12	0
	5:45 PM	53	278	1	0	27	169	35	0	51	0	41	0	27	0	13	0
	6:00 PM	59	227	3	0	20	153	34	0	76	0	41	0	16	0	5	0
4:00 PM	5:00 PM	229	1053	23	0	96	711	119	0	236	2	166	0	116	8	41	0
4:15 PM	5:15 PM	216	1140	19	0	102	677	133	0	242	1	161	0	114	7	47	0
4:30 PM	5:30 PM	228	1190	10	0	102	706	134	0	238	0	154	0	123	7	51	0
4:45 PM	5:45 PM	210	1181	8	0	103	713	140	0	237	0	157	0	116	5	55	0
5:00 PM	6:00 PM	225	1111	8	0	101	674	141	0	252	0	156	0	99	5	45	0
4:00 PM	6:00 PM	454	2164	31	0	197	1385	260	0	488	2	322	0	215	13	86	0

TOTALS						END Time
NB	SB	EB	WB	Total		
275	234	99	47	655		4:15 PM
325	228	112	25	690		4:30 PM
361	217	90	45	713		4:45 PM
344	247	103	48	742		5:00 PM
345	220	99	50	714		5:15 PM
378	258	100	38	774		5:30 PM
332	231	92	40	695		5:45 PM
289	207	117	21	634		6:00 PM
1305	926	404	165	2800		4:00 PM
1375	912	404	168	2859		4:15 PM
1428	942	392	181	2943		4:30 PM
1399	956	394	176	2925		4:45 PM
1344	916	408	149	2817		5:00 PM
2649	1842	812	314	5617		4:00 PM
0.94	0.91	0.95	0.91			6:00 PM

Non-Pass By Site Trips	349	19				69	203			387	0	248			11		
	66	-66				-33	33			75		38					
2018 Exist	228	1190	10	0	102	706	134	0	238	0	154	0	123	7	51	0	59
2020 NP	237	1238	10	0	106	735	139	0	248	0	160	0	128	7	53	0	3061.9
2025 NP	262	1367	11	0	117	811	154	0	273	0	177	0	141	8	59	0	
2040 NP	352	1840	15	0	158	1091	207	0	368	0	238	0	190	11	79	0	
2020 WP	365	1218	10	0	106	747	396	0	368	2	306	0	128	11	53	0	
2025 WP	390	1347	11	0	117	823	411	0	393	2	323	0	141	12	59	0	
2040 WP	480	1820	15	0	158	1103	464	0	488	2	384	0	190	15	79	0	

Project: Ina at La Cholla
Date: Tuesday, October 18, 2016

Count period: 0:15

Count Starts at																		
	7:00 AM		NB La Cholla				SB La Cholla				EB Ina				WB Ina			
	END	Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM		19	62	21	0	70	159	30	0	14	141	35	0	44	129	15	0
	7:30 AM		48	118	30	0	70	214	20	0	21	167	57	0	44	146	19	0
	7:45 AM		43	121	21	0	74	231	29	0	36	191	62	0	48	166	28	0
	8:00 AM		36	126	25	0	89	215	23	0	37	192	53	0	43	127	30	0
	8:15 AM		47	111	29	0	70	226	25	0	34	173	49	0	39	133	39	0
	8:30 AM		42	161	26	0	76	171	44	0	31	150	49	0	37	144	40	0
	8:45 AM		53	106	16	0	59	152	27	0	41	164	39	0	25	168	36	0
	9:00 AM		60	118	29	0	76	170	32	0	41	144	34	0	27	162	38	0
7:00 AM	8:00 AM		146	427	97	0	303	819	102	0	108	691	207	0	179	568	92	0
7:15 AM	8:15 AM		174	476	105	0	303	886	97	0	128	723	221	0	174	572	116	0
7:30 AM	8:30 AM		168	519	101	0	309	843	121	0	138	706	213	0	167	570	137	0
7:45 AM	8:45 AM		178	504	96	0	294	764	119	0	143	679	190	0	144	572	145	0
8:00 AM	9:00 AM		202	496	100	0	281	719	128	0	147	631	171	0	128	607	153	0
7:00 AM	9:00 AM		348	923	197	0	584	1538	230	0	255	1322	378	0	307	1175	245	0
% Out			21%	66%	13%		24%	66%	10%		13%	67%	20%		19%	65%	16%	
% In			12%	37%											41%	10%		
Unadjusted Non-Pass By			15	120			45	123	18		1	4	2		52	32		
Adjusted Non Pass By Trips			13	104			39	107	16		1	3	2		45	28		
Pass By Trips																		
2018 Exist			175	540	105	0	321	877	126	0	144	735	222	0	174	593	143	0
2020 NP			182	562	109	0	334	912	131	0	149	764	231	0	181	617	148	0
2025 NP			201	620	121	0	369	1007	145	0	165	844	255	0	200	681	164	0
2040 NP			270	835	162	0	497	1356	195	0	222	1136	343	0	269	917	220	0
2020 WP			195	666	109	0	374	1020	147	0	150	768	232	0	181	662	176	0
2025 WP			214	725	121	0	408	1114	160	0	166	847	256	0	200	726	192	0
2040 WP			283	939	162	0	536	1463	210	0	223	1139	344	0	269	962	248	0

TOTALS						END
NB	SB	EB	WB	Total	Time	
102	259	190	188	739	7:15 AM	
196	304	245	209	954	7:30 AM	
185	334	289	242	1050	7:45 AM	
187	327	282	200	996	8:00 AM	
187	321	256	211	975	8:15 AM	
229	291	230	221	971	8:30 AM	
175	238	244	229	886	8:45 AM	
207	278	219	227	931	9:00 AM	
670	1224	1006	839	3739	7:00 AM	8:00 AM
755	1286	1072	862	3975	7:15 AM	8:15 AM
788	1273	1057	874	3992	7:30 AM	8:30 AM
778	1177	1012	861	3828	7:45 AM	8:45 AM
798	1128	949	888	3763	8:00 AM	9:00 AM
1468	2352	1955	1727	7502	7:00 AM	9:00 AM
0.86	0.95	0.91	0.90		Non Pass-By Out Non Pass By In	

Count Starts at																	
4:00 PM		NB La Cholla				SB La Cholla				EB Ina				WB Ina			
END	Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	4:15 PM	45	151	34	0	67	161	63	0	56	133	37	0	28	228	48	0
	4:30 PM	65	143	19	0	63	121	32	0	30	139	19	0	28	246	36	0
	4:45 PM	50	170	43	0	69	133	66	0	42	146	30	0	43	258	57	0
	5:00 PM	72	211	17	0	67	167	58	0	43	159	19	0	39	259	60	0
	5:15 PM	55	172	26	0	58	118	46	0	38	162	23	0	33	245	54	0
	5:30 PM	63	186	33	0	71	111	51	0	47	166	26	0	45	221	48	0
	5:45 PM	57	177	20	0	65	116	57	0	51	141	22	0	37	245	56	0
	6:00 PM	48	165	25	0	68	94	52	0	44	128	19	0	39	237	50	0
4:00 PM	5:00 PM	232	675	113	0	266	582	219	0	171	577	105	0	138	991	201	0
4:15 PM	5:15 PM	242	696	105	0	257	539	202	0	153	606	91	0	143	1008	207	0
4:30 PM	5:30 PM	240	739	119	0	265	529	221	0	170	633	98	0	160	983	219	0
4:45 PM	5:45 PM	247	746	96	0	261	512	212	0	179	628	90	0	154	970	218	0
5:00 PM	6:00 PM	223	700	104	0	262	439	206	0	180	597	90	0	154	948	208	0
4:00 PM	6:00 PM	455	1375	217	0	528	1021	425	0	351	1174	195	0	292	1939	409	0
% Out		22%	67%	11%		26%	52%	22%		19%	70%	11%		12%	72%	16%	
% In		11%	34%											45%	10%		
Unadjusted Non-Pass By		26	355			96	436	113		4	14	2		104	106		
Adjusted Non Pass By Trips		21	291	0	0	79	358	93	0	3	11	2	0	0	85	87	
Pass By Trips																	
2018 Exist		250	769	124	0	276	550	230	0	177	659	102	0	166	1023	228	0
2020 NP		260	800	129	0	287	573	239	0	184	685	106	0	173	1064	237	0
2025 NP		287	883	142	0	317	632	264	0	203	756	117	0	191	1175	262	0
2040 NP		386	1189	191	0	426	851	355	0	273	1018	158	0	257	1581	352	0
2020 WP		286	1155	129	0	383	1009	352	0	188	699	108	0	173	1168	343	0
2025 WP		313	1238	142	0	413	1068	377	0	207	770	119	0	191	1279	368	0
2040 WP		412	1544	191	0	522	1287	468	0	277	1032	160	0	257	1685	458	0

TOTALS						END
NB	SB	EB	WB	Total	Time	
230	291	226	304	1051	4:15 PM	
227	216	188	310	941	4:30 PM	
263	268	218	358	1107	4:45 PM	
300	292	221	358	1171	5:00 PM	
253	222	223	332	1030	5:15 PM	
282	233	239	314	1068	5:30 PM	
254	238	214	338	1044	5:45 PM	
238	214	191	326	969	6:00 PM	
1020	1067	853	1330	4270	4:00 PM	
1043	998	850	1358	4249	4:15 PM	
1098	1015	901	1362	4376	4:30 PM	
1089	985	897	1342	4313	4:45 PM	
1027	907	867	1310	4111	5:00 PM	
2047	1974	1720	2640	8381	4:00 PM	
0.92	0.87	0.94	0.95		6:00 PM	

TOTALS						END
NB	SB	EB	WB	Total	Time	
230	291	226	304	1051	4:15 PM	
227	216	188	310	941	4:30 PM	
263	268	218	358	1107	4:45 PM	
300	292	221	358	1171	5:00 PM	
253	222	223	332	1030	5:15 PM	
282	233	239	314	1068	5:30 PM	
254	238	214	338	1044	5:45 PM	
238	214	191	326	969	6:00 PM	
1020	1067	853	1330	4270	4:00 PM	5:00 PM
1043	998	850	1358	4249	4:15 PM	5:15 PM
1098	1015	901	1362	4376	4:30 PM	5:30 PM
1089	985	897	1342	4313	4:45 PM	5:45 PM
1027	907	867	1310	4111	5:00 PM	6:00 PM
2047	1974	1720	2640	8381	4:00 PM	6:00 PM
0.92	0.87	0.94	0.95			

Project: Ina at Shannon
Date: Wednesday, September 28, 2016

Count period: 0:15

Count Starts at																	
7:00 AM		NB Shannon				SB Shannon				EB Ina				WB Ina			
END	Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM	10	23	15	0	33	33	25	0	21	191	11	0	16	164	22	0
	7:30 AM	13	28	18	0	38	47	23	0	19	216	15	0	15	181	31	0
	7:45 AM	16	31	21	0	44	51	31	0	26	205	9	0	21	196	28	0
	8:00 AM	15	30	23	0	54	38	43	0	34	226	8	0	26	178	37	0
	8:15 AM	11	27	16	0	45	44	38	0	31	206	13	0	19	187	33	0
	8:30 AM	18	36	12	0	48	46	35	0	28	191	12	0	22	191	29	0
	8:45 AM	12	32	19	0	45	53	30	0	25	213	10	0	16	175	36	0
	9:00 AM	9	35	15	0	38	28	28	0	27	204	15	0	13	164	33	0
7:00 AM	8:00 AM	54	112	77	0	169	169	122	0	100	838	43	0	78	719	118	0
7:15 AM	8:15 AM	55	116	78	0	181	180	135	0	110	853	45	0	81	742	129	0
7:30 AM	8:30 AM	60	124	72	0	191	179	147	0	119	828	42	0	88	752	127	0
7:45 AM	8:45 AM	56	125	70	0	192	181	146	0	118	836	43	0	83	731	135	0
8:00 AM	9:00 AM	50	130	62	0	176	171	131	0	111	814	50	0	70	717	131	0
7:00 AM	9:00 AM	104	242	139	0	345	340	253	0	211	1652	93	0	148	1436	249	0
% Out		23%	48%	28%		37%	35%	28%		12%	84%	4%		9%	78%	13%	
% In				7%		18%				76%							
Non Pass By				4		9				41				8	65	11	
2018 Exist		62	129	75	0	199	186	153	0	124	861	44	0	92	782	132	0
2020 NP		65	134	78	0	207	194	159	0	129	896	45	0	95	814	137	0
2025 NP		72	148	86	0	228	214	176	0	142	990	50	0	105	899	152	0
2040 NP		97	199	116	0	307	288	236	0	191	1332	68	0	142	1210	204	0
2020 WP		65	134	81	0	216	194	159	0	129	937	45	0	103	879	148	0
2025 WP		72	148	90	0	238	214	176	0	142	1030	50	0	113	964	163	0
2040 WP		97	199	119	0	317	288	236	0	191	1373	68	0	149	1274	215	0

TOTALS						END
NB	SB	EB	WB	Total	Time	
48	91	223	202	564	7:15 AM	
59	108	250	227	644	7:30 AM	
68	126	240	245	679	7:45 AM	
68	135	268	241	712	8:00 AM	
54	127	250	239	670	8:15 AM	
66	129	231	242	668	8:30 AM	
63	128	248	227	666	8:45 AM	
59	94	246	210	609	9:00 AM	
243	460	981	915	2599	7:00 AM	
249	496	1008	952	2705	7:15 AM	
256	517	989	967	2729	7:30 AM	
251	519	997	949	2716	7:45 AM	
242	478	975	918	2613	8:00 AM	
485	938	1956	1833	5212	7:00 AM	
					9:00 AM	
0.94	0.96	0.92	0.99			

TOTALS					END
NB	SB	EB	WB	Total	Time
48	91	223	202	564	7:15 AM
59	108	250	227	644	7:30 AM
68	126	240	245	679	7:45 AM
68	135	268	241	712	8:00 AM
54	127	250	239	670	8:15 AM
66	129	231	242	668	8:30 AM
63	128	248	227	666	8:45 AM
59	94	246	210	609	9:00 AM
243	460	981	915	2599	7:00 AM
249	496	1008	952	2705	7:15 AM
256	517	989	967	2729	7:30 AM
251	519	997	949	2716	7:45 AM
242	478	975	918	2613	8:00 AM
485	938	1956	1833	5212	7:00 AM
0.94	0.96	0.92	0.99		9:00 AM

Count Starts at																	
4:00 PM		NB Shannon				SB Shannon				EB Ina				WB Ina			
END	Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	4:15 PM	17	37	20	0	33	29	26	0	41	155	16	0	23	265	46	0
	4:30 PM	15	45	18	0	44	35	29	0	37	161	18	0	26	286	50	0
	4:45 PM	23	54	25	0	36	41	31	0	33	174	20	0	31	304	39	0
	5:00 PM	27	47	23	0	51	44	37	0	35	154	14	0	36	295	47	0
	5:15 PM	22	44	22	0	48	37	32	0	40	166	12	0	25	281	40	0
	5:30 PM	18	38	16	0	46	40	30	0	44	170	15	0	30	304	38	0
	5:45 PM	15	35	21	0	40	32	38	0	50	158	11	0	27	295	44	0
	6:00 PM	11	39	24	0	34	30	33	0	45	151	17	0	22	291	37	0
4:00 PM	5:00 PM	82	183	86	0	164	149	123	0	146	644	68	0	116	1150	182	0
4:15 PM	5:15 PM	87	190	88	0	179	157	129	0	145	655	64	0	118	1166	176	0
4:30 PM	5:30 PM	90	183	86	0	181	162	130	0	152	664	61	0	122	1184	164	0
4:45 PM	5:45 PM	82	164	82	0	185	153	137	0	169	648	52	0	118	1175	169	0
5:00 PM	6:00 PM	66	156	83	0	168	139	133	0	179	645	55	0	104	1171	159	0
4:00 PM	6:00 PM	148	339	169	0	332	288	256	0	325	1289	123	0	220	2321	341	0
% Out		25%	51%	24%		38%	34%	27%		17%	76%	7%		8%	81%	11%	
% In				9%		19%				71%							
Non Pass By Site Trips				13		27				97				27	259	36	
2018 Exist		94	190	89	0	188	169	135	0	158	691	63	0	127	1232	171	0
2020 NP		97	198	93	0	196	175	141	0	165	719	66	0	132	1282	178	0
2025 NP		108	219	103	0	216	194	155	0	182	794	73	0	146	1415	196	0
2040 NP		145	294	138	0	291	261	209	0	244	1068	98	0	196	1904	264	0
2020 WP		97	198	106	0	222	175	141	0	165	816	66	0	159	1541	213	0
2025 WP		108	219	115	0	243	194	155	0	182	891	73	0	172	1674	232	0
2040 WP		145	294	151	0	318	261	209	0	244	1165	98	0	223	2163	300	0

TOTALS						END
NB	SB	EB	WB	Total	Time	
74	88	212	334	708	4:15 PM	
78	108	216	362	764	4:30 PM	
102	108	227	374	811	4:45 PM	
97	132	203	378	810	5:00 PM	
88	117	218	346	769	5:15 PM	
72	116	229	372	789	5:30 PM	
71	110	219	366	766	5:45 PM	
74	97	213	350	734	6:00 PM	
351	436	858	1448	3093	4:00 PM	
365	465	864	1460	3154	4:15 PM	
359	473	877	1470	3179	4:30 PM	
328	475	869	1462	3134	4:45 PM	
305	440	879	1434	3058	5:00 PM	
656	876	1737	2882	6151	4:00 PM	
					6:00 PM	

TOTALS					END
NB	SB	EB	WB	Total	Time
74	88	212	334	708	4:15 PM
78	108	216	362	764	4:30 PM
102	108	227	374	811	4:45 PM
97	132	203	378	810	5:00 PM
88	117	218	346	769	5:15 PM
72	116	229	372	789	5:30 PM
71	110	219	366	766	5:45 PM
74	97	213	350	734	6:00 PM
351	436	858	1448	3093	4:00 PM
365	465	864	1460	3154	4:15 PM
359	473	877	1470	3179	4:30 PM
328	475	869	1462	3134	4:45 PM
305	440	879	1434	3058	5:00 PM
656	876	1737	2882	6151	4:00 PM
0.88	0.90	0.96	0.97		6:00 PM

Project: Ina at Mona Lisa

Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																		
	7:00 AM		NB Mona Lisa				SB Mona Lisa				EB Ina				WB Ina			
	END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
	7:15 AM		3	7	6	0	36	11	21	0	11	162	1	0	2	78	8	0
	7:30 AM		1	7	2	0	41	18	15	0	7	168	3	0	5	116	14	0
	7:45 AM		6	6	7	0	32	17	15	0	8	175	7	0	7	128	10	0
	8:00 AM		6	17	5	0	35	15	23	0	12	198	4	0	5	148	18	0
	8:15 AM		4	7	3	0	33	22	15	0	14	181	0	0	7	148	12	0
	8:30 AM		7	10	8	0	27	18	11	0	10	174	4	0	4	151	23	0
	8:45 AM		9	13	9	0	21	10	14	0	10	155	2	0	4	143	8	0
	9:00 AM		3	10	5	0	28	9	14	0	9	128	3	0	5	149	13	0
7:00 AM	8:00 AM	16	37	20	0	144	61	74	0	38	703	15	0	19	470	50	0	
7:15 AM	8:15 AM	17	37	17	0	141	72	68	0	41	722	14	0	24	540	54	0	
7:30 AM	8:30 AM	23	40	23	0	127	72	64	0	44	728	15	0	23	575	63	0	
7:45 AM	8:45 AM	26	47	25	0	116	65	63	0	46	708	10	0	20	590	61	0	
8:00 AM	9:00 AM	23	40	25	0	109	59	54	0	43	638	9	0	20	591	56	0	
7:00 AM	9:00 AM	39	77	45	0	253	120	128	0	81	1341	24	0	39	1061	106	0	

% Out																	
% In			3%		14%					83%				3%	87%	10%	
Non Pass By			2		9					54				3	84	9	

2018 Exist	23	41	23	0	130	73	65	0	45	743	15	0	23	587	64	0	1832.9
2020 NP	24	42	24	0	132	75	67	0	46	757	16	0	24	598	66	0	1869.6
2025 NP	26	46	26	0	146	83	74	0	51	836	17	0	26	660	72	0	
2040 NP	36	62	36	0	196	111	99	0	68	1125	23	0	36	889	97	0	
2020 WP	24	42	26	0	142	75	67	0	46	811	16	0	27	682	75	0	
2025 WP	26	46	28	0	155	83	74	0	51	890	17	0	30	744	82	0	
2040 WP	36	62	37	0	206	111	99	0	68	1179	23	0	39	972	107	0	

TOTALS						END Time
NB	SB	EB	WB	Total		
16	68	174	88	346		7:15 AM
10	74	178	135	397		7:30 AM
19	64	190	145	418		7:45 AM
28	73	214	171	486		8:00 AM
14	70	195	167	446		8:15 AM
25	56	188	178	447		8:30 AM
31	45	167	155	398		8:45 AM
18	51	140	167	376		9:00 AM
73	279	756	539	1647		7:00 AM 8:00 AM
71	281	777	618	1747		7:15 AM 8:15 AM
86	263	787	661	1797		7:30 AM 8:30 AM
98	244	764	671	1777		7:45 AM 8:45 AM
88	222	690	667	1667		8:00 AM 9:00 AM
161	501	1446	1206	3314		7:00 AM 9:00 AM
0.77	0.90	0.92	0.93			

Count Starts at																	
4:00 PM		NB Mona Lisa				SB Mona Lisa				EB Ina				WB Ina			
END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
4:15 PM		7	15	10	0	18	17	15	0	21	196	3	0	8	265	37	0
4:30 PM		4	23	8	0	21	11	15	0	18	186	3	0	19	279	45	0
4:45 PM		2	15	10	0	17	10	20	0	18	218	1	0	7	344	29	0
5:00 PM		6	22	3	0	15	6	19	0	16	193	6	0	16	312	34	0
5:15 PM		20	18	17	0	20	14	18	0	24	199	4	0	12	278	32	0
5:30 PM		8	26	10	0	17	11	22	0	29	198	3	0	14	325	38	0
5:45 PM		8	24	13	0	30	14	23	0	21	208	5	0	9	306	58	0
6:00 PM		5	19	4	0	19	6	18	0	26	161	4	0	16	275	62	0
4:00 PM	5:00 PM	19	75	31	0	71	44	69	0	73	793	13	0	50	1200	145	0
4:15 PM	5:15 PM	32	78	38	0	73	41	72	0	76	796	14	0	54	1213	140	0
4:30 PM	5:30 PM	36	81	40	0	69	41	79	0	87	808	14	0	49	1259	133	0
4:45 PM	5:45 PM	42	90	43	0	82	45	82	0	90	798	18	0	51	1221	162	0
5:00 PM	6:00 PM	41	87	44	0	86	45	81	0	100	766	16	0	51	1184	190	0
4:00 PM	6:00 PM	60	162	75	0	157	89	150	0	173	1559	29	0	101	2384	335	0

% Out														3%	87%	9%	
% In			4%		8%					88%				13	322	34	
Non Pass By Site Trips			7		12					137							

2018 Exist	36	81	40	0	69	41	79	0	87	808	14	0	49	1259	133	0	2696
2020 NP	37	84	42	0	72	43	82	0	91	841	15	0	51	1310	138	0	2804.9
2025 NP	41	93	46	0	79	47	91	0	100	928	16	0	56	1446	153	0	
2040 NP	56	125	62	0	107	63	122	0	135	1249	22	0	76	1946	206	0	
2020 WP	37	84	48	0	83	43	82	0	91	977	15	0	63	1631	172	0	
2025 WP	41	93	53	0	91	47	91	0	100	1065	16	0	69	1768	187	0	
2040 WP	56	125	69	0	118	63	122	0	135	1386	22	0	88	2268	240	0	

TOTALS						END Time
NB	SB	EB	WB	Total		
32	50	220	310	612		4:15 PM
35	47	207	343	632		4:30 PM
27	47	237	380	691		4:45 PM
31	40	215	362	648		5:00 PM
55	52	227	322	656		5:15 PM
44	50	230	377	701		5:30 PM
45	67	234	373	719		5:45 PM
28	43	191	353	615		6:00 PM
125	184	879	1395	2583		4:00 PM 5:00 PM
148	186	886	1407	2627		4:15 PM 5:15 PM
157	189	909	1441	2696		4:30 PM 5:30 PM
175	209	906	1434	2724		4:45 PM 5:45 PM
172	212	882	1425	2691		5:00 PM 6:00 PM
297	396	1761	2820	5274		4:00 PM 6:00 PM
0.71	0.91	0.96	0.95			

Project: Ina at La Canada

Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																		
	7:00 AM		NB La Canada				SB La Canada				EB Ina				WB Ina			
	END Time	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	
	7:15 AM	6	111	23	0	92	206	12	0	18	212	23	0	32	100	36	0	
	7:30 AM	15	106	17	0	86	263	23	0	17	221	24	0	42	135	28	0	
	7:45 AM	16	133	9	0	84	256	17	0	18	212	31	0	18	113	32	0	
	8:00 AM	26	128	11	0	65	241	30	0	28	186	44	0	15	137	45	0	
	8:15 AM	7	123	21	0	90	259	33	0	29	196	27	0	13	126	41	0	
	8:30 AM	8	128	12	0	85	257	31	0	19	202	17	0	27	135	51	0	
	8:45 AM	13	100	16	0	72	248	29	0	22	212	17	0	27	120	52	0	
	9:00 AM	15	79	22	0	71	173	26	0	17	150	19	0	18	165	44	0	
7:00 AM	8:00 AM	63	478	60	0	327	966	82	0	81	831	122	0	107	485	141	0	
7:15 AM	8:15 AM	64	490	58	0	325	1019	103	0	92	815	126	0	88	511	146	0	
7:30 AM	8:30 AM	57	512	53	0	324	1013	111	0	94	796	119	0	73	511	169	0	
7:45 AM	8:45 AM	54	479	60	0	312	1005	123	0	98	796	105	0	82	518	189	0	
8:00 AM	9:00 AM	43	430	71	0	318	937	119	0	87	760	80	0	85	546	188	0	
7:00 AM	9:00 AM	106	908	131	0	645	1903	201	0	168	1591	202	0	192	1031	329	0	

% Out																								
% In	9%				15%				9%				79%				12%							
Non Pass By Trips	7				11				4				34				5				75%			
	7				11				4				34				5				55			
2018 Exist	64	490	58	0	325	1019	103	0	92	815	126	0	88	511	146	0								
2020 NP	67	510	60	0	338	1060	107	0	96	848	131	0	92	532	152	0								
2025 NP	74	563	67	0	373	1171	118	0	106	936	145	0	101	587	168	0								
2040 NP	99	758	90	0	502	1575	159	0	142	1260	195	0	136	790	226	0								
2020 WP		73	510	60	0	338	1060	118	0	100	882	136	0	92	587	152	0							
2025 WP		80	563	67	0	373	1171	129	0	110	970	150	0	101	642	168								
2040 WP		106	758	90	0	502	1575	170	0	146	1294	200	0	136	845	226								

TOTALS						END Time
NB	SB	EB	WB	Total		
140	310	253	168	871	7:15 AM	
138	372	262	205	977	7:30 AM	
158	357	261	163	939	7:45 AM	
165	336	258	197	956	8:00 AM	
151	382	252	180	965	8:15 AM	
148	373	238	213	972	8:30 AM	
129	349	251	199	928	8:45 AM	
116	270	186	227	799	9:00 AM	
601	1375	1034	733	3743	7:00 AM	8:00 AM
612	1447	1033	745	3837	7:15 AM	8:15 AM
622	1448	1009	753	3832	7:30 AM	8:30 AM
593	1440	999	789	3821	7:45 AM	8:45 AM
544	1374	927	819	3664	8:00 AM	9:00 AM
1145	2749	1961	1552	7407	7:00 AM	9:00 AM
0.93	0.95	0.99	0.91			

Count Starts at																	
4:00 PM		NB La Canada				SB La Canada				EB Ina				WB Ina			
END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
4:15 PM		33	171	22	0	33	145	19	0	33	131	19	0	31	198	109	0
4:30 PM		35	180	24	0	43	142	22	0	25	212	23	0	31	263	112	0
4:45 PM		26	209	18	0	45	125	32	0	28	168	19	0	20	263	122	0
5:00 PM		20	228	19	0	55	126	21	0	27	174	20	0	29	228	118	0
5:15 PM		35	210	25	0	53	117	13	0	40	176	31	0	27	260	119	0
5:30 PM		30	218	17	0	54	115	23	0	35	166	20	0	16	266	172	0
5:45 PM		24	232	9	0	47	122	22	0	29	169	24	0	12	269	172	0
6:00 PM		30	234	26	0	53	94	20	0	23	161	19	0	21	238	126	0
4:00 PM	5:00 PM	114	788	83	0	176	538	94	0	113	685	81	0	111	952	461	0
4:15 PM	5:15 PM	116	827	86	0	196	510	88	0	120	730	93	0	107	1014	471	0
4:30 PM	5:30 PM	111	865	79	0	207	483	89	0	130	684	90	0	92	1017	531	0
4:45 PM	5:45 PM	109	888	70	0	209	480	79	0	131	685	95	0	84	1023	581	0
5:00 PM	6:00 PM	119	894	77	0	207	448	78	0	127	672	94	0	76	1033	589	0
4:00 PM	6:00 PM	233	1682	160	0	383	986	172	0	240	1357	175	0	187	1985	1050	0

% Out																													
% In	9%				7%				14%				75%				10%												
Non Pass By Trips	15				11				13				68				9				84%								
2018 Exist	109	888	70	0	209	480	79	0	131	685	95	0	84	1023	581	0													
2020 NP	113	924	73	0	217	499	82	0	136	713	99	0	87	1064	604	0													
2025 NP	125	1020	80	0	240	551	91	0	150	787	109	0	96	1175	667	0													
2040 NP	169	1373	108	0	323	742	122	0	203	1059	147	0	130	1582	898	0													
2020 WP		129	924	73	0	217	499	93	0	149	780	108	0	87	1210	604	0												
2025 WP		141	1020	80	0	240	551	102	0	163	855	119	0	96	1320	667	0												
2040 WP		184	1373	108	0	323	742	133	0	215	1127	156	0	130	1727	898	0												

TOTALS						END Time
NB	SB	EB	WB	Total		
226	197	183	338	944	4:15 PM	
239	207	260	406	1112	4:30 PM	
253	202	215	405	1075	4:45 PM	
267	202	221	375	1065	5:00 PM	
270	183	247	406	1106	5:15 PM	
265	192	221	454	1132	5:30 PM	
265	191	222	453	1131	5:45 PM	
290	167	203	385	1045	6:00 PM	
985	808	879	1524	4196	4:00 PM	5:00 PM
1029	794	943	1592	4358	4:15 PM	5:15 PM
1055	779	904	1640	4378	4:30 PM	5:30 PM
1067	768	911	1688	4434	4:45 PM	5:45 PM
1090	733	893	1698	4414	5:00 PM	6:00 PM
2075	1541	1772	3222	8610	4:00 PM	6:00 PM
0.99	0.95	0.92	0.93			

Project: La Cholla at Omar
Date: Wednesday, January 10, 2018

Count period: 0:15

Count Starts at																		
7:00 AM		NB La Cholla				SB La Cholla				EB Omar				WB Omar				
END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	
7:15 AM		0	149	8	0	5	265	1	0	0	0	7	0	7	0	7	0	
7:30 AM		1	162	11	0	15	334	1	0	2	2	9	0	6	0	6	0	
7:45 AM		0	189	6	0	14	309	2	0	1	2	5	0	12	0	12	0	
8:00 AM		0	178	21	0	27	348	1	0	2	5	14	0	20	0	7	0	
8:15 AM		3	153	35	0	18	283	0	0	2	9	3	0	39	3	31	0	
8:30 AM		2	159	9	0	4	299	1	0	1	0	9	0	15	1	11	0	
8:45 AM		3	179	1	0	1	238	0	0	2	0	3	0	6	0	6	0	
9:00 AM		2	174	2	0	7	229	2	0	1	2	9	0	6	0	4	0	
7:00 AM	8:00 AM	1	678	46	0	61	1256	5	0	5	9	35	0	45	0	32	0	
7:15 AM	8:15 AM	4	682	73	0	74	1274	4	0	7	18	31	0	77	3	56	0	
7:30 AM	8:30 AM	5	679	71	0	63	1239	4	0	6	16	31	0	86	4	61	0	
7:45 AM	8:45 AM	8	669	66	0	50	1168	2	0	7	14	29	0	80	4	55	0	
8:00 AM	9:00 AM	10	665	47	0	30	1049	3	0	6	11	24	0	66	4	52	0	
7:00 AM	9:00 AM	11	1343	93	0	91	2305	8	0	11	20	59	0	111	4	84	0	
% Out						5%	94%	0%										
% In		92%								1%				8%				
Non Pass By Site Trips		107				6				103	0		1		9			
2018 Exist		4	682	73	0	74	1274	4	0	7	18	31	0	77	3	56	0	
2020 NP		4	710	76	0	77	1325	4	0	7	19	32	0	80	3	58	0	
2025 NP		5	783	84	0	85	1463	5	0	8	21	36	0	88	3	64	0	
2040 NP		6	1054	113	0	114	1970	6	0	11	28	48	0	119	5	87	0	
2020 WP		4	817	76	0	83	1428	4	0	8	19	32	0	80	3	67	0	
2025 WP		5	891	84	0	91	1566	5	0	9	21	36	0	88	3	73	0	
2040 WP		6	1161	113	0	120	2072	7	0	12	28	48	0	119	5	95	0	

TOTALS						END
NB	SB	EB	WB	Total	Time	
157	271	7	14	449	7:15 AM	
174	350	13	12	549	7:30 AM	
195	325	8	24	552	7:45 AM	
199	376	21	27	623	8:00 AM	
191	301	14	73	579	8:15 AM	
170	304	10	27	511	8:30 AM	
183	239	5	12	439	8:45 AM	
178	238	12	10	438	9:00 AM	
725	1322	49	77	2173	7:00 AM	8:00 AM
759	1352	56	136	2303	7:15 AM	8:15 AM
755	1306	53	151	2265	7:30 AM	8:30 AM
743	1220	50	139	2152	7:45 AM	8:45 AM
722	1082	41	122	1967	8:00 AM	9:00 AM
1447	2404	90	199	4140	7:00 AM	9:00 AM

0.95	0.90	0.67	0.47
------	------	------	------

TOTALS						END Time
NB	SB	EB	WB	Total		
157	271	7	14	449	7:15 AM	
174	350	13	12	549	7:30 AM	
195	325	8	24	552	7:45 AM	
199	376	21	27	623	8:00 AM	
191	301	14	73	579	8:15 AM	
170	304	10	27	511	8:30 AM	
183	239	5	12	439	8:45 AM	
178	238	12	10	438	9:00 AM	
725	1322	49	77	2173	7:00 AM	8:00 AM
759	1352	56	136	2303	7:15 AM	8:15 AM
755	1306	53	151	2265	7:30 AM	8:30 AM
743	1220	50	139	2152	7:45 AM	8:45 AM
722	1082	41	122	1967	8:00 AM	9:00 AM
1447	2404	90	199	4140	7:00 AM	9:00 AM
0.95	0.90	0.67	0.47			

Count Starts at																	
4:00 PM		NB La Cholla				SB La Cholla				EB Omar				WB Omar			
END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
4:15 PM		3	296	11	0	4	225	3	0	0	0	3	0	4	1	5	0
4:30 PM		6	312	5	0	3	201	4	0	1	0	2	0	6	0	5	0
4:45 PM		4	348	12	0	3	237	2	0	3	2	2	0	6	1	5	0
5:00 PM		5	351	6	0	3	201	3	0	2	0	1	0	5	1	2	0
5:15 PM		3	372	2	0	8	193	1	0	0	0	2	0	5	0	1	0
5:30 PM		4	343	7	0	5	213	3	0	2	0	4	0	0	0	4	0
5:45 PM		3	327	7	0	5	173	2	0	0	1	1	0	5	0	5	0
6:00 PM		9	297	4	0	8	178	2	0	2	0	2	0	3	0	9	0
4:00 PM	5:00 PM	18	1307	34	0	13	864	12	0	6	2	8	0	21	3	17	0
4:15 PM	5:15 PM	18	1383	25	0	17	832	10	0	6	2	7	0	22	2	13	0
4:30 PM	5:30 PM	16	1414	27	0	19	844	9	0	7	2	9	0	16	2	12	0
4:45 PM	5:45 PM	15	1393	22	0	21	780	9	0	4	1	8	0	15	1	12	0
5:00 PM	6:00 PM	19	1339	20	0	26	757	8	0	4	1	9	0	13	0	19	0
4:00 PM	6:00 PM	37	2646	54	0	39	1621	20	0	10	3	17	0	34	3	36	0
% Out						2%	97%	1%									
% In		99%								0%				1%			
Non Pass By Site Trips		308				4	182	2	2				3				
2018 Exist		16	1414	27	0	19	844	9	0	7	2	9	0	16	2	12	0
2020 NP		17	1471	28	0	20	878	9	0	7	2	9	0	17	2	12	0
2025 NP		18	1624	31	0	22	969	10	0	8	2	10	0	18	2	14	0
2040 NP		25	2186	42	0	29	1305	14	0	11	3	14	0	25	3	19	0
2020 WP		17	1779	28	0	24	1060	11	0	9	2	9	0	17	2	15	0
2025 WP		18	1932	31	0	26	1151	12	0	10	2	10	0	18	2	16	0
2040 WP		25	2494	42	0	33	1487	16	0	12	3	14	0	25	3	21	0

TOTALS						END
NB	SB	EB	WB	Total	Time	
310	232	3	10	555	4:15 PM	
323	208	3	11	545	4:30 PM	
364	242	7	12	625	4:45 PM	
362	207	3	8	580	5:00 PM	
377	202	2	6	587	5:15 PM	
354	221	6	4	585	5:30 PM	
337	180	2	10	529	5:45 PM	
310	188	4	12	514	6:00 PM	
1359	889	16	41	2305	4:00 PM	
1426	859	15	37	2337	4:15 PM	
1457	872	18	30	2377	4:30 PM	
1430	810	13	28	2281	4:45 PM	
1378	791	14	32	2215	5:00 PM	
2737	1680	30	73	4520	4:00 PM	

TOTALS						END Time
NB	SB	EB	WB	Total		
310	232	3	10	555	4:15 PM	
323	208	3	11	545	4:30 PM	
364	242	7	12	625	4:45 PM	
362	207	3	8	580	5:00 PM	
377	202	2	6	587	5:15 PM	
354	221	6	4	585	5:30 PM	
337	180	2	10	529	5:45 PM	
310	188	4	12	514	6:00 PM	
1359	889	16	41	2305	4:00 PM	5:00 PM
1426	859	15	37	2337	4:15 PM	5:15 PM
1457	872	18	30	2377	4:30 PM	5:30 PM
1430	810	13	28	2281	4:45 PM	5:45 PM
1378	791	14	32	2215	5:00 PM	6:00 PM
2737	1680	30	73	4520	4:00 PM	6:00 PM
0.97	0.90	0.64	0.63			

Project: Orange Grove at La Cholla
Date: Tuesday, September 22, 2015

Count period: 0:15

Count Starts at																	
7:00 AM		NB La Cholla				SB La Cholla				EB Orange Grove				EB Orange Grove			
END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
7:15 AM		27	96	31	0	35	216	24	0	43	102	80	0	33	69	7	0
7:30 AM		44	121	45	0	39	212	15	0	46	146	72	0	43	82	23	0
7:45 AM		52	138	54	0	57	253	33	0	34	138	103	0	51	78	13	0
8:00 AM		48	118	38	0	35	224	26	0	45	180	116	0	75	85	19	0
8:15 AM		45	131	46	0	55	229	32	0	34	135	70	0	38	61	22	0
8:30 AM		48	133	46	0	37	179	34	0	34	127	73	0	45	76	11	0
8:45 AM		53	116	47	0	54	161	23	0	27	108	81	0	38	80	27	0
9:00 AM		42	139	28	0	53	152	15	0	29	92	62	0	33	83	13	0
7:00 AM	8:00 AM	171	473	168	0	166	905	98	0	168	566	371	0	202	314	62	0
7:15 AM	8:15 AM	189	508	183	0	186	918	106	0	159	599	361	0	207	306	77	0
7:30 AM	8:30 AM	193	520	184	0	184	885	125	0	147	580	362	0	209	300	65	0
7:45 AM	8:45 AM	194	498	177	0	181	793	115	0	140	550	340	0	196	302	79	0
8:00 AM	9:00 AM	188	519	167	0	199	721	104	0	124	462	286	0	154	300	73	0
7:00 AM	9:00 AM	359	992	335	0	365	1626	202	0	292	1028	657	0	356	614	135	0

% Out
% In
Non Pass By Trips

2018 Exist	201	539	194	0	197	974	112	0	169	636	383	0	220	325	82	0	4031.5
2020 NP	209	561	202	0	205	1014	117	0	176	661	399	0	229	338	85	0	4194.4
2025 NP	230	619	223	0	227	1119	129	0	194	730	440	0	252	373	94	0	
2040 NP	310	833	300	0	305	1506	174	0	261	983	592	0	340	502	126	0	
2020 WP	209	634	202	0	221	1091	126	0	198	661	399	0	229	338	96	0	
2025 WP	230	692	223	0	243	1197	138	0	217	730	440	0	252	373	105	0	
2040 WP	310	907	300	0	321	1584	183	0	284	983	592	0	340	502	137	0	

TOTALS						END Time
NB	SB	EB	WB	Total		
154	275	225	109	763	7:15 AM	
210	266	264	148	888	7:30 AM	
244	343	275	142	1004	7:45 AM	
204	285	341	179	1009	8:00 AM	
222	316	239	121	898	8:15 AM	
227	250	234	132	843	8:30 AM	
216	238	216	145	815	8:45 AM	
209	220	183	129	741	9:00 AM	
812	1169	1105	578	3664	7:00 AM	8:00 AM
880	1210	1119	590	3799	7:15 AM	8:15 AM
897	1194	1089	574	3754	7:30 AM	8:30 AM
869	1089	1030	577	3565	7:45 AM	8:45 AM
874	1024	872	527	3297	8:00 AM	9:00 AM
1686	2193	1977	1105	6961	7:00 AM	9:00 AM
0.90	0.88	0.82	0.82			

Count Starts at																	
4:00 PM		NB La Cholla				SB La Cholla				EB Orange Grove				EB Orange Grove			
END Time		Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR	Left Turn	THRU	Right Turn	RTOR
4:15 PM		52	191	50	0	42	131	32	0	39	114	46	0	40	150	38	0
4:30 PM		46	244	59	0	40	147	35	0	69	98	55	0	29	129	25	0
4:45 PM		55	196	52	0	48	160	39	0	63	123	61	0	41	136	38	0
5:00 PM		60	249	47	0	45	117	27	0	63	108	57	0	37	125	26	0
5:15 PM		60	208	47	0	40	154	41	0	60	144	55	0	49	168	40	0
5:30 PM		44	237	44	0	47	138	42	0	54	107	53	0	39	137	29	0
5:45 PM		41	206	40	0	41	99	27	0	47	102	48	0	31	155	27	0
6:00 PM		22	166	36	0	36	92	23	0	49	90	50	0	38	99	27	0
4:00 PM	5:00 PM	213	880	208	0	175	555	133	0	234	443	219	0	147	540	127	0
4:15 PM	5:15 PM	221	897	205	0	173	578	142	0	255	473	228	0	156	558	129	0
4:30 PM	5:30 PM	219	890	190	0	180	569	149	0	240	482	226	0	166	566	133	0
4:45 PM	5:45 PM	205	900	178	0	173	508	137	0	224	461	213	0	156	585	122	0
5:00 PM	6:00 PM	167	817	167	0	164	483	133	0	210	443	206	0	157	559	123	0
4:00 PM	6:00 PM	380	1697	375	0	339	1038	266	0	444	886	425	0	304	1099	250	0

% Out
% In

2018 Exist	235	952	218	0	184	613	151	0	271	502	242	0	166	592	137	0	4260.8
2020 NP	244	990	226	0	191	638	157	0	282	522	252	0	172	616	142	0	4432.9
2025 NP	269	1093	250	0	211	705	173	0	311	577	278	0	190	680	157	0	
2040 NP	363	1472	336	0	284	948	233	0	418	776	374	0	256	915	212	0	
2020 WP	244	1206	226	0	226	756	186	0	343	522	252	0	172	616	173	0	
2025 WP	269	1309	250	0	246	822	202	0	372	577	278	0	190	680	188	0	
2040 WP	363	1687	336	0	319	1066	262	0	480	776	374	0	256	915	243	0	

TOTALS						END Time
NB	SB	EB	WB	Total		
293	205	199	228	925	4:15 PM	
349	222	222	183	976	4:30 PM	
303	247	247	215	1012	4:45 PM	
356	189	228	188	961	5:00 PM	
315	235	259	257	1066	5:15 PM	
325	227	214	205	971	5:30 PM	
287	167	197	213	864	5:45 PM	
224	151	189	164	728	6:00 PM	
1301	863	896	814	3874	4:00 PM	5:00 PM
1323	893	956	843	4015	4:15 PM	5:15 PM
1299	898	948	865	4010	4:30 PM	5:30 PM
1283	818	898	863	3862	4:45 PM	5:45 PM
1151	780	859	839	3629	5:00 PM	6:00 PM
2452	1643	1755	1653	7503	4:00 PM	6:00 PM
0.93	0.90	0.92	0.82			

Synchro Analysis Sheets

- AM Existing
- PM Existing
- 2020 No Project AM
- 2020 No Project PM
- 2025 No Project AM
- 2025 No Project PM
- 2020 With Project AM
- 2020 With Project PM
- 2025 With Project AM
- 2025 With Project PM

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	839	3	2	638	12	5	0	2	2	0	19
Future Vol, veh/h	43	839	3	2	638	12	5	0	2	2	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	215	-	-	170	-	850	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	912	3	2	693	13	5	0	2	2	0	21
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	693	0	0	915	0	0	1358	1705	458	1247	1707	347
Stage 1	-	-	-	-	-	-	1007	1007	-	698	698	-
Stage 2	-	-	-	-	-	-	351	698	-	549	1009	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	898	-	-	741	-	-	107	90	550	130	90	649
Stage 1	-	-	-	-	-	-	258	317	-	397	440	-
Stage 2	-	-	-	-	-	-	639	440	-	488	316	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	898	-	-	741	-	-	99	85	550	124	85	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	85	-	124	85	-
Stage 1	-	-	-	-	-	-	244	300	-	376	439	-
Stage 2	-	-	-	-	-	-	617	439	-	461	299	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0			34.6			13		
HCM LOS							D			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	129	898	-	-	741	-	-	124	649			
HCM Lane V/C Ratio	0.059	0.052	-	-	0.003	-	-	0.018	0.032			
HCM Control Delay (s)	34.6	9.2	-	-	9.9	-	-	34.6	10.7			
HCM Lane LOS	D	A	-	-	A	-	-	D	B			
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.1	0.1			

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	842	633	19	0	10
Future Vol, veh/h	0	842	633	19	0	10
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	-	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	915	688	21	0	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 344
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 -	- -	0 652
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 652
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	652
HCM Lane V/C Ratio	-	-	-	0.017
HCM Control Delay (s)	-	-	-	10.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	856	645	1	0	1
Future Vol, veh/h	0	856	645	1	0	1
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	-	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	930	701	1	0	1
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	351
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	-	-	-	0	645
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	645
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		10.6	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	645		
HCM Lane V/C Ratio	-	-	-	0.002		
HCM Control Delay (s)	-	-	-	10.6		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	712	1418	0
Future Vol, veh/h	0	1	0	712	1418	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	774	1541	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	771	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	294	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	294	-	-	-	-
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)	-	294	-	-		
HCM Lane V/C Ratio	-	0.004	-	-		
HCM Control Delay (s)	-	17.3	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	21	4	0	9	18	610	15	56	1454	7
Future Vol, veh/h	0	0	21	4	0	9	18	610	15	56	1454	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	23	4	0	10	20	663	16	61	1580	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2010	2424	794	1464	2420	340	1588	0	0	679	0	0
Stage 1	1706	1706	-	710	710	-	-	-	-	-	-	-
Stage 2	304	718	-	754	1710	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	63	32	284	135	32	560	201	-	-	558	-	-
Stage 1	63	145	-	315	435	-	-	-	-	-	-	-
Stage 2	624	431	-	334	144	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	10	2	284	20	2	560	201	-	-	558	-	-
Mov Cap-2 Maneuver	10	2	-	20	2	-	-	-	-	-	-	-
Stage 1	57	9	-	284	392	-	-	-	-	-	-	-
Stage 2	552	388	-	20	9	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	82.6	0.7	0.5
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	201	-	-	-	284	60	558	-	-
HCM Lane V/C Ratio	0.097	-	-	-	0.08	0.236	0.109	-	-
HCM Control Delay (s)	24.8	-	-	0	18.8	82.6	12.2	-	-
HCM Lane LOS	C	-	-	A	C	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0.3	0.8	0.4	-	-

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	32	386	12	44	854
Future Vol, veh/h	34	32	386	12	44	854
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	35	420	13	48	928

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	986	216	0
Stage 1	426	-	-
Stage 2	560	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	245	789	1123
Stage 1	627	-	-
Stage 2	535	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	235	789	1123
Mov Cap-2 Maneuver	235	-	-
Stage 1	627	-	-
Stage 2	512	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 235 789 1123	-	-
HCM Lane V/C Ratio	-	- 0.157 0.044 0.043	-	-
HCM Control Delay (s)	-	- 23.2 9.8 8.3	-	-
HCM Lane LOS	-	- C A A	-	-
HCM 95th %tile Q(veh)	-	- 0.5 0.1 0.1	-	-

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	815	126	88	511	146	64	490	58	35	1019	103
Future Volume (veh/h)	92	815	126	88	511	146	64	490	58	35	1019	103
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	100	886	137	96	555	159	70	533	63	38	1108	112
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1023	547	123	1032	523	195	1099	601	134	1036	569
Arrive On Green	0.07	0.29	0.29	0.07	0.29	0.29	0.06	0.31	0.31	0.04	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	100	886	137	96	555	159	70	533	63	38	1108	112
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.7	14.6	3.8	3.3	8.1	4.6	1.2	7.5	1.6	0.7	18.0	3.0
Cycle Q Clear(g_c), s	1.7	14.6	3.8	3.3	8.1	4.6	1.2	7.5	1.6	0.7	18.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	1023	547	123	1032	523	195	1099	601	134	1036	569
V/C Ratio(X)	0.44	0.87	0.25	0.78	0.54	0.30	0.36	0.49	0.10	0.28	1.07	0.20
Avail Cap(c_a), veh/h	280	1036	553	144	1036	525	280	1099	601	280	1036	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	20.7	14.4	28.2	18.3	15.3	27.9	17.2	12.3	28.7	21.8	13.6
Incr Delay (d2), s/veh	1.3	7.8	0.2	20.8	0.6	0.3	1.1	0.3	0.1	1.2	48.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	8.2	1.7	2.3	4.0	2.0	0.6	3.7	0.7	0.3	15.6	1.3
LnGrp Delay(d),s/veh	28.9	28.6	14.7	48.9	18.9	15.7	29.0	17.5	12.4	29.9	70.4	13.8
LnGrp LOS	C	C	B	D	B	B	C	B	B	C	F	B
Approach Vol, veh/h		1123			810			666			1258	
Approach Delay, s/veh		26.9			21.8			18.3			64.2	
Approach LOS		C			C			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	23.6	8.8	22.3	8.0	22.5	8.6	22.4				
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	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.7	9.5	5.3	16.6	3.2	20.0	3.7	10.1				
Green Ext Time (p_c), s	0.0	6.5	0.0	1.2	0.0	0.0	0.0	5.7				
Intersection Summary												
HCM 2010 Ctrl Delay				36.5								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	735	222	174	593	143	175	540	105	321	877	126
Future Volume (veh/h)	144	735	222	174	593	143	175	540	105	321	877	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	158	808	244	193	659	159	203	628	122	338	923	133
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	428	1032	606	282	883	631	314	1242	517	514	1538	676
Arrive On Green	0.12	0.29	0.29	0.08	0.25	0.25	0.09	0.24	0.24	0.15	0.30	0.30
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	158	808	244	193	659	159	203	628	122	338	923	133
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	3.3	16.2	1.6	4.2	13.3	0.0	4.4	8.2	0.0	7.2	12.0	0.0
Cycle Q Clear(g_c), s	3.3	16.2	1.6	4.2	13.3	0.0	4.4	8.2	0.0	7.2	12.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	428	1032	606	282	883	631	314	1242	517	514	1538	676
V/C Ratio(X)	0.37	0.78	0.40	0.68	0.75	0.25	0.65	0.51	0.24	0.66	0.60	0.20
Avail Cap(c_a), veh/h	428	1318	734	432	1368	849	449	1242	517	650	1538	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	25.2	17.4	34.5	26.8	15.5	33.9	25.2	19.0	31.0	23.0	13.9
Incr Delay (d2), s/veh	0.5	2.4	0.4	2.9	1.3	0.2	2.2	1.5	1.1	1.6	1.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.2	3.7	2.1	6.7	2.2	2.2	4.0	2.1	3.5	5.8	1.9
LnGrp Delay(d),s/veh	31.6	27.6	17.8	37.5	28.1	15.7	36.2	26.7	20.1	32.7	24.7	14.5
LnGrp LOS	C	C	B	D	C	B	D	C	C	C	C	B
Approach Vol, veh/h	1210				1011				953			
Approach Delay, s/veh	26.1				27.9				27.9			
Approach LOS	C				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	23.4	10.8	27.1	11.6	27.9	14.1	23.8				
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	14.6	18.9	9.7	28.8	10.1	23.4	8.6	29.9				
Max Q Clear Time (g_c+I1), s	9.2	10.2	6.2	18.2	6.4	14.0	5.3	15.3				
Green Ext Time (p_c), s	1.0	2.8	0.2	4.3	0.7	4.3	0.4	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	26.8											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	636	383	220	325	82	201	539	194	197	974	112
Future Volume (veh/h)	169	636	383	220	325	82	201	539	194	197	974	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	206	776	467	268	396	100	223	599	216	224	1107	127
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	876	1098	491	354	561	251	307	994	309	594	1417	441
Arrive On Green	0.25	0.31	0.31	0.10	0.16	0.16	0.09	0.20	0.20	0.17	0.28	0.28
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	206	776	467	268	396	100	223	599	216	224	1107	127
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	3.9	15.9	23.7	6.2	8.7	4.7	5.2	8.8	10.4	4.7	16.5	5.2
Cycle Q Clear(g_c), s	3.9	15.9	23.7	6.2	8.7	4.7	5.2	8.8	10.4	4.7	16.5	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	876	1098	491	354	561	251	307	994	309	594	1417	441
V/C Ratio(X)	0.24	0.71	0.95	0.76	0.71	0.40	0.73	0.60	0.70	0.38	0.78	0.29
Avail Cap(c_a), veh/h	876	1098	491	440	1115	499	398	1553	483	594	1639	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	25.0	27.7	35.9	32.8	31.1	36.4	30.2	30.8	30.1	27.3	23.2
Incr Delay (d2), s/veh	0.1	2.1	28.5	5.9	1.6	1.0	4.6	0.6	2.8	0.4	2.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.1	14.2	3.2	4.4	2.1	2.7	4.2	4.8	2.3	8.0	2.3
LnGrp Delay(d),s/veh	24.4	27.1	56.3	41.7	34.4	32.1	41.1	30.7	33.6	30.5	29.5	23.6
LnGrp LOS	C	C	E	D	C	C	D	C	C	C	C	C
Approach Vol, veh/h	1449				764				1038			
Approach Delay, s/veh	36.1				36.7				33.6			
Approach LOS	D				D				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	20.6	12.9	30.0	11.8	27.4	25.4	17.5				
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	10.9	25.1	10.5	25.5	9.5	26.5	10.1	25.9				
Max Q Clear Time (g_c+I1), s	6.7	12.4	8.2	25.7	7.2	18.5	5.9	10.7				
Green Ext Time (p_c), s	0.6	3.6	0.2	0.0	0.2	4.4	0.7	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay	33.5											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	18	31	77	3	56	4	682	73	74	1274	4
Future Volume (veh/h)	7	18	31	77	3	56	4	682	73	74	1274	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	10	27	46	164	6	119	4	718	77	82	1416	4
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.67	0.67	0.67	0.47	0.47	0.47	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	128	218	334	16	313	309	3070	327	513	3443	10
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1261	620	1056	1322	77	1518	376	4668	497	680	5236	15
Grp Volume(v), veh/h	10	0	73	164	0	125	4	520	275	82	917	503
Grp Sat Flow(s),veh/h/ln	1261	0	1676	1322	0	1595	376	1695	1775	680	1695	1860
Q Serve(g_s), s	0.5	0.0	2.4	7.8	0.0	4.5	0.3	4.1	4.2	3.7	8.4	8.4
Cycle Q Clear(g_c), s	4.9	0.0	2.4	10.2	0.0	4.5	8.7	4.1	4.2	7.8	8.4	8.4
Prop In Lane	1.00		0.63	1.00		0.95	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	284	0	346	334	0	329	309	2230	1167	513	2230	1223
V/C Ratio(X)	0.04	0.00	0.21	0.49	0.00	0.38	0.01	0.23	0.24	0.16	0.41	0.41
Avail Cap(c_a), veh/h	529	0	672	591	0	639	309	2230	1167	513	2230	1223
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	21.8	26.0	0.0	22.6	7.4	4.6	4.6	6.2	5.3	5.3
Incr Delay (d2), s/veh	0.1	0.0	0.3	1.1	0.0	0.7	0.1	0.2	0.5	0.7	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.1	2.9	0.0	2.0	0.0	2.0	2.1	0.8	4.0	4.5
LnGrp Delay(d),s/veh	24.8	0.0	22.1	27.1	0.0	23.3	7.4	4.8	5.1	6.8	5.9	6.3
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		83			289			799			1502	
Approach Delay, s/veh		22.4			25.5			4.9			6.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		18.1		48.0		18.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		26.5		43.5		26.5				
Max Q Clear Time (g_c+I1), s		10.7		6.9		10.4		12.2				
Green Ext Time (p_c), s		21.8		1.7		22.0		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	743	15	23	587	64	23	41	23	130	73	65
Future Volume (veh/h)	45	743	15	23	587	64	23	41	23	130	73	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	751	15	25	645	70	25	44	25	137	77	68
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.99	0.99	0.99	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	1067	21	231	970	434	608	496	282	680	406	359
Arrive On Green	0.06	0.30	0.30	0.03	0.27	0.27	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1774	3549	71	1774	3539	1583	1238	1116	634	1326	914	807
Grp Volume(v), veh/h	45	374	392	25	645	70	25	0	69	137	0	145
Grp Sat Flow(s),veh/h/ln	1774	1770	1850	1774	1770	1583	1238	0	1751	1326	0	1720
Q Serve(g_s), s	0.0	11.2	11.2	0.0	9.6	2.0	0.7	0.0	1.4	4.0	0.0	3.0
Cycle Q Clear(g_c), s	0.0	11.2	11.2	0.0	9.6	2.0	3.8	0.0	1.4	5.3	0.0	3.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.36	1.00		0.47
Lane Grp Cap(c), veh/h	301	532	556	231	970	434	608	0	778	680	0	765
V/C Ratio(X)	0.15	0.70	0.70	0.11	0.67	0.16	0.04	0.00	0.09	0.20	0.00	0.19
Avail Cap(c_a), veh/h	396	965	1009	374	1929	863	608	0	778	680	0	765
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	18.5	18.5	24.2	19.2	16.4	11.2	0.0	9.6	11.1	0.0	10.0
Incr Delay (d2), s/veh	0.2	1.7	1.6	0.2	0.8	0.2	0.1	0.0	0.2	0.7	0.0	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	0.7	5.7	5.9	0.4	4.8	0.9	0.3	0.0	0.7	1.6	0.0	1.6
LnGrp Delay(d),s/veh	22.2	20.2	20.1	24.4	20.0	16.6	11.3	0.0	9.8	11.8	0.0	10.6
LnGrp LOS	C	C	C	C	C	B	B		A	B		B
Approach Vol, veh/h		811			740			94			282	
Approach Delay, s/veh		20.3			19.8			10.2			11.2	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	6.2	22.4		31.0	7.8	20.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	6.5	32.5		26.5	6.5	32.5				
Max Q Clear Time (g_c+I1), s		5.8	2.0	13.2		7.3	2.0	11.6				
Green Ext Time (p_c), s		1.7	0.0	4.7		1.7	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay				18.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	298	141	0	552	114	58	370	397	176	235	0
Future Volume (veh/h)	0	298	141	0	552	114	58	370	397	176	235	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	355	168	0	708	146	64	411	0	191	255	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.84	0.84	0.92	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	2006	625	0	2006	625	208	771	345	338	1300	0
Arrive On Green	0.00	0.39	0.39	0.00	0.39	0.39	0.06	0.22	0.00	0.10	0.26	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	355	168	0	708	146	64	411	0	191	255	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	2.1	3.4	0.0	4.6	2.9	0.8	4.8	0.0	2.5	1.8	0.0
Cycle Q Clear(g_c), s	0.0	2.1	3.4	0.0	4.6	2.9	0.8	4.8	0.0	2.5	1.8	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	2006	625	0	2006	625	208	771	345	338	1300	0
V/C Ratio(X)	0.00	0.18	0.27	0.00	0.35	0.23	0.31	0.53	0.00	0.57	0.20	0.00
Avail Cap(c_a), veh/h	0	2006	625	0	2006	625	369	1366	611	376	1974	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.2	9.6	0.0	9.9	9.4	21.0	16.1	0.0	20.1	13.6	0.0
Incr Delay (d2), s/veh	0.0	0.2	1.1	0.0	0.5	0.9	0.8	0.6	0.0	1.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	1.6	0.0	2.2	1.4	0.4	2.4	0.0	1.2	0.9	0.0
LnGrp Delay(d),s/veh	0.0	9.4	10.6	0.0	10.4	10.3	21.8	16.7	0.0	21.6	13.7	0.0
LnGrp LOS		A	B		B	B	C	B		C	B	
Approach Vol, veh/h		523			854			475			446	
Approach Delay, s/veh		9.8			10.4			17.4			17.1	
Approach LOS		A			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	9.1	14.7		22.9	7.3	16.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.1	18.0		18.4	5.0	18.1				
Max Q Clear Time (g_c+I1), s		5.4	4.5	6.8		6.6	2.8	3.8				
Green Ext Time (p_c), s		6.8	0.0	3.4		6.4	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	861	44	92	782	132	62	129	75	199	186	153
Future Volume (veh/h)	124	861	44	92	782	132	62	129	75	199	186	153
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	135	936	48	93	790	133	66	137	80	207	194	159
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	1182	606	219	1031	647	409	293	171	457	1181	529
Arrive On Green	0.10	0.33	0.33	0.06	0.29	0.29	0.05	0.27	0.27	0.12	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1104	645	1774	3539	1583
Grp Volume(v), veh/h	135	936	48	93	790	133	66	0	217	207	194	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1749	1774	1770	1583
Q Serve(g_s), s	0.0	18.9	0.0	0.0	16.0	0.0	0.0	0.0	8.2	0.0	3.0	5.9
Cycle Q Clear(g_c), s	0.0	18.9	0.0	0.0	16.0	0.0	0.0	0.0	8.2	0.0	3.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	311	1182	606	219	1031	647	409	0	464	457	1181	529
V/C Ratio(X)	0.43	0.79	0.08	0.42	0.77	0.21	0.16	0.00	0.47	0.45	0.16	0.30
Avail Cap(c_a), veh/h	352	1505	750	281	1397	810	438	0	464	485	1181	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	23.8	15.5	34.5	25.5	15.1	22.1	0.0	24.3	26.6	18.5	19.4
Incr Delay (d2), s/veh	1.0	2.3	0.1	1.3	1.8	0.2	0.2	0.0	3.4	0.7	0.3	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	2.7	9.6	0.7	2.0	8.0	1.9	1.1	0.0	4.4	4.1	1.5	2.8
LnGrp Delay(d),s/veh	32.0	26.1	15.5	35.8	27.3	15.2	22.3	0.0	27.6	27.3	18.8	20.9
LnGrp LOS	C	C	B	D	C	B	C		C	C	B	C
Approach Vol, veh/h		1119			1016			283			560	
Approach Delay, s/veh		26.3			26.5			26.4			22.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	25.4	8.8	30.8	8.3	30.8	12.2	27.5				
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	10.5	20.9	7.1	33.5	5.1	26.3	9.5	31.1				
Max Q Clear Time (g_c+I1), s	2.0	10.2	2.0	20.9	2.0	7.9	2.0	18.0				
Green Ext Time (p_c), s	0.5	0.9	0.3	5.5	0.2	1.6	0.4	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay				25.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

34: Foothills Mall & La Cholla

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1	67	14	1	5	47	526	46	67	1436	106
Future Volume (veh/h)	52	1	67	14	1	5	47	526	46	67	1436	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	74	1	96	22	2	8	51	566	49	74	1578	116
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2	165	45	24	95	84	2471	212	104	2689	837
Arrive On Green	0.06	0.11	0.11	0.03	0.07	0.07	0.05	0.52	0.52	0.06	0.53	0.53
Sat Flow, veh/h	1774	16	1569	1774	326	1306	1774	4771	409	1774	5085	1583
Grp Volume(v), veh/h	74	0	97	22	0	10	51	401	214	74	1578	116
Grp Sat Flow(s),veh/h/ln	1774	0	1586	1774	0	1632	1774	1695	1791	1774	1695	1583
Q Serve(g_s), s	2.5	0.0	3.6	0.8	0.0	0.4	1.7	4.0	4.0	2.5	13.0	2.3
Cycle Q Clear(g_c), s	2.5	0.0	3.6	0.8	0.0	0.4	1.7	4.0	4.0	2.5	13.0	2.3
Prop In Lane	1.00		0.99	1.00		0.80	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	104	0	167	45	0	118	84	1755	927	104	2689	837
V/C Ratio(X)	0.71	0.00	0.58	0.49	0.00	0.08	0.61	0.23	0.23	0.71	0.59	0.14
Avail Cap(c_a), veh/h	217	0	503	173	0	478	303	1755	927	425	2981	928
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	26.2	29.5	0.0	26.6	28.7	8.1	8.1	28.4	9.9	7.4
Incr Delay (d2), s/veh	8.8	0.0	3.2	7.9	0.0	0.3	6.9	0.3	0.6	8.8	0.2	0.1
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	1.7	0.5	0.0	0.2	1.0	1.9	2.1	1.5	6.1	1.0
LnGrp Delay(d),s/veh	37.2	0.0	29.4	37.4	0.0	26.9	35.6	8.4	8.7	37.2	10.1	7.4
LnGrp LOS	D		C	D		C	D	A	A	D	B	A
Approach Vol, veh/h		171			32			666			1768	
Approach Delay, s/veh		32.8			34.1			10.6			11.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	36.3	6.1	11.0	7.4	37.0	8.1	8.9				
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	14.7	31.8	6.0	19.5	10.5	36.0	7.5	18.0				
Max Q Clear Time (g_c+I1), s	4.5	6.0	2.8	5.6	3.7	15.0	4.5	2.4				
Green Ext Time (p_c), s	0.1	18.6	0.0	0.4	0.0	15.9	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	1052	324	161	370	1	200	6	136	5	4	12
Future Volume (vph)	6	1052	324	161	370	1	200	6	136	5	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3538		1681	1690	1583		1697	
Flt Permitted	0.50	1.00	1.00	0.12	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	929	3539	1583	226	3538		1681	1690	1583		1697	
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.76	0.76	0.76	0.64	0.64	0.64
Adj. Flow (vph)	7	1156	356	189	435	1	263	8	179	8	6	19
RTOR Reduction (vph)	0	0	188	0	0	0	0	0	152	0	18	0
Lane Group Flow (vph)	7	1156	168	189	436	0	134	137	27	0	15	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	34.9	34.1	34.1	45.1	39.8		11.1	11.1	11.1		2.6	
Effective Green, g (s)	34.9	34.1	34.1	45.1	39.8		11.1	11.1	11.1		2.6	
Actuated g/C Ratio	0.48	0.47	0.47	0.62	0.55		0.15	0.15	0.15		0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	457	1669	746	279	1947		258	259	243		61	
v/s Ratio Prot	0.00	0.33		c0.06	0.12		0.08	c0.08			c0.01	
v/s Ratio Perm	0.01		0.11	c0.36					0.02			
v/c Ratio	0.02	0.69	0.23	0.68	0.22		0.52	0.53	0.11		0.24	
Uniform Delay, d1	9.7	15.0	11.3	10.2	8.3		28.1	28.2	26.4		33.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.4	0.7	6.4	0.3		1.8	1.9	0.2		2.0	
Delay (s)	9.7	17.4	12.0	16.6	8.6		29.9	30.1	26.6		35.9	
Level of Service	A	B	B	B	A		C	C	C		D	
Approach Delay (s)		16.1			11.0			28.7			35.9	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			17.3			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			72.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			61.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	798	4	7	1340	42	2	0	8	13	1	162
Future Vol, veh/h	120	798	4	7	1340	42	2	0	8	13	1	162
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	867	4	8	1457	46	2	0	9	14	1	176
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1457	0	0	872	0	0	1874	2602	436	2167	2605	728
Stage 1	-	-	-	-	-	-	1130	1130	-	1472	1472	-
Stage 2	-	-	-	-	-	-	744	1472	-	695	1133	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	460	-	-	769	-	-	44	24	568	26	24	366
Stage 1	-	-	-	-	-	-	217	277	-	133	189	-
Stage 2	-	-	-	-	-	-	373	189	-	399	276	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	460	-	-	769	-	-	17	17	568	20	17	366
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	17	-	20	17	-
Stage 1	-	-	-	-	-	-	156	199	-	95	187	-
Stage 2	-	-	-	-	-	-	190	187	-	282	198	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.1			0			60.1			53.6		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	76	460	-	-	769	-	-	20	325			
HCM Lane V/C Ratio	0.143	0.284	-	-	0.01	-	-	0.707	0.545			
HCM Control Delay (s)	60.1	15.9	-	-	9.7	-	-	\$ 367.1	28.6			
HCM Lane LOS	F	C	-	-	A	-	-	F	D			
HCM 95th %tile Q(veh)	0.5	1.2	-	-	0	-	-	2	3.1			

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	801	1347	33	0	43
Future Vol, veh/h	0	801	1347	33	0	43
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	-	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	871	1464	36	0	47

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 732
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 -	- -	0 364
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 364
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	364
HCM Lane V/C Ratio	-	-	-	0.128
HCM Control Delay (s)	-	-	-	16.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	806	1379	1	0	4
Future Vol, veh/h	0	806	1379	1	0	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	-	-	-	0	-	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	876	1499	1	0	4
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	749
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	-	-	-	0	354
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	354
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		15.3	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	354		
HCM Lane V/C Ratio	-	-	-	0.012		
HCM Control Delay (s)	-	-	-	15.3		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	1441	1052	2
Future Vol, veh/h	0	5	0	1441	1052	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	0	1566	1143	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	573	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	396	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	396	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.2	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	396	-	-		
HCM Lane V/C Ratio	-	0.014	-	-		
HCM Control Delay (s)	-	14.2	-	-		
HCM Lane LOS	-	B	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	98	10	0	80	81	1339	10	63	879	41
Future Vol, veh/h	9	0	98	10	0	80	81	1339	10	63	879	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	240	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	107	11	0	87	88	1455	11	68	955	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1873	2757	500	2156	2774	733	1000	0	0	1466	0	0
Stage 1	1115	1115	-	1637	1637	-	-	-	-	-	-	-
Stage 2	758	1642	-	519	1137	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	76	19	442	51	19	312	391	-	-	232	-	-
Stage 1	166	282	-	71	157	-	-	-	-	-	-	-
Stage 2	332	156	-	464	275	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	10	442	25	10	312	391	-	-	232	-	-
Mov Cap-2 Maneuver	35	10	-	25	10	-	-	-	-	-	-	-
Stage 1	129	199	-	55	122	-	-	-	-	-	-	-
Stage 2	186	121	-	249	194	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.5	79.1	1	1.7
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	391	-	-	35	442	137	232	-	-
HCM Lane V/C Ratio	0.225	-	-	0.28	0.241	0.714	0.295	-	-
HCM Control Delay (s)	16.9	-	-	143.8	15.7	79.1	26.9	-	-
HCM Lane LOS	C	-	-	F	C	F	D	-	-
HCM 95th %tile Q(veh)	0.9	-	-	0.9	0.9	4.1	1.2	-	-

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	82	832	31	17	393
Future Vol, veh/h	20	82	832	31	17	393
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	97	97	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	103	858	32	18	409
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1114	445	0	0	890	0
Stage 1	874	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	202	561	-	-	757	-
Stage 1	369	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	197	561	-	-	757	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	369	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.4	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 197 561	757	-		
HCM Lane V/C Ratio	-	- 0.127 0.183	0.023	-		
HCM Control Delay (s)	-	- 25.9 12.8	9.9	-		
HCM Lane LOS	-	- D B	A	-		
HCM 95th %tile Q(veh)	-	- 0.4 0.7	0.1	-		

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	685	95	84	1023	581	109	888	70	209	480	79
Future Volume (veh/h)	131	685	95	84	1023	581	109	888	70	209	480	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	142	745	103	90	1100	625	110	897	71	220	505	83
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.99	0.99	0.99	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1204	625	115	1226	688	187	1045	570	304	1166	614
Arrive On Green	0.06	0.34	0.34	0.06	0.35	0.35	0.05	0.30	0.30	0.09	0.33	0.33
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	142	745	103	90	1100	625	110	897	71	220	505	83
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	3.5	15.0	3.6	4.3	25.1	29.5	2.7	20.4	2.6	5.3	9.5	2.9
Cycle Q Clear(g_c), s	3.5	15.0	3.6	4.3	25.1	29.5	2.7	20.4	2.6	5.3	9.5	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	1204	625	115	1226	688	187	1045	570	304	1166	614
V/C Ratio(X)	0.70	0.62	0.16	0.78	0.90	0.91	0.59	0.86	0.12	0.72	0.43	0.14
Avail Cap(c_a), veh/h	202	1204	625	152	1226	688	271	1080	586	465	1280	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	23.5	16.7	39.2	26.4	22.5	39.3	28.3	18.3	37.8	22.3	16.8
Incr Delay (d2), s/veh	10.4	1.0	0.1	17.2	9.0	15.9	2.9	6.9	0.1	3.2	0.3	0.1
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	1.9	7.5	1.6	2.6	13.8	16.6	1.3	11.0	1.1	2.6	4.7	1.3
LnGrp Delay(d),s/veh	49.8	24.5	16.8	56.4	35.4	38.4	42.3	35.2	18.4	41.1	22.6	16.9
LnGrp LOS	D	C	B	E	D	D	D	D	B	D	C	B
Approach Vol, veh/h		990			1815			1078			808	
Approach Delay, s/veh		27.3			37.5			34.8			27.0	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	29.7	10.0	33.5	9.1	32.6	9.5	34.0				
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	11.5	26.0	7.3	27.2	6.7	30.8	5.0	29.5				
Max Q Clear Time (g_c+I1), s	7.3	22.4	6.3	17.0	4.7	11.5	5.5	31.5				
Green Ext Time (p_c), s	0.3	2.8	0.0	8.8	0.1	10.3	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				32.9								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	659	102	166	1023	228	250	769	124	276	550	230
Future Volume (veh/h)	177	659	102	166	1023	228	250	769	124	276	550	230
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	188	701	109	175	1077	240	272	836	135	317	632	264
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	891	562	585	1222	742	356	1254	660	424	1354	543
Arrive On Green	0.08	0.25	0.25	0.17	0.35	0.35	0.10	0.25	0.25	0.12	0.27	0.27
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	188	701	109	175	1077	240	272	836	135	317	632	264
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.6	16.0	0.0	3.8	24.7	0.0	6.6	12.8	0.0	7.7	9.0	4.7
Cycle Q Clear(g_c), s	4.6	16.0	0.0	3.8	24.7	0.0	6.6	12.8	0.0	7.7	9.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	891	562	585	1222	742	356	1254	660	424	1354	543
V/C Ratio(X)	0.71	0.79	0.19	0.30	0.88	0.32	0.76	0.67	0.20	0.75	0.47	0.49
Avail Cap(c_a), veh/h	303	1242	719	585	1295	774	391	1254	660	458	1354	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	30.1	19.3	31.3	26.6	14.4	37.7	29.3	16.1	36.6	26.5	22.4
Incr Delay (d2), s/veh	6.6	2.3	0.2	0.3	7.1	0.3	8.0	2.8	0.7	6.2	1.2	3.1
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	8.1	1.8	1.8	13.2	3.6	3.6	6.3	2.2	4.0	4.4	5.0
LnGrp Delay(d),s/veh	45.5	32.5	19.4	31.6	33.7	14.6	45.7	32.1	16.8	42.7	27.7	25.5
LnGrp LOS	D	C	B	C	C	B	D	C	B	D	C	C
Approach Vol, veh/h		998			1492			1243			1213	
Approach Delay, s/veh		33.5			30.4			33.4			31.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	25.8	19.2	26.2	13.4	27.5	11.1	34.3				
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	11.5	21.3	8.9	30.3	9.8	23.0	7.6	31.6				
Max Q Clear Time (g_c+I1), s	9.7	14.8	5.8	18.0	8.6	11.0	6.6	26.7				
Green Ext Time (p_c), s	0.5	3.0	0.4	3.8	0.3	3.8	0.1	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay				32.0								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	502	242	166	592	137	235	952	218	184	613	151
Future Volume (veh/h)	271	502	242	166	592	137	235	952	218	184	613	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	295	546	263	202	722	167	253	1024	234	204	681	168
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.82	0.82	0.82	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	818	366	512	932	417	569	1432	446	304	1041	324
Arrive On Green	0.12	0.23	0.23	0.15	0.26	0.26	0.17	0.28	0.28	0.09	0.20	0.20
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	295	546	263	202	722	167	253	1024	234	204	681	168
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	6.0	10.1	11.0	3.8	13.6	6.3	4.8	13.0	9.0	4.1	8.8	6.8
Cycle Q Clear(g_c), s	6.0	10.1	11.0	3.8	13.6	6.3	4.8	13.0	9.0	4.1	8.8	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	818	366	512	932	417	569	1432	446	304	1041	324
V/C Ratio(X)	0.73	0.67	0.72	0.39	0.77	0.40	0.44	0.71	0.52	0.67	0.65	0.52
Avail Cap(c_a), veh/h	598	1328	594	512	1205	539	569	1802	561	454	1647	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	25.1	25.5	27.7	24.5	21.8	27.1	23.2	21.8	31.8	26.3	25.5
Incr Delay (d2), s/veh	2.6	0.9	2.7	0.5	2.4	0.6	0.5	1.0	1.0	2.6	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.0	5.0	1.9	6.9	2.8	2.3	6.2	4.0	2.1	4.2	3.1
LnGrp Delay(d),s/veh	33.3	26.1	28.2	28.2	26.9	22.5	27.6	24.3	22.7	34.4	27.0	26.7
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h	1104		1091				1511		1053			
Approach Delay, s/veh	28.5		26.5				24.6		28.4			
Approach LOS	C		C				C		C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	24.8	15.2	21.1	16.4	19.2	12.9	23.4				
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	9.5	25.5	10.0	27.0	11.7	23.3	12.5	24.5				
Max Q Clear Time (g_c+I1), s	6.1	15.0	5.8	13.0	6.8	10.8	8.0	15.6				
Green Ext Time (p_c), s	0.3	5.2	0.7	3.6	0.8	3.9	0.5	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar Dr

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	2	9	16	2	12	16	1414	27	19	844	9
Future Volume (veh/h)	7	2	9	16	2	12	16	1414	27	19	844	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	3	14	25	3	19	16	1458	28	21	938	10
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	17	80	189	13	83	559	4062	78	370	4102	44
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.79	0.79	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1384	287	1339	1390	220	1396	589	5137	99	353	5188	55
Grp Volume(v), veh/h	11	0	17	25	0	22	16	962	524	21	613	335
Grp Sat Flow(s),veh/h/ln	1384	0	1626	1390	0	1616	589	1695	1845	353	1695	1853
Q Serve(g_s), s	0.5	0.0	0.6	1.0	0.0	0.8	0.4	5.0	5.0	1.1	2.8	2.8
Cycle Q Clear(g_c), s	1.2	0.0	0.6	1.6	0.0	0.8	3.2	5.0	5.0	6.1	2.8	2.8
Prop In Lane	1.00		0.82	1.00		0.86	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	97	189	0	96	559	2681	1459	370	2681	1465
V/C Ratio(X)	0.06	0.00	0.18	0.13	0.00	0.23	0.03	0.36	0.36	0.06	0.23	0.23
Avail Cap(c_a), veh/h	597	0	582	604	0	579	559	2681	1459	370	2681	1465
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	26.9	27.6	0.0	26.9	2.0	1.8	1.8	2.7	1.6	1.6
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.3	0.0	1.2	0.1	0.4	0.7	0.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.4	0.0	0.4	0.1	2.4	2.8	0.1	1.4	1.5
LnGrp Delay(d),s/veh	27.7	0.0	27.7	27.9	0.0	28.1	2.1	2.2	2.5	3.0	1.8	2.0
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h	28					47		1502		969		
Approach Delay, s/veh	27.7					28.0		2.3		1.9		
Approach LOS	C					C		A		A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4			6		8				
Phs Duration (G+Y+Rc), s	52.0		8.1			52.0		8.1				
Change Period (Y+Rc), s	4.5		4.5			4.5		4.5				
Max Green Setting (Gmax), s	47.5		21.5			47.5		21.5				
Max Q Clear Time (g_c+I1), s	7.0		3.2			8.1		3.6				
Green Ext Time (p_c), s	27.3		0.2			26.8		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			2.9									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	808	14	49	1259	133	36	81	40	69	41	79
Future Volume (veh/h)	87	808	14	49	1259	133	36	81	40	69	41	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	91	842	15	52	1325	140	51	114	56	76	45	87
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.71	0.71	0.71	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1150	20	538	1698	760	362	319	157	335	154	297
Arrive On Green	0.06	0.32	0.32	0.21	0.48	0.48	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	3558	63	1774	3539	1583	1253	1181	580	1210	569	1100
Grp Volume(v), veh/h	91	419	438	52	1325	140	51	0	170	76	0	132
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1253	0	1760	1210	0	1669
Q Serve(g_s), s	0.0	14.8	14.8	0.0	21.9	3.6	2.4	0.0	5.5	3.8	0.0	4.4
Cycle Q Clear(g_c), s	0.0	14.8	14.8	0.0	21.9	3.6	6.8	0.0	5.5	9.3	0.0	4.4
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.33	1.00		0.66
Lane Grp Cap(c), veh/h	210	572	599	538	1698	760	362	0	475	335	0	451
V/C Ratio(X)	0.43	0.73	0.73	0.10	0.78	0.18	0.14	0.00	0.36	0.23	0.00	0.29
Avail Cap(c_a), veh/h	271	1079	1129	538	2087	934	362	0	475	335	0	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.2	21.1	21.1	18.8	15.2	10.4	23.0	0.0	20.8	24.5	0.0	20.4
Incr Delay (d2), s/veh	1.4	1.8	1.8	0.1	1.6	0.1	0.8	0.0	2.1	1.6	0.0	1.6
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	7.5	7.8	0.8	11.0	1.6	0.9	0.0	2.9	1.4	0.0	2.2
LnGrp Delay(d),s/veh	32.6	22.9	22.9	18.8	16.8	10.6	23.9	0.0	22.8	26.1	0.0	22.0
LnGrp LOS	C	C	C	B	B	B	C		C	C		C
Approach Vol, veh/h		948			1517			221			208	
Approach Delay, s/veh		23.8			16.3			23.1			23.5	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	19.6	27.2		23.5	8.6	38.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	5.1	42.9		19.0	6.5	41.5				
Max Q Clear Time (g_c+I1), s		8.8	2.0	16.8		11.3	2.0	23.9				
Green Ext Time (p_c), s		1.6	0.1	6.0		1.4	0.1	9.8				
Intersection Summary												
HCM 2010 Ctrl Delay				19.8								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	758	274	0	392	94	118	368	382	180	608	0
Future Volume (veh/h)	0	758	274	0	392	94	118	368	382	180	608	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	781	282	0	404	97	140	438	0	194	654	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.84	0.84	0.84	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1895	590	0	1895	590	300	906	405	327	1342	0
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.37	0.09	0.26	0.00	0.10	0.26	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	781	282	0	404	97	140	438	0	194	654	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	5.6	6.6	0.0	2.6	2.0	1.9	5.1	0.0	2.6	5.3	0.0
Cycle Q Clear(g_c), s	0.0	5.6	6.6	0.0	2.6	2.0	1.9	5.1	0.0	2.6	5.3	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1895	590	0	1895	590	300	906	405	327	1342	0
V/C Ratio(X)	0.00	0.41	0.48	0.00	0.21	0.16	0.47	0.48	0.00	0.59	0.49	0.00
Avail Cap(c_a), veh/h	0	1895	590	0	1895	590	352	1304	583	373	1905	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.4	11.7	0.0	10.4	10.2	21.2	15.4	0.0	21.2	15.2	0.0
Incr Delay (d2), s/veh	0.0	0.7	2.8	0.0	0.3	0.6	1.1	0.4	0.0	2.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	3.3	0.0	1.3	1.0	0.9	2.5	0.0	1.3	2.5	0.0
LnGrp Delay(d),s/veh	0.0	12.0	14.5	0.0	10.7	10.8	22.4	15.8	0.0	23.2	15.5	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		1063			501			578			848	
Approach Delay, s/veh		12.7			10.7			17.4			17.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	9.1	17.0		22.7	8.8	17.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.2	5.3	18.0		18.2	5.0	18.3				
Max Q Clear Time (g_c+I1), s		8.6	4.6	7.1		4.6	3.9	7.3				
Green Ext Time (p_c), s		6.1	0.0	5.4		7.8	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			14.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	691	63	127	1232	171	94	190	89	188	169	135
Future Volume (veh/h)	158	691	63	127	1232	171	94	190	89	188	169	135
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	165	720	66	131	1270	176	107	216	101	209	188	150
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	944	517	455	1367	706	431	325	152	310	959	429
Arrive On Green	0.07	0.27	0.27	0.19	0.39	0.39	0.06	0.27	0.27	0.06	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1202	562	1774	3539	1583
Grp Volume(v), veh/h	165	720	66	131	1270	176	107	0	317	209	188	150
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1764	1774	1770	1583
Q Serve(g_s), s	3.5	15.6	0.0	0.0	28.5	0.8	0.0	0.0	13.3	0.0	3.4	6.3
Cycle Q Clear(g_c), s	3.5	15.6	0.0	0.0	28.5	0.8	0.0	0.0	13.3	0.0	3.4	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	205	944	517	455	1367	706	431	0	478	310	959	429
V/C Ratio(X)	0.81	0.76	0.13	0.29	0.93	0.25	0.25	0.00	0.66	0.67	0.20	0.35
Avail Cap(c_a), veh/h	290	1385	714	455	1385	714	486	0	478	364	959	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	28.0	19.7	26.8	24.4	14.4	23.4	0.0	26.9	34.1	23.3	24.4
Incr Delay (d2), s/veh	10.6	1.5	0.1	0.3	11.2	0.2	0.3	0.0	7.1	3.9	0.5	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	7.8	1.1	2.5	15.9	2.4	2.0	0.0	7.4	4.9	1.7	3.0
LnGrp Delay(d),s/veh	47.5	29.5	19.8	27.2	35.6	14.5	23.7	0.0	34.0	38.0	23.8	26.6
LnGrp LOS	D	C	B	C	D	B	C		C	D	C	C
Approach Vol, veh/h		951			1577			424			547	
Approach Delay, s/veh		32.0			32.5			31.4			30.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	27.0	20.0	26.6	9.5	27.0	10.0	36.6				
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	7.5	22.5	9.5	32.5	7.5	22.5	9.5	32.5				
Max Q Clear Time (g_c+I1), s	2.0	15.3	2.0	17.6	2.0	8.3	5.5	30.5				
Green Ext Time (p_c), s	0.5	1.1	0.5	4.6	0.5	1.4	0.2	1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				31.8								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

34: Foothills Mall & La Cholla

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	0	154	123	7	51	228	1190	10	102	706	12
Future Volume (veh/h)	238	0	154	123	7	51	228	1190	10	102	706	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	251	0	162	135	8	56	243	1266	11	110	759	13
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	0	237	173	16	113	292	2216	19	140	1732	539
Arrive On Green	0.17	0.00	0.15	0.10	0.08	0.08	0.16	0.43	0.43	0.08	0.34	0.34
Sat Flow, veh/h	1774	0	1583	1774	202	1412	1774	5200	45	1774	5085	1583
Grp Volume(v), veh/h	251	0	162	135	0	64	243	825	452	110	759	13
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1614	1774	1695	1855	1774	1695	1583
Q Serve(g_s), s	10.0	0.0	7.0	5.4	0.0	2.8	9.6	13.4	13.4	4.4	8.4	0.4
Cycle Q Clear(g_c), s	10.0	0.0	7.0	5.4	0.0	2.8	9.6	13.4	13.4	4.4	8.4	0.4
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	296	0	237	173	0	129	292	1445	790	140	1732	539
V/C Ratio(X)	0.85	0.00	0.68	0.78	0.00	0.49	0.83	0.57	0.57	0.78	0.44	0.02
Avail Cap(c_a), veh/h	378	0	418	349	0	399	476	1445	790	183	1732	539
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	29.3	32.1	0.0	32.0	29.4	15.8	15.8	32.9	18.6	15.9
Incr Delay (d2), s/veh	13.3	0.0	3.4	7.5	0.0	2.9	6.5	1.6	3.0	15.1	0.8	0.1
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	6.0	0.0	3.3	3.0	0.0	1.3	5.3	6.5	7.4	2.8	4.1	0.2
LnGrp Delay(d),s/veh	42.7	0.0	32.7	39.6	0.0	34.9	35.9	17.5	18.8	48.0	19.4	16.0
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	413		199				1520			882		
Approach Delay, s/veh	38.8		38.1				20.8			22.9		
Approach LOS	D		D				C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	35.5	11.6	15.4	16.5	29.3	16.7	10.3				
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	7.5	31.0	14.3	19.2	19.5	19.0	15.5	18.0				
Max Q Clear Time (g_c+I1), s	6.4	15.4	7.4	9.0	11.6	10.4	12.0	4.8				
Green Ext Time (p_c), s	0.0	11.5	0.2	0.9	0.4	7.0	0.2	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay	25.0											
HCM 2010 LOS	C											

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	565	245	155	715	7	625	3	229	4	2	8
Future Volume (vph)	1	565	245	155	715	7	625	3	229	4	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3534		1681	1686	1583		1695	
Flt Permitted	0.33	1.00	1.00	0.28	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	612	3539	1583	517	3534		1681	1686	1583		1695	
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.90	0.90	0.90	0.75	0.75	0.75
Adj. Flow (vph)	1	608	263	178	822	8	694	3	254	5	3	11
RTOR Reduction (vph)	0	0	171	0	1	0	0	0	184	0	11	0
Lane Group Flow (vph)	1	608	92	178	829	0	347	350	70	0	8	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	26.6	25.8	25.8	38.7	33.4		20.3	20.3	20.3		1.2	
Effective Green, g (s)	26.6	25.8	25.8	38.7	33.4		20.3	20.3	20.3		1.2	
Actuated g/C Ratio	0.36	0.35	0.35	0.53	0.45		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	233	1238	554	414	1601		463	464	436		27	
v/s Ratio Prot	0.00	0.17		c0.05	c0.23		0.21	c0.21			c0.00	
v/s Ratio Perm	0.00		0.06	0.18					0.04			
v/c Ratio	0.00	0.49	0.17	0.43	0.52		0.75	0.75	0.16		0.30	
Uniform Delay, d1	15.1	18.8	16.5	10.2	14.4		24.4	24.4	20.2		35.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.4	0.6	0.7	1.2		6.6	6.8	0.2		6.2	
Delay (s)	15.1	20.2	17.2	10.9	15.6		30.9	31.3	20.4		42.1	
Level of Service	B	C	B	B	B		C	C	C		D	
Approach Delay (s)		19.3			14.8			28.2			42.1	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			20.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			73.7			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			59.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	873	3	2	664	12	5	0	2	2	0	20
Future Vol, veh/h	45	873	3	2	664	12	5	0	2	2	0	20
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	949	3	2	722	13	5	0	2	2	0	22
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	722	0	0	952	0	0	1413	1774	476	1298	1776	361
Stage 1	-	-	-	-	-	-	1048	1048	-	726	726	-
Stage 2	-	-	-	-	-	-	365	726	-	572	1050	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	876	-	-	717	-	-	98	82	535	119	82	636
Stage 1	-	-	-	-	-	-	244	303	-	382	428	-
Stage 2	-	-	-	-	-	-	627	428	-	472	302	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876	-	-	717	-	-	90	77	535	113	77	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	77	-	113	77	-
Stage 1	-	-	-	-	-	-	230	286	-	361	427	-
Stage 2	-	-	-	-	-	-	604	427	-	444	285	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0			37.6			13.3		
HCM LOS							E			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	118	876	-	-	717	-	-	113	636			
HCM Lane V/C Ratio	0.064	0.056	-	-	0.003	-	-	0.019	0.034			
HCM Control Delay (s)	37.6	9.4	-	-	10	-	-	37.5	10.9			
HCM Lane LOS	E	A	-	-	B	-	-	E	B			
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.1	0.1			

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	876	659	20	0	10
Future Vol, veh/h	0	876	659	20	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	-	-	0	-	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	952	716	22	0	11
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	358
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	-	-	0	0	638
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	638
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		10.7	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	638			
HCM Lane V/C Ratio	-	-	0.017			
HCM Control Delay (s)	-	-	10.7			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	891	671	1	0	1
Future Vol, veh/h	0	891	671	1	0	1
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	-	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	968	729	1	0	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 365
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 -	- -	0 632
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 632
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	632
HCM Lane V/C Ratio	-	-	-	0.002
HCM Control Delay (s)	-	-	-	10.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	741	1475	9
Future Vol, veh/h	0	1	0	741	1475	9
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	1	0	805	1603	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	807	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	279	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	279	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	18	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	279	-	-		
HCM Lane V/C Ratio	-	0.004	-	-		
HCM Control Delay (s)	-	18	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	22	4	0	9	19	635	16	58	1513	7
Future Vol, veh/h	0	0	22	4	0	9	19	635	16	58	1513	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	24	4	0	10	21	690	17	63	1645	8
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2091	2523	826	1524	2518	354	1652	0	0	708	0	0
Stage 1	1774	1774	-	740	740	-	-	-	-	-	-	-
Stage 2	317	749	-	784	1778	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	56	27	271	124	28	548	187	-	-	540	-	-
Stage 1	56	134	-	301	421	-	-	-	-	-	-	-
Stage 2	613	417	-	320	134	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	271	-	0	548	187	-	-	540	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	50	0	-	267	374	-	-	-	-	-	-	-
Stage 2	534	370	-	-	0	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	19.6						0.8			0.5		
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	187	-	-	-	271	-	540	-	-			
HCM Lane V/C Ratio	0.11	-	-	-	0.088	-	0.117	-	-			
HCM Control Delay (s)	26.6	-	-	0	19.6	-	12.5	-	-			
HCM Lane LOS	D	-	-	A	C	-	B	-	-			
HCM 95th %tile Q(veh)	0.4	-	-	-	0.3	-	0.4	-	-			

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	33	402	12	45	889
Future Vol, veh/h	35	33	402	12	45	889
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
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	38	36	437	13	49	966

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1024	225	0 0 450 0
Stage 1	443	-	- - - -
Stage 2	581	-	- - - -
Critical Hdwy	6.84	6.94	- - 4.14 -
Critical Hdwy Stg 1	5.84	-	- - - -
Critical Hdwy Stg 2	5.84	-	- - - -
Follow-up Hdwy	3.52	3.32	- - 2.22 -
Pot Cap-1 Maneuver	231	778	- - 1107 -
Stage 1	614	-	- - - -
Stage 2	522	-	- - - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	221	778	- - 1107 -
Mov Cap-2 Maneuver	221	-	- - - -
Stage 1	614	-	- - - -
Stage 2	499	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 221 778 1107	-	-
HCM Lane V/C Ratio	-	- 0.172 0.046 0.044	-	-
HCM Control Delay (s)	-	- 24.6 9.9 8.4	-	-
HCM Lane LOS	-	- C A A	-	-
HCM 95th %tile Q(veh)	-	- 0.6 0.1 0.1	-	-

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	848	131	92	532	152	67	510	60	338	1060	107
Future Volume (veh/h)	96	848	131	92	532	152	67	510	60	338	1060	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	104	922	142	100	578	165	73	554	65	367	1152	116
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1021	548	128	1037	592	199	948	538	278	1030	567
Arrive On Green	0.07	0.29	0.29	0.07	0.29	0.29	0.06	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	104	922	142	100	578	165	73	554	65	367	1152	116
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.8	15.5	4.0	3.4	8.5	4.5	1.3	8.4	1.7	5.0	18.0	3.1
Cycle Q Clear(g_c), s	1.8	15.5	4.0	3.4	8.5	4.5	1.3	8.4	1.7	5.0	18.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	1021	548	128	1037	592	199	948	538	278	1030	567
V/C Ratio(X)	0.45	0.90	0.26	0.78	0.56	0.28	0.37	0.58	0.12	1.32	1.12	0.20
Avail Cap(c_a), veh/h	278	1030	552	143	1037	592	278	1030	575	278	1030	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	21.2	14.5	28.2	18.5	13.5	28.1	19.7	14.1	28.4	21.9	13.8
Incr Delay (d2), s/veh	1.4	11.0	0.2	21.8	0.7	0.3	1.1	0.7	0.1	166.8	66.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.1	1.8	2.4	4.3	2.0	0.6	4.2	0.8	8.8	18.1	1.4
LnGrp Delay(d),s/veh	29.1	32.2	14.8	50.0	19.1	13.8	29.2	20.4	14.2	195.3	88.6	13.9
LnGrp LOS	C	C	B	D	B	B	C	C	B	F	F	B
Approach Vol, veh/h		1168			843			692			1635	
Approach Delay, s/veh		29.8			21.8			20.7			107.3	
Approach LOS		C			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	21.1	9.0	22.3	8.1	22.5	8.7	22.6				
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	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	10.4	5.4	17.5	3.3	20.0	3.8	10.5				
Green Ext Time (p_c), s	0.0	6.0	0.0	0.3	0.0	0.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay				56.0								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	149	764	231	181	617	148	182	562	109	334	912	131
Future Volume (veh/h)	149	764	231	181	617	148	182	562	109	334	912	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	164	840	254	201	686	164	212	653	127	352	960	138
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	1054	619	289	906	643	321	1219	512	517	1509	669
Arrive On Green	0.13	0.30	0.30	0.08	0.26	0.26	0.09	0.24	0.24	0.15	0.30	0.30
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	164	840	254	201	686	164	212	653	127	352	960	138
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	3.4	17.2	1.8	4.5	14.1	0.0	4.7	8.8	0.0	7.6	12.9	0.0
Cycle Q Clear(g_c), s	3.4	17.2	1.8	4.5	14.1	0.0	4.7	8.8	0.0	7.6	12.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	433	1054	619	289	906	643	321	1219	512	517	1509	669
V/C Ratio(X)	0.38	0.80	0.41	0.70	0.76	0.25	0.66	0.54	0.25	0.68	0.64	0.21
Avail Cap(c_a), veh/h	433	1293	726	423	1342	838	441	1219	512	637	1509	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	25.5	17.4	35.1	27.1	15.5	34.5	26.2	19.6	31.7	24.0	14.4
Incr Delay (d2), s/veh	0.5	2.9	0.4	3.0	1.4	0.2	2.3	1.7	1.2	2.2	2.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	8.8	3.9	2.2	7.0	2.4	2.3	4.3	2.2	3.8	6.3	2.0
LnGrp Delay(d),s/veh	32.2	28.4	17.9	38.1	28.5	15.7	36.9	27.8	20.8	33.9	26.1	15.1
LnGrp LOS	C	C	B	D	C	B	D	C	C	C	C	B
Approach Vol, veh/h	1258		1051				992		1450			
Approach Delay, s/veh	26.8		28.4				28.9		26.9			
Approach LOS	C		C				C		C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	23.4	11.1	28.0	11.9	27.9	14.4	24.7				
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	14.6	18.9	9.7	28.8	10.1	23.4	8.6	29.9				
Max Q Clear Time (g_c+I1), s	9.6	10.8	6.5	19.2	6.7	14.9	5.4	16.1				
Green Ext Time (p_c), s	1.0	2.8	0.2	4.2	0.7	4.1	0.4	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			27.6									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	176	661	399	229	338	85	209	561	202	205	1014	117
Future Volume (veh/h)	176	661	399	229	338	85	209	561	202	205	1014	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	215	806	487	279	412	104	232	623	224	233	1152	133
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	852	1080	483	362	576	258	315	1016	316	601	1439	448
Arrive On Green	0.25	0.31	0.31	0.11	0.16	0.16	0.09	0.20	0.20	0.17	0.28	0.28
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	215	806	487	279	412	104	232	623	224	233	1152	133
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.2	17.1	25.5	6.6	9.2	4.9	5.5	9.3	11.0	5.0	17.6	5.5
Cycle Q Clear(g_c), s	4.2	17.1	25.5	6.6	9.2	4.9	5.5	9.3	11.0	5.0	17.6	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	852	1080	483	362	576	258	315	1016	316	601	1439	448
V/C Ratio(X)	0.25	0.75	1.01	0.77	0.72	0.40	0.74	0.61	0.71	0.39	0.80	0.30
Avail Cap(c_a), veh/h	852	1080	483	432	1097	491	391	1527	475	601	1612	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	26.1	29.0	36.4	33.2	31.4	37.0	30.5	31.2	30.6	27.8	23.5
Incr Delay (d2), s/veh	0.2	2.9	43.0	6.9	1.7	1.0	5.6	0.6	2.9	0.4	2.7	0.4
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	2.0	8.7	16.9	3.5	4.7	2.2	2.9	4.4	5.0	2.4	8.6	2.4
LnGrp Delay(d),s/veh	25.4	29.0	72.1	43.3	34.8	32.4	42.6	31.1	34.1	31.0	30.5	23.8
LnGrp LOS	C	C	F	D	C	C	D	C	C	C	C	C
Approach Vol, veh/h	1508			795				1079			1518	
Approach Delay, s/veh	42.4			37.5				34.2			30.0	
Approach LOS	D			D				C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.1	21.2	13.3	30.0	12.1	28.2	25.2	18.1				
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	10.9	25.1	10.5	25.5	9.5	26.5	10.1	25.9				
Max Q Clear Time (g_c+I1), s	7.0	13.0	8.6	27.5	7.5	19.6	6.2	11.2				
Green Ext Time (p_c), s	0.6	3.7	0.2	0.0	0.2	4.1	0.7	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay	36.0											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	19	32	80	3	58	4	710	76	77	1325	4
Future Volume (veh/h)	7	19	32	80	3	58	4	710	76	77	1325	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	10	28	48	170	6	123	4	747	80	86	1472	4
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.67	0.67	0.67	0.47	0.47	0.47	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	131	225	339	16	323	292	3047	324	495	3417	9
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1256	617	1058	1318	74	1520	357	4669	497	660	5236	14
Grp Volume(v), veh/h	10	0	76	170	0	129	4	541	286	86	953	523
Grp Sat Flow(s),veh/h/ln	1256	0	1676	1318	0	1594	357	1695	1775	660	1695	1860
Q Serve(g_s), s	0.5	0.0	2.5	8.1	0.0	4.6	0.4	4.4	4.4	4.1	9.1	9.1
Cycle Q Clear(g_c), s	5.1	0.0	2.5	10.6	0.0	4.6	9.4	4.4	4.4	8.6	9.1	9.1
Prop In Lane	1.00		0.63	1.00		0.95	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	288	0	356	339	0	339	292	2212	1158	495	2212	1214
V/C Ratio(X)	0.03	0.00	0.21	0.50	0.00	0.38	0.01	0.24	0.25	0.17	0.43	0.43
Avail Cap(c_a), veh/h	520	0	666	583	0	634	292	2212	1158	495	2212	1214
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	21.7	26.0	0.0	22.5	7.9	4.8	4.8	6.6	5.6	5.6
Incr Delay (d2), s/veh	0.0	0.0	0.3	1.2	0.0	0.7	0.1	0.3	0.5	0.8	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	3.0	0.0	2.1	0.0	2.1	2.3	0.8	4.3	4.9
LnGrp Delay(d),s/veh	24.7	0.0	22.0	27.2	0.0	23.2	8.0	5.0	5.3	7.3	6.2	6.7
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		86			299			831			1562	
Approach Delay, s/veh		22.3			25.5			5.2			6.4	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		18.7		48.0		18.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		26.5		43.5		26.5				
Max Q Clear Time (g_c+I1), s		11.4		7.1		11.1		12.6				
Green Ext Time (p_c), s		22.4		1.7		22.6		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	757	16	24	598	66	24	42	24	132	75	67
Future Volume (veh/h)	46	757	16	24	598	66	24	42	24	132	75	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	765	16	26	657	73	26	45	26	139	79	71
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.99	0.99	0.99	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	1081	23	231	982	439	598	489	283	673	399	359
Arrive On Green	0.06	0.30	0.30	0.03	0.28	0.28	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1774	3545	74	1774	3539	1583	1232	1109	641	1324	905	814
Grp Volume(v), veh/h	46	382	399	26	657	73	26	0	71	139	0	150
Grp Sat Flow(s),veh/h/ln	1774	1770	1850	1774	1770	1583	1232	0	1750	1324	0	1719
Q Serve(g_s), s	0.0	11.5	11.5	0.0	9.9	2.1	0.8	0.0	1.4	4.1	0.0	3.2
Cycle Q Clear(g_c), s	0.0	11.5	11.5	0.0	9.9	2.1	4.0	0.0	1.4	5.5	0.0	3.2
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.37	1.00		0.47
Lane Grp Cap(c), veh/h	302	539	564	231	982	439	598	0	772	673	0	758
V/C Ratio(X)	0.15	0.71	0.71	0.11	0.67	0.17	0.04	0.00	0.09	0.21	0.00	0.20
Avail Cap(c_a), veh/h	393	957	1001	371	1915	857	598	0	772	673	0	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	18.5	18.5	24.4	19.3	16.4	11.5	0.0	9.8	11.4	0.0	10.3
Incr Delay (d2), s/veh	0.2	1.7	1.7	0.2	0.8	0.2	0.1	0.0	0.2	0.7	0.0	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	0.7	5.9	6.1	0.4	4.9	0.9	0.3	0.0	0.7	1.6	0.0	1.6
LnGrp Delay(d),s/veh	22.4	20.2	20.2	24.6	20.1	16.6	11.6	0.0	10.0	12.1	0.0	10.9
LnGrp LOS	C	C	C	C	C	B	B		B	B		B
Approach Vol, veh/h		827			756			97			289	
Approach Delay, s/veh		20.3			19.9			10.4			11.4	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	6.3	22.8		31.0	7.9	21.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	6.5	32.5		26.5	6.5	32.5				
Max Q Clear Time (g_c+I1), s		6.0	2.0	13.5		7.5	2.0	11.9				
Green Ext Time (p_c), s		1.8	0.0	4.8		1.7	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			18.4									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	310	147	0	575	119	61	385	413	183	245	0
Future Volume (veh/h)	0	310	147	0	575	119	61	385	413	183	245	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	369	175	0	737	153	68	428	0	199	266	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.84	0.84	0.92	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1990	620	0	1990	620	215	790	353	339	1317	0
Arrive On Green	0.00	0.39	0.39	0.00	0.39	0.39	0.06	0.22	0.00	0.10	0.26	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	369	175	0	737	153	68	428	0	199	266	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	2.2	3.6	0.0	4.9	3.1	0.9	5.0	0.0	2.6	1.9	0.0
Cycle Q Clear(g_c), s	0.0	2.2	3.6	0.0	4.9	3.1	0.9	5.0	0.0	2.6	1.9	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1990	620	0	1990	620	215	790	353	339	1317	0
V/C Ratio(X)	0.00	0.19	0.28	0.00	0.37	0.25	0.32	0.54	0.00	0.59	0.20	0.00
Avail Cap(c_a), veh/h	0	1990	620	0	1990	620	366	1355	606	373	1957	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.8	0.0	10.2	9.6	21.1	16.1	0.0	20.3	13.6	0.0
Incr Delay (d2), s/veh	0.0	0.2	1.1	0.0	0.5	1.0	0.8	0.6	0.0	2.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.7	0.0	2.3	1.5	0.4	2.5	0.0	1.3	0.9	0.0
LnGrp Delay(d),s/veh	0.0	9.6	10.9	0.0	10.7	10.6	21.9	16.7	0.0	22.3	13.7	0.0
LnGrp LOS		A	B		B	B	C	B		C	B	
Approach Vol, veh/h		544			890			496			465	
Approach Delay, s/veh		10.0			10.7			17.4			17.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	9.1	15.0		22.9	7.4	16.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.1	18.0		18.4	5.0	18.1				
Max Q Clear Time (g_c+I1), s		5.6	4.6	7.0		6.9	2.9	3.9				
Green Ext Time (p_c), s		7.0	0.0	3.5		6.5	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.2									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	896	45	95	814	137	65	134	78	207	194	159
Future Volume (veh/h)	129	896	45	95	814	137	65	134	78	207	194	159
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	140	974	49	96	822	138	69	143	83	216	202	166
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	1210	619	215	1057	657	400	289	168	443	1164	521
Arrive On Green	0.10	0.34	0.34	0.06	0.30	0.30	0.05	0.26	0.26	0.12	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1107	642	1774	3539	1583
Grp Volume(v), veh/h	140	974	49	96	822	138	69	0	226	216	202	166
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1749	1774	1770	1583
Q Serve(g_s), s	0.0	20.0	0.0	0.0	17.0	0.0	0.0	0.0	8.8	0.0	3.2	6.3
Cycle Q Clear(g_c), s	0.0	20.0	0.0	0.0	17.0	0.0	0.0	0.0	8.8	0.0	3.2	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	308	1210	619	215	1057	657	400	0	457	443	1164	521
V/C Ratio(X)	0.45	0.80	0.08	0.45	0.78	0.21	0.17	0.00	0.49	0.49	0.17	0.32
Avail Cap(c_a), veh/h	344	1483	741	274	1376	800	426	0	457	469	1164	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	23.9	15.3	35.2	25.6	15.0	22.9	0.0	25.1	27.8	19.1	20.1
Incr Delay (d2), s/veh	1.0	2.8	0.1	1.5	2.2	0.2	0.2	0.0	3.8	0.8	0.3	1.6
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	2.9	10.2	0.7	2.1	8.5	2.0	1.2	0.0	4.7	4.3	1.6	3.0
LnGrp Delay(d),s/veh	32.6	26.6	15.4	36.6	27.8	15.1	23.1	0.0	28.8	28.6	19.4	21.7
LnGrp LOS	C	C	B	D	C	B	C		C	C	B	C
Approach Vol, veh/h	1163			1056			295			584		
Approach Delay, s/veh	26.9			26.9			27.5			23.5		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	25.4	8.9	31.8	8.4	30.8	12.4	28.4				
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	10.5	20.9	7.1	33.5	5.1	26.3	9.5	31.1				
Max Q Clear Time (g_c+I1), s	2.0	10.8	2.0	22.0	2.0	8.3	2.0	19.0				
Green Ext Time (p_c), s	0.5	0.9	0.3	5.4	0.3	1.7	0.4	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay	26.3											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	1	70	15	1	5	49	547	48	70	1494	110
Future Volume (veh/h)	54	1	70	15	1	5	49	547	48	70	1494	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	77	1	100	24	2	8	53	588	52	77	1642	121
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	2	165	48	24	95	86	2457	215	105	2680	834
Arrive On Green	0.06	0.11	0.11	0.03	0.07	0.07	0.05	0.52	0.52	0.06	0.53	0.53
Sat Flow, veh/h	1774	16	1570	1774	326	1306	1774	4762	417	1774	5085	1583
Grp Volume(v), veh/h	77	0	101	24	0	10	53	417	223	77	1642	121
Grp Sat Flow(s),veh/h/ln	1774	0	1586	1774	0	1632	1774	1695	1789	1774	1695	1583
Q Serve(g_s), s	2.6	0.0	3.8	0.8	0.0	0.4	1.8	4.2	4.2	2.6	13.9	2.4
Cycle Q Clear(g_c), s	2.6	0.0	3.8	0.8	0.0	0.4	1.8	4.2	4.2	2.6	13.9	2.4
Prop In Lane	1.00		0.99	1.00		0.80	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	167	48	0	119	86	1749	923	105	2680	834
V/C Ratio(X)	0.73	0.00	0.61	0.49	0.00	0.08	0.62	0.24	0.24	0.73	0.61	0.15
Avail Cap(c_a), veh/h	216	0	502	173	0	477	302	1749	923	423	2971	925
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	26.4	29.6	0.0	26.6	28.8	8.2	8.2	28.5	10.2	7.5
Incr Delay (d2), s/veh	9.3	0.0	3.5	7.6	0.0	0.3	7.0	0.3	0.6	9.3	0.3	0.1
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	1.6	0.0	1.8	0.5	0.0	0.2	1.1	2.0	2.3	1.6	6.5	1.1
LnGrp Delay(d),s/veh	37.8	0.0	29.9	37.2	0.0	26.9	35.8	8.6	8.9	37.8	10.5	7.5
LnGrp LOS	D		C	D		C	D	A	A	D	B	A
Approach Vol, veh/h	178				34		693				1840	
Approach Delay, s/veh	33.3				34.2		10.7				11.4	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	36.3	6.2	11.0	7.5	37.0	8.2	9.0				
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	14.7	31.8	6.0	19.5	10.5	36.0	7.5	18.0				
Max Q Clear Time (g_c+I1), s	4.6	6.2	2.8	5.8	3.8	15.9	4.6	2.4				
Green Ext Time (p_c), s	0.1	19.2	0.0	0.4	0.0	15.9	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	1095	337	168	385	1	208	6	141	5	4	12
Future Volume (vph)	6	1095	337	168	385	1	208	6	141	5	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3538		1681	1690	1583		1697	
Flt Permitted	0.49	1.00	1.00	0.11	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	913	3539	1583	201	3538		1681	1690	1583		1697	
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.76	0.76	0.76	0.64	0.64	0.64
Adj. Flow (vph)	7	1203	370	198	453	1	274	8	186	8	6	19
RTOR Reduction (vph)	0	0	196	0	0	0	0	0	157	0	18	0
Lane Group Flow (vph)	7	1203	174	198	454	0	140	142	29	0	15	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	34.9	34.1	34.1	45.1	39.8		11.3	11.3	11.3		2.6	
Effective Green, g (s)	34.9	34.1	34.1	45.1	39.8		11.3	11.3	11.3		2.6	
Actuated g/C Ratio	0.48	0.47	0.47	0.62	0.55		0.16	0.16	0.16		0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	448	1664	744	265	1942		262	263	246		60	
v/s Ratio Prot	0.00	0.34		c0.07	0.13		0.08	c0.08			c0.01	
v/s Ratio Perm	0.01		0.11	c0.40					0.02			
v/c Ratio	0.02	0.72	0.23	0.75	0.23		0.53	0.54	0.12		0.24	
Uniform Delay, d1	9.8	15.4	11.4	11.3	8.5		28.2	28.2	26.3		34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.8	0.7	10.9	0.3		2.1	2.1	0.2		2.1	
Delay (s)	9.8	18.2	12.2	22.2	8.7		30.3	30.3	26.5		36.1	
Level of Service	A	B	B	C	A		C	C	C		D	
Approach Delay (s)		16.7			12.8			28.8			36.1	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			18.1			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			72.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	125	830	4	7	1394	44	2	0	8	14	1	169
Future Vol, veh/h	125	830	4	7	1394	44	2	0	8	14	1	169
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	902	4	8	1515	48	2	0	9	15	1	184
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1515	0	0	907	0	0	1949	2706	453	2253	2708	758
Stage 1	-	-	-	-	-	-	1176	1176	-	1530	1530	-
Stage 2	-	-	-	-	-	-	773	1530	-	723	1178	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	437	-	-	746	-	-	39	21	554	23	21	350
Stage 1	-	-	-	-	-	-	203	263	-	122	177	-
Stage 2	-	-	-	-	-	-	358	177	-	384	263	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	437	-	-	746	-	-	13	14	554	17	14	350
Mov Cap-2 Maneuver	-	-	-	-	-	-	13	14	-	17	14	-
Stage 1	-	-	-	-	-	-	140	181	-	84	175	-
Stage 2	-	-	-	-	-	-	167	175	-	260	181	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0			79.3			67.5		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	59	437	-	-	746	-	-	17	307			
HCM Lane V/C Ratio	0.184	0.311	-	-	0.01	-	-	0.895	0.602			
HCM Control Delay (s)	79.3	16.9	-	-	9.9	-	-	486.2	33			
HCM Lane LOS	F	C	-	-	A	-	-	F	D			
HCM 95th %tile Q(veh)	0.6	1.3	-	-	0	-	-	2.3	3.7			

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	833	1401	34	0	45
Future Vol, veh/h	0	833	1401	34	0	45
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	-	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	905	1523	37	0	49
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	761
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	-	-	-	0	348
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	348
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		17	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	348		
HCM Lane V/C Ratio	-	-	-	0.141		
HCM Control Delay (s)	-	-	-	17		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.5		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	839	1435	1	0	4
Future Vol, veh/h	0	839	1435	1	0	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	-	-	-	0	-	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	912	1560	1	0	4
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	780
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	-	-	-	0	338
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	338
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		15.8	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	338		
HCM Lane V/C Ratio	-	-	-	0.013		
HCM Control Delay (s)	-	-	-	15.8		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	1499	1095	2
Future Vol, veh/h	0	5	0	1499	1095	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	0	1629	1190	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	596	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	383	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	383	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	383	-	-		
HCM Lane V/C Ratio	-	0.014	-	-		
HCM Control Delay (s)	-	14.5	-	-		
HCM Lane LOS	-	B	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	102	10	0	83	84	1393	10	66	915	43
Future Vol, veh/h	9	0	102	10	0	83	84	1393	10	66	915	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	240	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	111	11	0	90	91	1514	11	72	995	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1949	2869	521	2243	2887	762	1041	0	0	1525	0	0
Stage 1	1161	1161	-	1702	1702	-	-	-	-	-	-	-
Stage 2	788	1708	-	541	1185	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	68	16	428	45	16	298	374	-	-	217	-	-
Stage 1	154	268	-	63	146	-	-	-	-	-	-	-
Stage 2	318	145	-	450	261	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	29	8	428	20	8	298	374	-	-	217	-	-
Mov Cap-2 Maneuver	29	8	-	20	8	-	-	-	-	-	-	-
Stage 1	117	179	-	48	110	-	-	-	-	-	-	-
Stage 2	168	110	-	223	174	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.8	114.1	1	1.9
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	374	-	-	29	428	119	217	-	-
HCM Lane V/C Ratio	0.244	-	-	0.337	0.259	0.849	0.331	-	-
HCM Control Delay (s)	17.7	-	-	182.7	16.3	114.1	29.6	-	-
HCM Lane LOS	C	-	-	F	C	F	D	-	-
HCM 95th %tile Q(veh)	0.9	-	-	1.1	1	5.1	1.4	-	-

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	85	866	32	18	409
Future Vol, veh/h	21	85	866	32	18	409
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	97	97	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	106	893	33	19	426
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1160	463	0	0	926	0
Stage 1	909	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	189	546	-	-	734	-
Stage 1	353	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	184	546	-	-	734	-
Mov Cap-2 Maneuver	184	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.1	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	184 546	734	-	
HCM Lane V/C Ratio	-	-	0.143 0.195	0.026	-	
HCM Control Delay (s)	-	-	27.8 13.2	10	-	
HCM Lane LOS	-	-	D B	B	-	
HCM 95th %tile Q(veh)	-	-	0.5 0.7	0.1	-	

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	713	99	87	1064	604	113	924	73	217	499	82
Future Volume (veh/h)	136	713	99	87	1064	604	113	924	73	217	499	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	148	775	108	94	1144	649	114	933	74	228	525	86
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.99	0.99	0.99	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1184	616	120	1217	688	187	1053	578	312	1181	621
Arrive On Green	0.06	0.33	0.33	0.07	0.34	0.34	0.05	0.30	0.30	0.09	0.33	0.33
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	148	775	108	94	1144	649	114	933	74	228	525	86
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	3.6	16.0	3.8	4.5	26.9	29.5	2.8	21.6	2.7	5.5	10.0	3.0
Cycle Q Clear(g_c), s	3.6	16.0	3.8	4.5	26.9	29.5	2.8	21.6	2.7	5.5	10.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	1184	616	120	1217	688	187	1053	578	312	1181	621
V/C Ratio(X)	0.74	0.65	0.18	0.78	0.94	0.94	0.61	0.89	0.13	0.73	0.44	0.14
Avail Cap(c_a), veh/h	201	1184	616	151	1217	688	269	1072	587	461	1270	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	24.3	17.2	39.4	27.3	23.3	39.7	28.7	18.1	38.0	22.4	16.8
Incr Delay (d2), s/veh	13.4	1.3	0.1	18.7	13.9	21.6	3.2	9.0	0.1	3.3	0.3	0.1
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	2.1	8.0	1.7	2.8	15.4	18.8	1.4	11.8	1.2	2.8	4.9	1.3
LnGrp Delay(d),s/veh	53.1	25.6	17.3	58.0	41.2	44.8	42.8	37.8	18.2	41.3	22.6	16.9
LnGrp LOS	D	C	B	E	D	D	D	D	B	D	C	B
Approach Vol, veh/h	1031			1887			1121			839		
Approach Delay, s/veh	28.7			43.3			37.0			27.1		
Approach LOS	C			D			D			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	30.0	10.3	33.2	9.2	33.1	9.5	34.0				
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	11.5	26.0	7.3	27.2	6.7	30.8	5.0	29.5				
Max Q Clear Time (g_c+I1), s	7.5	23.6	6.5	18.0	4.8	12.0	5.6	31.5				
Green Ext Time (p_c), s	0.3	2.0	0.0	8.1	0.1	10.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.0											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	685	106	173	1064	237	260	800	129	287	573	239
Future Volume (veh/h)	184	685	106	173	1064	237	260	800	129	287	573	239
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	196	729	113	182	1120	249	283	870	140	330	659	275
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	914	576	582	1235	750	362	1235	652	429	1333	539
Arrive On Green	0.08	0.26	0.26	0.17	0.35	0.35	0.11	0.24	0.24	0.12	0.26	0.26
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	196	729	113	182	1120	249	283	870	140	330	659	275
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.9	16.9	0.0	4.1	26.4	0.0	7.0	13.7	0.0	8.1	9.6	5.3
Cycle Q Clear(g_c), s	4.9	16.9	0.0	4.1	26.4	0.0	7.0	13.7	0.0	8.1	9.6	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	914	576	582	1235	750	362	1235	652	429	1333	539
V/C Ratio(X)	0.73	0.80	0.20	0.31	0.91	0.33	0.78	0.70	0.21	0.77	0.49	0.51
Avail Cap(c_a), veh/h	298	1222	714	582	1275	768	384	1235	652	451	1333	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	30.4	19.1	32.0	27.2	14.4	38.3	30.3	16.6	37.2	27.4	23.1
Incr Delay (d2), s/veh	7.7	2.8	0.2	0.3	9.4	0.3	9.5	3.4	0.8	7.5	1.3	3.4
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	2.6	8.6	1.9	1.9	14.5	3.8	3.8	6.8	2.3	4.3	4.7	5.4
LnGrp Delay(d),s/veh	47.2	33.2	19.3	32.3	36.6	14.7	47.7	33.7	17.4	44.7	28.8	26.5
LnGrp LOS	D	C	B	C	D	B	D	C	B	D	C	C
Approach Vol, veh/h	1038				1551				1293			
Approach Delay, s/veh	34.3				32.6				35.0			
Approach LOS	C				C				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	25.8	19.3	27.2	13.7	27.5	11.4	35.1				
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	11.5	21.3	8.9	30.3	9.8	23.0	7.6	31.6				
Max Q Clear Time (g_c+I1), s	10.1	15.7	6.1	18.9	9.0	11.6	6.9	28.4				
Green Ext Time (p_c), s	0.4	2.8	0.4	3.8	0.2	3.9	0.1	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	33.5											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	522	252	172	616	142	244	990	226	191	638	157
Future Volume (veh/h)	282	522	252	172	616	142	244	990	226	191	638	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	307	567	274	210	751	173	262	1065	243	212	709	174
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.82	0.82	0.82	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	834	373	517	945	423	568	1444	450	305	1056	329
Arrive On Green	0.12	0.24	0.24	0.15	0.27	0.27	0.16	0.28	0.28	0.09	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	307	567	274	210	751	173	262	1065	243	212	709	174
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	6.4	10.9	11.9	4.1	14.7	6.7	5.1	14.1	9.7	4.5	9.6	7.3
Cycle Q Clear(g_c), s	6.4	10.9	11.9	4.1	14.7	6.7	5.1	14.1	9.7	4.5	9.6	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	409	834	373	517	945	423	568	1444	450	305	1056	329
V/C Ratio(X)	0.75	0.68	0.73	0.41	0.79	0.41	0.46	0.74	0.54	0.69	0.67	0.53
Avail Cap(c_a), veh/h	577	1281	573	517	1163	520	568	1739	541	438	1589	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	25.9	26.3	28.7	25.4	22.5	28.1	24.2	22.6	33.0	27.2	26.3
Incr Delay (d2), s/veh	3.4	1.0	2.8	0.5	3.2	0.6	0.6	1.4	1.0	2.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.4	5.5	2.0	7.6	3.0	2.5	6.8	4.3	2.2	4.5	3.3
LnGrp Delay(d),s/veh	35.2	26.9	29.1	29.2	28.6	23.1	28.7	25.5	23.6	35.8	27.9	27.6
LnGrp LOS	D	C	C	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h	1148				1134				1570			
Approach Delay, s/veh	29.7				27.9				25.8			
Approach LOS	C				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	25.7	15.7	22.1	16.8	20.0	13.4	24.4				
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	9.5	25.5	10.0	27.0	11.7	23.3	12.5	24.5				
Max Q Clear Time (g_c+I1), s	6.5	16.1	6.1	13.9	7.1	11.6	8.4	16.7				
Green Ext Time (p_c), s	0.2	5.0	0.7	3.7	0.7	3.9	0.5	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay	28.0											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	2	9	17	2	12	17	1471	28	20	878	9
Future Volume (veh/h)	7	2	9	17	2	12	17	1471	28	20	878	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	3	14	27	3	19	18	1516	29	22	976	10
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	17	81	190	13	84	541	4059	78	354	4101	42
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.79	0.79	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1384	287	1339	1390	220	1396	568	5137	98	334	5190	53
Grp Volume(v), veh/h	11	0	17	27	0	22	18	1000	545	22	637	349
Grp Sat Flow(s),veh/h/ln	1384	0	1626	1390	0	1616	568	1695	1845	334	1695	1853
Q Serve(g_s), s	0.5	0.0	0.6	1.1	0.0	0.8	0.5	5.3	5.3	1.3	2.9	2.9
Cycle Q Clear(g_c), s	1.2	0.0	0.6	1.7	0.0	0.8	3.4	5.3	5.3	6.5	2.9	2.9
Prop In Lane	1.00		0.82	1.00		0.86	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	185	0	98	190	0	97	541	2679	1458	354	2679	1464
V/C Ratio(X)	0.06	0.00	0.17	0.14	0.00	0.23	0.03	0.37	0.37	0.06	0.24	0.24
Avail Cap(c_a), veh/h	597	0	582	603	0	578	541	2679	1458	354	2679	1464
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	26.8	27.7	0.0	26.9	2.1	1.9	1.9	2.9	1.6	1.6
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.3	0.0	1.2	0.1	0.4	0.7	0.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.5	0.0	0.4	0.1	2.5	2.9	0.1	1.4	1.6
LnGrp Delay(d),s/veh	27.6	0.0	27.7	28.0	0.0	28.1	2.2	2.3	2.6	3.2	1.8	2.0
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h	28					49		1563		1008		
Approach Delay, s/veh	27.7					28.0		2.4		1.9		
Approach LOS	C					C		A		A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	52.0		8.1		52.0		8.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.5		21.5		47.5		21.5					
Max Q Clear Time (g_c+I1), s	7.3		3.2		8.5		3.7					
Green Ext Time (p_c), s	28.4		0.2		27.8		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay			3.0									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	841	15	51	1310	138	37	84	42	72	43	82
Future Volume (veh/h)	91	841	15	51	1310	138	37	84	42	72	43	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	95	876	16	54	1379	145	52	118	59	79	47	90
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.71	0.71	0.71	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	1184	22	535	1730	774	348	310	155	320	152	290
Arrive On Green	0.06	0.33	0.33	0.21	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1774	3556	65	1774	3539	1583	1247	1173	586	1203	573	1097
Grp Volume(v), veh/h	95	436	456	54	1379	145	52	0	177	79	0	137
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1247	0	1759	1203	0	1669
Q Serve(g_s), s	0.0	15.7	15.7	0.0	23.4	3.7	2.5	0.0	5.9	4.1	0.0	4.7
Cycle Q Clear(g_c), s	0.0	15.7	15.7	0.0	23.4	3.7	7.2	0.0	5.9	10.0	0.0	4.7
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.33	1.00		0.66
Lane Grp Cap(c), veh/h	206	589	616	535	1730	774	348	0	466	320	0	442
V/C Ratio(X)	0.46	0.74	0.74	0.10	0.80	0.19	0.15	0.00	0.38	0.25	0.00	0.31
Avail Cap(c_a), veh/h	263	1057	1106	535	2046	915	348	0	466	320	0	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	21.2	21.2	19.2	15.4	10.3	24.0	0.0	21.6	25.7	0.0	21.1
Incr Delay (d2), s/veh	1.6	1.9	1.8	0.1	2.0	0.1	0.9	0.0	2.4	1.8	0.0	1.8
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	1.9	7.9	8.3	0.8	11.8	1.6	1.0	0.0	3.2	1.5	0.0	2.4
LnGrp Delay(d),s/veh	33.4	23.1	23.0	19.3	17.3	10.4	24.9	0.0	23.9	27.5	0.0	23.0
LnGrp LOS	C	C	C	B	B	B	C		C	C		C
Approach Vol, veh/h		987			1578			229			216	
Approach Delay, s/veh		24.0			16.8			24.2			24.6	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	19.9	28.4		23.5	8.7	39.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	5.1	42.9		19.0	6.5	41.5				
Max Q Clear Time (g_c+I1), s		9.2	2.0	17.7		12.0	2.0	25.4				
Green Ext Time (p_c), s		1.7	0.1	6.2		1.3	0.1	9.7				
Intersection Summary												
HCM 2010 Ctrl Delay				20.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	789	285	0	408	97	122	383	397	187	632	0
Future Volume (veh/h)	0	789	285	0	408	97	122	383	397	187	632	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	813	294	0	421	100	145	456	0	201	680	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.84	0.84	0.84	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1880	585	0	1880	585	301	924	414	327	1366	0
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.37	0.09	0.26	0.00	0.10	0.27	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	813	294	0	421	100	145	456	0	201	680	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	5.9	7.1	0.0	2.8	2.1	2.0	5.4	0.0	2.8	5.6	0.0
Cycle Q Clear(g_c), s	0.0	5.9	7.1	0.0	2.8	2.1	2.0	5.4	0.0	2.8	5.6	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1880	585	0	1880	585	301	924	414	327	1366	0
V/C Ratio(X)	0.00	0.43	0.50	0.00	0.22	0.17	0.48	0.49	0.00	0.61	0.50	0.00
Avail Cap(c_a), veh/h	0	1880	585	0	1880	585	349	1294	579	370	1890	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.6	12.0	0.0	10.7	10.4	21.4	15.4	0.0	21.4	15.2	0.0
Incr Delay (d2), s/veh	0.0	0.7	3.1	0.0	0.3	0.6	1.2	0.4	0.0	2.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	3.5	0.0	1.3	1.0	1.0	2.6	0.0	1.4	2.6	0.0
LnGrp Delay(d),s/veh	0.0	12.4	15.1	0.0	10.9	11.1	22.6	15.8	0.0	23.9	15.5	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		1107			521			601			881	
Approach Delay, s/veh		13.1			11.0			17.5			17.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	9.2	17.4		22.7	8.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.2	5.3	18.0		18.2	5.0	18.3				
Max Q Clear Time (g_c+I1), s		9.1	4.8	7.4		4.8	4.0	7.6				
Green Ext Time (p_c), s		6.0	0.0	5.5		8.0	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			14.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	719	66	132	1282	178	97	198	93	196	175	141
Future Volume (veh/h)	165	719	66	132	1282	178	97	198	93	196	175	141
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	172	749	69	136	1322	184	110	225	106	218	194	157
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	967	516	466	1411	744	394	306	144	295	968	433
Arrive On Green	0.07	0.27	0.27	0.20	0.40	0.40	0.05	0.26	0.26	0.07	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1198	565	1774	3539	1583
Grp Volume(v), veh/h	172	749	69	136	1322	184	110	0	331	218	194	157
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1763	1774	1770	1583
Q Serve(g_s), s	4.3	17.2	0.0	0.0	31.6	0.0	0.0	0.0	15.2	1.9	3.7	7.0
Cycle Q Clear(g_c), s	4.3	17.2	0.0	0.0	31.6	0.0	0.0	0.0	15.2	1.9	3.7	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	207	967	516	466	1411	744	394	0	450	295	968	433
V/C Ratio(X)	0.83	0.77	0.13	0.29	0.94	0.25	0.28	0.00	0.74	0.74	0.20	0.36
Avail Cap(c_a), veh/h	213	1394	707	466	1426	751	419	0	450	320	968	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	29.5	20.9	27.8	25.4	14.0	26.6	0.0	30.1	36.7	24.6	25.8
Incr Delay (d2), s/veh	23.0	1.7	0.1	0.3	11.8	0.2	0.4	0.0	10.2	8.1	0.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	8.7	1.2	2.7	17.7	2.6	2.2	0.0	8.6	5.7	1.9	3.3
LnGrp Delay(d),s/veh	62.1	31.2	21.0	28.2	37.3	14.2	27.0	0.0	40.3	44.8	25.1	28.1
LnGrp LOS	E	C	C	C	D	B	C		D	D	C	C
Approach Vol, veh/h		990			1642			441			569	
Approach Delay, s/veh		35.9			33.9			37.0			33.5	
Approach LOS		D			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	27.0	21.8	28.6	9.2	28.6	10.7	39.6				
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	7.5	22.5	7.3	34.7	5.9	24.1	6.5	35.5				
Max Q Clear Time (g_c+I1), s	3.9	17.2	2.0	19.2	2.0	9.0	6.3	33.6				
Green Ext Time (p_c), s	0.4	0.9	0.4	4.9	0.4	1.5	0.0	1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			34.8									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	0	160	128	7	53	237	1238	10	106	735	139
Future Volume (veh/h)	248	0	160	128	7	53	237	1238	10	106	735	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	261	0	168	141	8	58	252	1317	11	114	790	149
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	0	241	179	16	115	301	2188	18	145	1692	527
Arrive On Green	0.17	0.00	0.15	0.10	0.08	0.08	0.17	0.42	0.42	0.08	0.33	0.33
Sat Flow, veh/h	1774	0	1583	1774	195	1417	1774	5202	43	1774	5085	1583
Grp Volume(v), veh/h	261	0	168	141	0	66	252	858	470	114	790	149
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1613	1774	1695	1855	1774	1695	1583
Q Serve(g_s), s	10.5	0.0	7.4	5.7	0.0	2.9	10.1	14.5	14.5	4.6	9.0	5.1
Cycle Q Clear(g_c), s	10.5	0.0	7.4	5.7	0.0	2.9	10.1	14.5	14.5	4.6	9.0	5.1
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	305	0	241	179	0	131	301	1426	780	145	1692	527
V/C Ratio(X)	0.85	0.00	0.70	0.79	0.00	0.50	0.84	0.60	0.60	0.79	0.47	0.28
Avail Cap(c_a), veh/h	373	0	412	344	0	394	469	1426	780	180	1692	527
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	29.6	32.3	0.0	32.4	29.6	16.6	16.6	33.2	19.4	18.1
Incr Delay (d2), s/veh	14.9	0.0	3.6	7.4	0.0	3.0	7.7	1.9	3.4	16.5	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	3.5	3.1	0.0	1.4	5.6	7.1	8.0	2.9	4.4	2.4
LnGrp Delay(d),s/veh	44.5	0.0	33.2	39.7	0.0	35.4	37.3	18.5	20.0	49.7	20.4	19.5
LnGrp LOS	D		C	D		D	D	B	B	D	C	B
Approach Vol, veh/h		429			207			1580			1053	
Approach Delay, s/veh		40.1			38.3			21.9			23.4	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	35.5	12.0	15.7	17.0	29.0	17.2	10.5				
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	7.5	31.0	14.3	19.2	19.5	19.0	15.5	18.0				
Max Q Clear Time (g_c+I1), s	6.6	16.5	7.7	9.4	12.1	11.0	12.5	4.9				
Green Ext Time (p_c), s	0.0	11.4	0.2	0.9	0.4	6.8	0.2	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			25.8									
HCM 2010 LOS			C									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	588	255	161	744	7	650	3	238	4	2	8
Future Volume (vph)	1	588	255	161	744	7	650	3	238	4	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3534		1681	1686	1583		1695	
Flt Permitted	0.31	1.00	1.00	0.26	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	571	3539	1583	489	3534		1681	1686	1583		1695	
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.90	0.90	0.90	0.75	0.75	0.75
Adj. Flow (vph)	1	632	274	185	855	8	722	3	264	5	3	11
RTOR Reduction (vph)	0	0	179	0	1	0	0	0	190	0	11	0
Lane Group Flow (vph)	1	632	95	185	862	0	361	364	74	0	8	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	26.6	25.8	25.8	38.7	33.4		20.9	20.9	20.9		1.2	
Effective Green, g (s)	26.6	25.8	25.8	38.7	33.4		20.9	20.9	20.9		1.2	
Actuated g/C Ratio	0.36	0.35	0.35	0.52	0.45		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	217	1228	549	399	1588		472	474	445		27	
v/s Ratio Prot	0.00	0.18		c0.05	c0.24		0.21	c0.22			c0.00	
v/s Ratio Perm	0.00		0.06	0.19					0.05			
v/c Ratio	0.00	0.51	0.17	0.46	0.54		0.76	0.77	0.17		0.30	
Uniform Delay, d1	15.3	19.3	16.8	10.6	14.9		24.4	24.5	20.1		36.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.5	0.7	0.9	1.3		7.2	7.3	0.2		6.2	
Delay (s)	15.3	20.8	17.5	11.5	16.2		31.7	31.8	20.3		42.4	
Level of Service	B	C	B	B	B		C	C	C		D	
Approach Delay (s)		19.8			15.4			28.7			42.4	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			21.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			74.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			61.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	964	3	2	733	14	6	0	2	2	0	22
Future Vol, veh/h	49	964	3	2	733	14	6	0	2	2	0	22
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	0	-	-	0	-	0	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1048	3	2	797	15	7	0	2	2	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	797	0	0	1051	0	0	1559	1957	526	1431	1959	398
Stage 1	-	-	-	-	-	-	1156	1156	-	801	801	-
Stage 2	-	-	-	-	-	-	403	801	-	630	1158	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	821	-	-	658	-	-	76	63	496	95	63	601
Stage 1	-	-	-	-	-	-	209	269	-	344	395	-
Stage 2	-	-	-	-	-	-	595	395	-	436	269	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	821	-	-	658	-	-	69	59	496	90	59	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	69	59	-	90	59	-
Stage 1	-	-	-	-	-	-	196	252	-	322	394	-
Stage 2	-	-	-	-	-	-	570	394	-	406	252	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	50.3	14.1
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	88	821	-	-	658	-	-	90	601
HCM Lane V/C Ratio	0.099	0.065	-	-	0.003	-	-	0.024	0.04
HCM Control Delay (s)	50.3	9.7	-	-	10.5	-	-	46	11.2
HCM Lane LOS	F	A	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	0.1	0.1

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	967	727	22	0	11
Future Vol, veh/h	0	967	727	22	0	11
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	-	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	1051	790	24	0	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 395
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 -	- -	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	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	604
HCM Lane V/C Ratio	-	-	-	0.02
HCM Control Delay (s)	-	-	-	11.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	983	741	1	0	1
Future Vol, veh/h	0	983	741	1	0	1
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	-	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	1068	805	1	0	1
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	403
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	-	-	-	0	597
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	597
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		11	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	597		
HCM Lane V/C Ratio	-	-	-	0.002		
HCM Control Delay (s)	-	-	-	11		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	818	1629	10
Future Vol, veh/h	0	1	0	818	1629	10
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	1	0	889	1771	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	891	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	245	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	245	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	245	-	-		
HCM Lane V/C Ratio	-	0.004	-	-		
HCM Control Delay (s)	-	19.8	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	24	5	0	10	21	701	17	64	1670	8
Future Vol, veh/h	0	0	24	5	0	10	21	701	17	64	1670	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	26	5	0	11	23	762	18	70	1815	9
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2309	2785	912	1682	2780	390	1824	0	0	780	0	0
Stage 1	1959	1959	-	817	817	-	-	-	-	-	-	-
Stage 2	350	826	-	865	1963	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	41	19	237	100	19	520	153	-	-	499	-	-
Stage 1	41	108	-	266	388	-	-	-	-	-	-	-
Stage 2	586	385	-	285	108	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	36	16	237	79	16	520	153	-	-	499	-	-
Mov Cap-2 Maneuver	36	16	-	79	16	-	-	-	-	-	-	-
Stage 1	35	108	-	226	330	-	-	-	-	-	-	-
Stage 2	488	327	-	254	108	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	22.1			26.7			0.9			0.5		
HCM LOS	C			D								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	153	-	-	-	237	182	499	-	-			
HCM Lane V/C Ratio	0.149	-	-	-	0.11	0.09	0.139	-	-			
HCM Control Delay (s)	32.6	-	-	0	22.1	26.7	13.4	-	-			
HCM Lane LOS	D	-	-	A	C	D	B	-	-			
HCM 95th %tile Q(veh)	0.5	-	-	-	0.4	0.3	0.5	-	-			

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	37	444	13	50	981
Future Vol, veh/h	39	37	444	13	50	981
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	40	483	14	54	1066
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1132	248	0	0	497	0
Stage 1	490	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	197	752	-	-	1063	-
Stage 1	581	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	752	-	-	1063	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	20.2	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 187 752 1063	-	-		
HCM Lane V/C Ratio	-	- 0.227 0.053 0.051	-	-		
HCM Control Delay (s)	-	- 29.8 10.1 8.6	-	-		
HCM Lane LOS	-	- D B A	-	-		
HCM 95th %tile Q(veh)	-	- 0.8 0.2 0.2	-	-		

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	936	145	101	587	168	74	563	67	373	1171	118
Future Volume (veh/h)	106	936	145	101	587	168	74	563	67	373	1171	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	115	1017	158	110	638	183	80	612	73	405	1273	128
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	1014	549	140	1050	596	206	949	550	274	1019	565
Arrive On Green	0.07	0.29	0.29	0.08	0.30	0.30	0.06	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	115	1017	158	110	638	183	80	612	73	405	1273	128
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.0	18.0	4.6	3.8	9.7	5.1	1.4	9.6	2.0	5.0	18.1	3.6
Cycle Q Clear(g_c), s	2.0	18.0	4.6	3.8	9.7	5.1	1.4	9.6	2.0	5.0	18.1	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	1014	549	140	1050	596	206	949	550	274	1019	565
V/C Ratio(X)	0.49	1.00	0.29	0.78	0.61	0.31	0.39	0.64	0.13	1.48	1.25	0.23
Avail Cap(c_a), veh/h	274	1014	549	141	1050	596	274	1014	579	274	1019	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	22.4	14.9	28.4	18.9	13.8	28.4	20.3	14.0	28.9	22.4	14.1
Incr Delay (d2), s/veh	1.5	28.9	0.3	24.3	1.0	0.3	1.2	1.3	0.1	234.0	120.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	12.7	2.0	2.8	4.8	2.2	0.7	4.8	0.9	11.2	25.7	1.6
LnGrp Delay(d),s/veh	29.7	51.4	15.2	52.7	20.0	14.1	29.6	21.6	14.1	262.9	142.8	14.3
LnGrp LOS	C	F	B	D	B	B	C	C	B	F	F	B
Approach Vol, veh/h	1290				931				765			
Approach Delay, s/veh	45.0				22.7				21.7			
Approach LOS	D				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	21.3	9.5	22.5	8.3	22.6	8.8	23.1				
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	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	11.6	5.8	20.0	3.4	20.1	4.0	11.7				
Green Ext Time (p_c), s	0.0	5.2	0.0	0.0	0.0	0.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay	80.5											
HCM 2010 LOS	F											

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	844	255	200	681	164	201	620	121	369	1007	145
Future Volume (veh/h)	165	844	255	200	681	164	201	620	121	369	1007	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	181	927	280	222	757	182	234	721	141	388	1060	153
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	1104	649	306	964	672	336	1164	503	524	1441	652
Arrive On Green	0.13	0.31	0.31	0.09	0.27	0.27	0.10	0.23	0.23	0.15	0.28	0.28
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	181	927	280	222	757	182	234	721	141	388	1060	153
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.0	20.2	2.4	5.2	16.4	0.0	5.4	10.5	0.0	8.9	15.6	0.0
Cycle Q Clear(g_c), s	4.0	20.2	2.4	5.2	16.4	0.0	5.4	10.5	0.0	8.9	15.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	443	1104	649	306	964	672	336	1164	503	524	1441	652
V/C Ratio(X)	0.41	0.84	0.43	0.72	0.79	0.27	0.70	0.62	0.28	0.74	0.74	0.23
Avail Cap(c_a), veh/h	443	1234	707	404	1281	814	421	1164	503	608	1441	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	26.5	17.5	36.6	27.8	15.5	36.1	28.6	21.1	33.5	26.8	15.8
Incr Delay (d2), s/veh	0.6	4.9	0.5	4.4	2.4	0.2	3.6	2.5	1.4	4.1	3.4	0.8
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	1.9	10.5	4.4	2.7	8.3	2.7	2.7	5.2	2.6	4.5	7.7	2.4
LnGrp Delay(d),s/veh	33.7	31.4	17.9	41.0	30.2	15.7	39.7	31.1	22.5	37.5	30.2	16.6
LnGrp LOS	C	C	B	D	C	B	D	C	C	D	C	B
Approach Vol, veh/h	1388				1161				1096			
Approach Delay, s/veh	29.0				30.0				31.8			
Approach LOS	C				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.1	23.4	11.8	30.3	12.6	27.9	15.1	27.0				
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	14.6	18.9	9.7	28.8	10.1	23.4	8.6	29.9				
Max Q Clear Time (g_c+I1), s	10.9	12.5	7.2	22.2	7.4	17.6	6.0	18.4				
Green Ext Time (p_c), s	0.9	2.6	0.2	3.6	0.7	3.4	0.4	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay	30.3											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	194	730	440	252	373	94	230	619	223	227	1119	129
Future Volume (veh/h)	194	730	440	252	373	94	230	619	223	227	1119	129
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	237	890	537	307	455	115	256	688	248	258	1272	147
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	794	1038	465	384	617	276	333	1081	337	604	1481	461
Arrive On Green	0.23	0.29	0.29	0.11	0.17	0.17	0.10	0.21	0.21	0.18	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	237	890	537	307	455	115	256	688	248	258	1272	147
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.9	20.6	25.5	7.6	10.6	5.6	6.3	10.7	12.7	5.8	20.5	6.3
Cycle Q Clear(g_c), s	4.9	20.6	25.5	7.6	10.6	5.6	6.3	10.7	12.7	5.8	20.5	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	794	1038	465	384	617	276	333	1081	337	604	1481	461
V/C Ratio(X)	0.30	0.86	1.16	0.80	0.74	0.42	0.77	0.64	0.74	0.43	0.86	0.32
Avail Cap(c_a), veh/h	794	1038	465	416	1055	472	376	1469	457	604	1551	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	29.0	30.7	37.7	34.0	32.0	38.3	31.2	32.0	31.9	29.1	24.1
Incr Delay (d2), s/veh	0.2	7.3	92.1	10.0	1.8	1.0	8.3	0.6	4.1	0.5	4.9	0.4
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	11.1	23.0	4.1	5.3	2.5	3.4	5.1	5.9	2.8	10.2	2.8
LnGrp Delay(d),s/veh	27.8	36.2	122.8	47.7	35.8	33.0	46.5	31.8	36.0	32.4	34.1	24.5
LnGrp LOS	C	D	F	D	D	C	D	C	D	C	C	C
Approach Vol, veh/h	1664				877				1192			
Approach Delay, s/veh	63.0				39.6				35.8			
Approach LOS	E				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	23.0	14.2	30.0	12.9	29.8	24.5	19.6				
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	10.9	25.1	10.5	25.5	9.5	26.5	10.1	25.9				
Max Q Clear Time (g_c+I1), s	7.8	14.7	9.6	27.5	8.3	22.5	6.9	12.6				
Green Ext Time (p_c), s	0.6	3.8	0.1	0.0	0.1	2.8	0.7	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay	43.9											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	21	36	88	3	64	5	783	84	85	1463	5
Future Volume (veh/h)	8	21	36	88	3	64	5	783	84	85	1463	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	12	31	54	187	6	136	5	824	88	94	1626	6
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.67	0.67	0.67	0.47	0.47	0.47	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	141	245	352	15	351	251	2979	317	447	3337	12
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1241	611	1064	1307	67	1526	307	4669	496	609	5230	19
Grp Volume(v), veh/h	12	0	85	187	0	142	5	597	315	94	1054	578
Grp Sat Flow(s),veh/h/ln	1241	0	1675	1307	0	1593	307	1695	1775	609	1695	1859
Q Serve(g_s), s	0.6	0.0	2.8	9.2	0.0	5.1	0.6	5.3	5.3	5.5	11.1	11.1
Cycle Q Clear(g_c), s	5.7	0.0	2.8	12.0	0.0	5.1	11.7	5.3	5.3	10.8	11.1	11.1
Prop In Lane	1.00		0.64	1.00		0.96	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	298	0	385	352	0	367	251	2163	1133	447	2163	1186
V/C Ratio(X)	0.04	0.00	0.22	0.53	0.00	0.39	0.02	0.28	0.28	0.21	0.49	0.49
Avail Cap(c_a), veh/h	495	0	651	560	0	619	251	2163	1133	447	2163	1186
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	21.3	26.2	0.0	22.2	9.6	5.4	5.4	7.8	6.5	6.5
Incr Delay (d2), s/veh	0.1	0.0	0.3	1.2	0.0	0.7	0.1	0.3	0.6	1.1	0.8	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	0.2	0.0	1.3	3.4	0.0	2.3	0.1	2.5	2.7	1.0	5.4	6.1
LnGrp Delay(d),s/veh	24.7	0.0	21.6	27.4	0.0	22.9	9.7	5.7	6.0	8.9	7.3	7.9
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		97			329			917			1726	
Approach Delay, s/veh		22.0			25.4			5.9			7.6	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		20.2		48.0		20.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		26.5		43.5		26.5				
Max Q Clear Time (g_c+I1), s		13.7		7.7		13.1		14.0				
Green Ext Time (p_c), s		23.3		1.9		23.7		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	836	17	26	660	72	26	46	26	146	83	74
Future Volume (veh/h)	51	836	17	26	660	72	26	46	26	146	83	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	844	17	29	725	79	28	49	28	154	87	78
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.99	0.99	0.99	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	1158	23	227	1051	470	559	474	271	641	386	346
Arrive On Green	0.06	0.33	0.33	0.03	0.30	0.30	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1774	3548	71	1774	3539	1583	1216	1114	637	1317	907	813
Grp Volume(v), veh/h	52	421	440	29	725	79	28	0	77	154	0	165
Grp Sat Flow(s),veh/h/ln	1774	1770	1850	1774	1770	1583	1216	0	1750	1317	0	1719
Q Serve(g_s), s	0.0	13.1	13.1	0.0	11.3	2.3	0.9	0.0	1.6	5.0	0.0	3.8
Cycle Q Clear(g_c), s	0.0	13.1	13.1	0.0	11.3	2.3	4.7	0.0	1.6	6.6	0.0	3.8
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.36	1.00		0.47
Lane Grp Cap(c), veh/h	302	577	604	227	1051	470	559	0	745	641	0	731
V/C Ratio(X)	0.17	0.73	0.73	0.13	0.69	0.17	0.05	0.00	0.10	0.24	0.00	0.23
Avail Cap(c_a), veh/h	379	923	965	356	1846	826	559	0	745	641	0	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	18.6	18.6	25.4	19.4	16.2	12.9	0.0	10.8	12.7	0.0	11.4
Incr Delay (d2), s/veh	0.3	1.8	1.7	0.3	0.8	0.2	0.2	0.0	0.3	0.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.6	6.9	0.5	5.6	1.0	0.3	0.0	0.8	2.0	0.0	1.9
LnGrp Delay(d),s/veh	23.1	20.3	20.3	25.6	20.2	16.4	13.1	0.0	11.0	13.6	0.0	12.1
LnGrp LOS	C	C	C	C	C	B	B		B	B		B
Approach Vol, veh/h		913			833			105			319	
Approach Delay, s/veh		20.5			20.0			11.6			12.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	6.5	24.8		31.0	8.3	23.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	6.5	32.5		26.5	6.5	32.5				
Max Q Clear Time (g_c+I1), s		6.7	2.0	15.1		8.6	2.0	13.3				
Green Ext Time (p_c), s		1.9	0.1	5.2		1.9	0.1	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		  			  		 	 		 	  	
Traffic Volume (veh/h)	0	342	163	0	635	131	67	425	457	202	270	0
Future Volume (veh/h)	0	342	163	0	635	131	67	425	457	202	270	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	407	194	0	814	168	74	472	0	220	293	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.84	0.84	0.92	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1950	607	0	1950	607	225	837	374	340	1372	0
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.07	0.24	0.00	0.10	0.27	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	407	194	0	814	168	74	472	0	220	293	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	2.6	4.1	0.0	5.6	3.5	1.0	5.6	0.0	3.0	2.1	0.0
Cycle Q Clear(g_c), s	0.0	2.6	4.1	0.0	5.6	3.5	1.0	5.6	0.0	3.0	2.1	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1950	607	0	1950	607	225	837	374	340	1372	0
V/C Ratio(X)	0.00	0.21	0.32	0.00	0.42	0.28	0.33	0.56	0.00	0.65	0.21	0.00
Avail Cap(c_a), veh/h	0	1950	607	0	1950	607	359	1328	594	366	1919	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.9	10.4	0.0	10.9	10.2	21.4	16.1	0.0	20.8	13.6	0.0
Incr Delay (d2), s/veh	0.0	0.2	1.4	0.0	0.7	1.1	0.8	0.6	0.0	3.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	2.0	0.0	2.8	1.7	0.5	2.8	0.0	1.6	1.0	0.0
LnGrp Delay(d),s/veh	0.0	10.2	11.8	0.0	11.5	11.3	22.3	16.7	0.0	24.4	13.7	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		601			982			546			513	
Approach Delay, s/veh		10.7			11.5			17.5			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	9.2	15.8		22.9	7.6	17.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.1	18.0		18.4	5.0	18.1				
Max Q Clear Time (g_c+I1), s		6.1	5.0	7.6		7.6	3.0	4.1				
Green Ext Time (p_c), s		7.4	0.0	3.7		6.7	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	990	50	105	899	152	72	148	86	228	214	176
Future Volume (veh/h)	142	990	50	105	899	152	72	148	86	228	214	176
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	154	1076	54	106	908	154	77	157	91	238	223	183
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	1275	650	203	1119	683	377	279	162	409	1123	502
Arrive On Green	0.10	0.36	0.36	0.06	0.32	0.32	0.05	0.25	0.25	0.12	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1108	642	1774	3539	1583
Grp Volume(v), veh/h	154	1076	54	106	908	154	77	0	248	238	223	183
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1749	1774	1770	1583
Q Serve(g_s), s	0.9	23.2	0.0	0.0	19.6	0.0	0.0	0.0	10.2	0.3	3.8	7.4
Cycle Q Clear(g_c), s	0.9	23.2	0.0	0.0	19.6	0.0	0.0	0.0	10.2	0.3	3.8	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	298	1275	650	203	1119	683	377	0	441	409	1123	502
V/C Ratio(X)	0.52	0.84	0.08	0.52	0.81	0.23	0.20	0.00	0.56	0.58	0.20	0.36
Avail Cap(c_a), veh/h	325	1431	719	257	1328	777	397	0	441	429	1123	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	24.4	14.9	36.7	26.1	14.8	24.9	0.0	27.0	30.3	20.6	21.8
Incr Delay (d2), s/veh	1.4	4.4	0.1	2.1	3.3	0.2	0.3	0.0	5.1	1.8	0.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	12.0	0.8	2.4	10.0	2.2	1.4	0.0	5.6	5.0	1.9	3.5
LnGrp Delay(d),s/veh	34.4	28.8	15.0	38.8	29.4	15.0	25.1	0.0	32.1	32.1	21.0	23.9
LnGrp LOS	C	C	B	D	C	B	C		C	C	C	C
Approach Vol, veh/h		1284			1168			325			644	
Approach Delay, s/veh		28.9			28.4			30.5			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	25.4	9.1	34.4	8.7	30.8	12.7	30.7				
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	10.5	20.9	7.1	33.5	5.1	26.3	9.5	31.1				
Max Q Clear Time (g_c+I1), s	2.3	12.2	2.0	25.2	2.0	9.4	2.9	21.6				
Green Ext Time (p_c), s	0.6	0.9	0.3	4.7	0.3	1.8	0.4	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	1	77	16	1	6	54	604	53	77	1650	122
Future Volume (veh/h)	60	1	77	16	1	6	54	604	53	77	1650	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	86	1	110	25	2	10	58	649	57	85	1813	134
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	2	169	50	20	99	90	2458	214	111	2684	836
Arrive On Green	0.06	0.11	0.11	0.03	0.07	0.07	0.05	0.52	0.52	0.06	0.53	0.53
Sat Flow, veh/h	1774	14	1571	1774	271	1353	1774	4764	415	1774	5085	1583
Grp Volume(v), veh/h	86	0	111	25	0	12	58	460	246	85	1813	134
Grp Sat Flow(s),veh/h/ln	1774	0	1585	1774	0	1624	1774	1695	1789	1774	1695	1583
Q Serve(g_s), s	3.0	0.0	4.2	0.9	0.0	0.4	2.0	4.8	4.8	3.0	16.5	2.7
Cycle Q Clear(g_c), s	3.0	0.0	4.2	0.9	0.0	0.4	2.0	4.8	4.8	3.0	16.5	2.7
Prop In Lane	1.00		0.99	1.00		0.83	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	171	50	0	119	90	1749	923	111	2684	836
V/C Ratio(X)	0.78	0.00	0.65	0.50	0.00	0.10	0.65	0.26	0.27	0.77	0.68	0.16
Avail Cap(c_a), veh/h	211	0	491	169	0	464	296	1749	923	414	2907	905
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	27.0	30.2	0.0	27.2	29.3	8.5	8.6	29.1	10.9	7.7
Incr Delay (d2), s/veh	11.1	0.0	4.1	7.6	0.0	0.4	7.5	0.4	0.7	10.5	0.6	0.1
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	2.0	0.5	0.0	0.2	1.2	2.3	2.6	1.8	7.7	1.2
LnGrp Delay(d),s/veh	40.2	0.0	31.1	37.7	0.0	27.6	36.9	8.9	9.3	39.6	11.5	7.8
LnGrp LOS	D		C	D		C	D	A	A	D	B	A
Approach Vol, veh/h		197			37			764			2032	
Approach Delay, s/veh		35.1			34.5			11.1			12.4	
Approach LOS		D			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	37.0	6.3	11.3	7.7	37.7	8.4	9.1				
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	14.7	31.8	6.0	19.5	10.5	36.0	7.5	18.0				
Max Q Clear Time (g_c+I1), s	5.0	6.8	2.9	6.2	4.0	18.5	5.0	2.4				
Green Ext Time (p_c), s	0.1	20.3	0.0	0.5	0.0	14.8	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	1208	372	185	425	1	230	7	156	6	5	14
Future Volume (vph)	7	1208	372	185	425	1	230	7	156	6	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3538		1681	1690	1583		1701	
Flt Permitted	0.47	1.00	1.00	0.10	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	872	3539	1583	193	3538		1681	1690	1583		1701	
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.76	0.76	0.76	0.64	0.64	0.64
Adj. Flow (vph)	8	1327	409	218	500	1	303	9	205	9	8	22
RTOR Reduction (vph)	0	0	223	0	0	0	0	0	171	0	21	0
Lane Group Flow (vph)	8	1327	186	218	501	0	155	157	34	0	18	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	35.0	34.1	34.1	45.1	39.7		12.3	12.3	12.3		3.9	
Effective Green, g (s)	35.0	34.1	34.1	45.1	39.7		12.3	12.3	12.3		3.9	
Actuated g/C Ratio	0.47	0.46	0.46	0.60	0.53		0.16	0.16	0.16		0.05	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	418	1613	721	253	1877		276	277	260		88	
v/s Ratio Prot	0.00	0.37		c0.07	0.14		0.09	c0.09			c0.01	
v/s Ratio Perm	0.01		0.12	c0.44					0.02			
v/c Ratio	0.02	0.82	0.26	0.86	0.27		0.56	0.57	0.13		0.21	
Uniform Delay, d1	10.6	17.7	12.6	15.8	9.6		28.8	28.8	26.7		34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	4.9	0.9	24.6	0.3		2.6	2.7	0.2		1.2	
Delay (s)	10.7	22.6	13.4	40.4	9.9		31.4	31.4	26.9		35.1	
Level of Service	B	C	B	D	A		C	C	C		D	
Approach Delay (s)		20.4			19.2			29.6			35.1	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			21.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			74.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			68.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	138	917	5	8	1539	48	2	0	9	15	1	186
Future Vol, veh/h	138	917	5	8	1539	48	2	0	9	15	1	186
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	150	997	5	9	1673	52	2	0	10	16	1	202

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1673	0	0	1002	0	0	2153	2989	501	2488	2992	836
Stage 1	-	-	-	-	-	-	1299	1299	-	1690	1690	-
Stage 2	-	-	-	-	-	-	854	1690	-	798	1302	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	380	-	-	687	-	-	27	14	515	~ 15	14	310
Stage 1	-	-	-	-	-	-	171	230	-	97	148	-
Stage 2	-	-	-	-	-	-	320	148	-	346	229	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	380	-	-	687	-	-	6	8	515	~ 10	8	310
Mov Cap-2 Maneuver	-	-	-	-	-	-	6	8	-	~ 10	8	-
Stage 1	-	-	-	-	-	-	104	139	-	59	146	-
Stage 2	-	-	-	-	-	-	109	146	-	205	139	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0.1	181.1	129.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	31	380	-	-	687	-	-	10	258
HCM Lane V/C Ratio	0.386	0.395	-	-	0.013	-	-	1.63	0.788
HCM Control Delay (s)	181.1	20.5	-	-	10.3	-	-	\$ 1040	56.2
HCM Lane LOS	F	C	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	1.2	1.8	-	-	0	-	-	2.9	6

Notes

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

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	920	1547	38	0	49
Future Vol, veh/h	0	920	1547	38	0	49
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	-	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	1000	1682	41	0	53

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 841
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 -	- -	0 308
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 308
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	308
HCM Lane V/C Ratio	-	-	-	0.173
HCM Control Delay (s)	-	-	-	19.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	926	1584	1	0	5
Future Vol, veh/h	0	926	1584	1	0	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	-	-	-	0	-	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	1007	1722	1	0	5
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	861
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	-	-	-	0	299
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	299
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		17.3	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	299		
HCM Lane V/C Ratio	-	-	-	0.018		
HCM Control Delay (s)	-	-	-	17.3		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.1		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	0	1655	1208	2
Future Vol, veh/h	0	6	0	1655	1208	2
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	7	0	1799	1313	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	658	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	349	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.5	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	349	-	-		
HCM Lane V/C Ratio	-	0.019	-	-		
HCM Control Delay (s)	-	15.5	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.1	-	-		

Intersection												
Int Delay, s/veh	16.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	113	11	0	92	93	1538	11	72	1010	47
Future Vol, veh/h	10	0	113	11	0	92	93	1538	11	72	1010	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	240	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	123	12	0	100	101	1672	12	78	1098	51
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2151	3166	574	2476	3185	842	1149	0	0	1684	0	0
Stage 1	1280	1280	-	1880	1880	-	-	-	-	-	-	-
Stage 2	871	1886	-	596	1305	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	51	10	396	32	10	264	331	-	-	180	-	-
Stage 1	127	235	-	47	119	-	-	-	-	-	-	-
Stage 2	283	118	-	417	228	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	16	4	396	~ 11	4	264	331	-	-	180	-	-
Mov Cap-2 Maneuver	16	4	-	~ 11	4	-	-	-	-	-	-	-
Stage 1	88	133	-	33	83	-	-	-	-	-	-	-
Stage 2	122	82	-	163	129	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	51.6			\$ 365.5			1.2			2.5		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	331	-	-	16	396	76	180	-	-			
HCM Lane V/C Ratio	0.305	-	-	0.679	0.31	1.473	0.435	-	-			
HCM Control Delay (s)	20.6	-	-	\$ 429.9	18.1	\$ 365.5	39.6	-	-			
HCM Lane LOS	C	-	-	F	C	F	E	-	-			
HCM 95th %tile Q(veh)	1.3	-	-	1.7	1.3	9.1	2	-	-			
Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon					

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	94	956	35	20	451
Future Vol, veh/h	23	94	956	35	20	451
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	97	97	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	118	986	36	21	470

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1281	511	0
Stage 1	1004	-	-
Stage 2	277	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	157	508	675
Stage 1	315	-	-
Stage 2	745	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	152	508	675
Mov Cap-2 Maneuver	152	-	-
Stage 1	315	-	-
Stage 2	722	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	152	508	675	-
HCM Lane V/C Ratio	-	-	0.189	0.231	0.031	-
HCM Control Delay (s)	-	-	34.1	14.2	10.5	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.7	0.9	0.1	-

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	787	109	96	1175	667	125	1020	80	240	551	91
Future Volume (veh/h)	150	787	109	96	1175	667	125	1020	80	240	551	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	163	855	118	103	1263	717	126	1030	81	253	580	96
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.99	0.99	0.99	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1144	601	130	1200	691	195	1058	590	335	1203	629
Arrive On Green	0.06	0.32	0.32	0.07	0.34	0.34	0.06	0.30	0.30	0.10	0.34	0.34
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	163	855	118	103	1263	717	126	1030	81	253	580	96
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	4.1	18.8	4.3	5.0	29.5	29.5	3.1	25.0	2.9	6.2	11.3	3.4
Cycle Q Clear(g_c), s	4.1	18.8	4.3	5.0	29.5	29.5	3.1	25.0	2.9	6.2	11.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1144	601	130	1200	691	195	1058	590	335	1203	629
V/C Ratio(X)	0.82	0.75	0.20	0.79	1.05	1.04	0.65	0.97	0.14	0.75	0.48	0.15
Avail Cap(c_a), veh/h	198	1144	601	149	1200	691	265	1058	590	455	1253	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	26.3	18.1	39.6	28.7	24.5	40.2	30.1	18.1	38.2	22.7	16.8
Incr Delay (d2), s/veh	23.7	2.8	0.2	21.8	40.9	44.2	3.6	21.4	0.1	4.8	0.3	0.1
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	2.6	9.6	1.9	3.2	21.1	25.0	1.6	15.3	1.3	3.2	5.5	1.5
LnGrp Delay(d),s/veh	64.3	29.0	18.2	61.4	69.6	68.7	43.8	51.6	18.2	43.0	23.0	16.9
LnGrp LOS	E	C	B	E	F	F	D	D	B	D	C	B
Approach Vol, veh/h	1136				2083				1237			
Approach Delay, s/veh	33.0				68.9				48.6			
Approach LOS	C				E				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	30.5	10.9	32.6	9.4	34.1	9.5	34.0				
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	11.5	26.0	7.3	27.2	6.7	30.8	5.0	29.5				
Max Q Clear Time (g_c+I1), s	8.2	27.0	7.0	20.8	5.1	13.3	6.1	31.5				
Green Ext Time (p_c), s	0.3	0.0	0.0	6.0	0.1	11.1	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	49.6											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	756	117	191	1175	262	287	883	142	317	632	264
Future Volume (veh/h)	203	756	117	191	1175	262	287	883	142	317	632	264
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	216	804	124	201	1237	276	312	960	154	364	726	303
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	977	609	547	1244	759	375	1205	627	440	1301	537
Arrive On Green	0.08	0.28	0.28	0.16	0.35	0.35	0.11	0.24	0.24	0.13	0.26	0.26
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	216	804	124	201	1237	276	312	960	154	364	726	303
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	5.5	19.1	0.0	4.7	31.3	0.0	8.0	16.0	0.0	9.3	11.1	6.6
Cycle Q Clear(g_c), s	5.5	19.1	0.0	4.7	31.3	0.0	8.0	16.0	0.0	9.3	11.1	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	977	609	547	1244	759	375	1205	627	440	1301	537
V/C Ratio(X)	0.75	0.82	0.20	0.37	0.99	0.36	0.83	0.80	0.25	0.83	0.56	0.56
Avail Cap(c_a), veh/h	291	1193	706	547	1244	759	375	1205	627	440	1301	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	30.5	18.4	33.8	29.1	14.7	39.2	32.3	18.2	38.2	29.0	24.3
Incr Delay (d2), s/veh	10.4	4.0	0.2	0.4	24.1	0.3	14.6	5.5	0.9	12.3	1.7	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	9.8	2.1	2.3	19.3	4.4	4.5	8.1	2.7	5.1	5.4	6.2
LnGrp Delay(d),s/veh	50.7	34.5	18.6	34.2	53.1	15.0	53.8	37.8	19.1	50.5	30.8	28.5
LnGrp LOS	D	C	B	C	D	B	D	D	B	D	C	C
Approach Vol, veh/h	1144				1714				1426		1393	
Approach Delay, s/veh	35.8				44.8				39.3		35.4	
Approach LOS	D				D				D		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	25.8	18.8	29.3	14.3	27.5	12.0	36.1				
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	11.5	21.3	8.9	30.3	9.8	23.0	7.6	31.6				
Max Q Clear Time (g_c+I1), s	11.3	18.0	6.7	21.1	10.0	13.1	7.5	33.3				
Green Ext Time (p_c), s	0.1	2.0	0.4	3.7	0.0	4.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	39.3											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	311	577	278	190	680	157	269	1093	250	211	705	173				
Future Volume (veh/h)	311	577	278	190	680	157	269	1093	250	211	705	173				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
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				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863				
Adj Flow Rate, veh/h	338	627	302	232	829	191	289	1175	269	234	783	192				
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1				
Peak Hour Factor	0.92	0.92	0.92	0.82	0.82	0.82	0.93	0.93	0.93	0.90	0.90	0.90				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	428	874	391	524	972	435	567	1459	454	319	1093	340				
Arrive On Green	0.12	0.25	0.25	0.15	0.27	0.27	0.16	0.29	0.29	0.09	0.21	0.21				
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583				
Grp Volume(v), veh/h	338	627	302	232	829	191	289	1175	269	234	783	192				
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583				
Q Serve(g_s), s	7.8	13.2	14.4	5.0	18.1	8.1	6.2	17.4	11.9	5.4	11.6	8.8				
Cycle Q Clear(g_c), s	7.8	13.2	14.4	5.0	18.1	8.1	6.2	17.4	11.9	5.4	11.6	8.8				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Lane Grp Cap(c), veh/h	428	874	391	524	972	435	567	1459	454	319	1093	340				
V/C Ratio(X)	0.79	0.72	0.77	0.44	0.85	0.44	0.51	0.81	0.59	0.73	0.72	0.56				
Avail Cap(c_a), veh/h	529	1174	525	524	1065	477	567	1593	496	402	1456	453				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	34.6	28.1	28.5	31.4	28.0	24.3	31.0	26.9	24.9	35.9	29.6	28.5				
Incr Delay (d2), s/veh	6.4	1.4	5.0	0.6	6.4	0.7	0.8	2.9	1.6	5.1	1.1	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	4.0	6.6	6.9	2.4	9.6	3.6	3.0	8.6	5.4	2.8	5.6	4.0				
LnGrp Delay(d),s/veh	41.0	29.4	33.5	31.9	34.3	25.0	31.8	29.8	26.5	41.1	30.8	30.0				
LnGrp LOS	D	C	C	C	C	C	C	C	C	D	C	C				
Approach Vol, veh/h	1267				1252				1733							
Approach Delay, s/veh	33.5				32.5				29.6							
Approach LOS	C				C				C							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	12.0	27.9	16.9	24.6	17.9	22.0	14.6	26.9								
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	9.5	25.5	10.0	27.0	11.7	23.3	12.5	24.5								
Max Q Clear Time (g_c+I1), s	7.4	19.4	7.0	16.4	8.2	13.6	9.8	20.1								
Green Ext Time (p_c), s	0.2	3.9	0.7	3.6	0.7	3.9	0.4	2.3								
Intersection Summary																
HCM 2010 Ctrl Delay	31.8															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	2	10	18	2	14	18	1624	31	22	969	10
Future Volume (veh/h)	8	2	10	18	2	14	18	1624	31	22	969	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	12	3	16	29	3	22	19	1674	32	24	1077	11
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	16	86	191	12	89	497	4047	77	315	4089	42
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.79	0.79	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1380	256	1366	1388	193	1419	516	5137	98	286	5191	53
Grp Volume(v), veh/h	12	0	19	29	0	25	19	1105	601	24	703	385
Grp Sat Flow(s),veh/h/ln	1380	0	1622	1388	0	1612	516	1695	1845	286	1695	1853
Q Serve(g_s), s	0.5	0.0	0.7	1.2	0.0	0.9	0.6	6.2	6.2	1.7	3.3	3.4
Cycle Q Clear(g_c), s	1.4	0.0	0.7	1.9	0.0	0.9	4.0	6.2	6.2	7.9	3.3	3.4
Prop In Lane	1.00		0.84	1.00		0.88	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	186	0	102	191	0	102	497	2671	1454	315	2671	1460
V/C Ratio(X)	0.06	0.00	0.19	0.15	0.00	0.25	0.04	0.41	0.41	0.08	0.26	0.26
Avail Cap(c_a), veh/h	591	0	578	599	0	575	497	2671	1454	315	2671	1460
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	0.0	26.8	27.7	0.0	26.9	2.2	2.0	2.0	3.3	1.7	1.7
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.4	0.0	1.2	0.1	0.5	0.9	0.5	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.5	0.0	0.4	0.1	2.9	3.4	0.2	1.6	1.8
LnGrp Delay(d),s/veh	27.7	0.0	27.7	28.0	0.0	28.1	2.4	2.5	2.9	3.7	2.0	2.2
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		31			54			1725			1112	
Approach Delay, s/veh		27.7			28.1			2.6			2.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		8.3		52.0		8.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.5		21.5		47.5		21.5				
Max Q Clear Time (g_c+I1), s		8.2		3.4		9.9		3.9				
Green Ext Time (p_c), s		30.9		0.3		29.8		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			3.1									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	928	16	56	1446	153	41	93	46	79	47	91
Future Volume (veh/h)	100	928	16	56	1446	153	41	93	46	79	47	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	967	17	59	1522	161	58	131	65	87	52	100
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.71	0.71	0.71	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	1273	22	519	1800	805	315	298	148	285	145	278
Arrive On Green	0.06	0.36	0.36	0.21	0.51	0.51	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3559	63	1774	3539	1583	1230	1176	584	1182	571	1098
Grp Volume(v), veh/h	104	481	503	59	1522	161	58	0	196	87	0	152
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1230	0	1760	1182	0	1669
Q Serve(g_s), s	0.1	18.0	18.0	0.0	27.8	4.2	3.1	0.0	7.0	5.0	0.0	5.6
Cycle Q Clear(g_c), s	0.1	18.0	18.0	0.0	27.8	4.2	8.7	0.0	7.0	12.0	0.0	5.6
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.33	1.00		0.66
Lane Grp Cap(c), veh/h	199	633	662	519	1800	805	315	0	446	285	0	423
V/C Ratio(X)	0.52	0.76	0.76	0.11	0.85	0.20	0.18	0.00	0.44	0.31	0.00	0.36
Avail Cap(c_a), veh/h	250	1012	1059	519	1957	876	315	0	446	285	0	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	21.3	21.3	20.5	15.9	10.1	26.6	0.0	23.5	28.6	0.0	23.0
Incr Delay (d2), s/veh	2.1	1.9	1.8	0.1	3.4	0.1	1.3	0.0	3.1	2.8	0.0	2.4
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	2.1	9.0	9.4	1.0	14.2	1.8	1.1	0.0	3.8	1.9	0.0	2.9
LnGrp Delay(d),s/veh	35.4	23.2	23.1	20.6	19.3	10.2	27.9	0.0	26.7	31.4	0.0	25.4
LnGrp LOS	D	C	C	C	B	B	C		C	C		C
Approach Vol, veh/h	1088			1742				254		239		
Approach Delay, s/veh	24.3			18.5				27.0		27.6		
Approach LOS	C			B				C		C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	23.5		20.2	31.3	23.5		8.9	42.7				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	19.0		5.1	42.9	19.0		6.5	41.5				
Max Q Clear Time (g_c+I1), s	10.7		2.0	20.0	14.0		2.1	29.8				
Green Ext Time (p_c), s	1.7		0.1	6.9	1.2		0.1	8.3				
Intersection Summary												
HCM 2010 Ctrl Delay	21.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	871	314	0	451	108	135	423	439	207	698	0
Future Volume (veh/h)	0	871	314	0	451	108	135	423	439	207	698	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	898	324	0	465	111	161	504	0	223	751	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.84	0.84	0.84	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1836	572	0	1836	572	306	967	433	337	1436	0
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.09	0.27	0.00	0.10	0.28	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	898	324	0	465	111	161	504	0	223	751	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	6.9	8.3	0.0	3.2	2.4	2.3	6.1	0.0	3.2	6.3	0.0
Cycle Q Clear(g_c), s	0.0	6.9	8.3	0.0	3.2	2.4	2.3	6.1	0.0	3.2	6.3	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1836	572	0	1836	572	306	967	433	337	1436	0
V/C Ratio(X)	0.00	0.49	0.57	0.00	0.25	0.19	0.53	0.52	0.00	0.66	0.52	0.00
Avail Cap(c_a), veh/h	0	1836	572	0	1836	572	341	1264	565	362	1846	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.5	12.9	0.0	11.3	11.1	22.0	15.5	0.0	21.9	15.2	0.0
Incr Delay (d2), s/veh	0.0	0.9	4.0	0.0	0.3	0.8	1.4	0.4	0.0	4.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	4.3	0.0	1.6	1.2	1.1	3.0	0.0	1.7	3.0	0.0
LnGrp Delay(d),s/veh	0.0	13.4	17.0	0.0	11.7	11.8	23.4	16.0	0.0	26.0	15.5	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		1222			576			665			974	
Approach Delay, s/veh		14.4			11.7			17.8			17.9	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	9.4	18.3		22.7	9.0	18.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.2	5.3	18.0		18.2	5.0	18.3				
Max Q Clear Time (g_c+I1), s		10.3	5.2	8.1		5.2	4.3	8.3				
Green Ext Time (p_c), s		5.8	0.0	5.7		8.5	0.0	5.7				
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	794	73	146	1415	196	108	219	103	216	194	155
Future Volume (veh/h)	182	794	73	146	1415	196	108	219	103	216	194	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	190	827	76	151	1459	202	123	249	117	240	216	172
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	1037	575	461	1475	806	372	263	123	258	853	382
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.07	0.22	0.22	0.09	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1200	564	1774	3539	1583
Grp Volume(v), veh/h	190	827	76	151	1459	202	123	0	366	240	216	172
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1763	1774	1770	1583
Q Serve(g_s), s	5.5	19.4	0.0	0.4	36.8	0.0	0.0	0.0	18.4	7.2	4.4	8.3
Cycle Q Clear(g_c), s	5.5	19.4	0.0	0.4	36.8	0.0	0.0	0.0	18.4	7.2	4.4	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	208	1037	575	461	1475	806	372	0	386	258	853	382
V/C Ratio(X)	0.91	0.80	0.13	0.33	0.99	0.25	0.33	0.00	0.95	0.93	0.25	0.45
Avail Cap(c_a), veh/h	208	1357	718	461	1475	806	372	0	386	258	853	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	29.3	19.2	28.6	26.1	12.4	29.7	0.0	34.6	38.9	27.6	29.1
Incr Delay (d2), s/veh	39.2	2.6	0.1	0.4	20.8	0.2	0.5	0.0	34.5	37.6	0.7	3.8
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	6.9	9.8	1.3	3.1	22.1	2.8	2.7	0.0	12.6	8.6	2.2	4.0
LnGrp Delay(d),s/veh	79.3	31.9	19.3	29.0	46.9	12.6	30.2	0.0	69.1	76.5	28.3	32.9
LnGrp LOS	E	C	B	C	D	B	C		E	E	C	C
Approach Vol, veh/h	1093				1812				489		628	
Approach Delay, s/veh	39.3				41.6				59.3		48.0	
Approach LOS	D				D				E		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	24.2	22.1	30.9	10.8	26.2	11.0	42.0				
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	8.3	19.7	9.5	34.5	6.3	21.7	6.5	37.5				
Max Q Clear Time (g_c+I1), s	9.2	20.4	2.4	21.4	2.0	10.3	7.5	38.8				
Green Ext Time (p_c), s	0.0	0.0	0.6	5.0	0.5	1.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	44.1											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	0	177	141	8	59	262	1367	11	117	811	154
Future Volume (veh/h)	273	0	177	141	8	59	262	1367	11	117	811	154
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	287	0	186	155	9	65	279	1454	12	126	872	166
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	0	256	194	17	122	326	2105	17	158	1579	491
Arrive On Green	0.18	0.00	0.16	0.11	0.09	0.09	0.18	0.40	0.40	0.09	0.31	0.31
Sat Flow, veh/h	1774	0	1583	1774	196	1417	1774	5202	43	1774	5085	1583
Grp Volume(v), veh/h	287	0	186	155	0	74	279	948	518	126	872	166
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1613	1774	1695	1855	1774	1695	1583
Q Serve(g_s), s	12.1	0.0	8.5	6.5	0.0	3.4	11.7	17.7	17.7	5.3	10.9	6.2
Cycle Q Clear(g_c), s	12.1	0.0	8.5	6.5	0.0	3.4	11.7	17.7	17.7	5.3	10.9	6.2
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	328	0	256	194	0	139	326	1372	751	158	1579	491
V/C Ratio(X)	0.88	0.00	0.73	0.80	0.00	0.53	0.86	0.69	0.69	0.80	0.55	0.34
Avail Cap(c_a), veh/h	359	0	397	331	0	379	452	1372	751	174	1579	491
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	30.5	33.3	0.0	33.5	30.3	18.8	18.8	34.2	22.0	20.3
Incr Delay (d2), s/veh	19.6	0.0	3.9	7.3	0.0	3.1	11.3	2.9	5.2	20.6	1.4	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	4.0	3.6	0.0	1.6	6.8	8.8	10.1	3.5	5.3	3.0
LnGrp Delay(d),s/veh	49.9	0.0	34.4	40.6	0.0	36.6	41.6	21.7	24.0	54.8	23.4	22.2
LnGrp LOS	D		C	D		D	D	C	C	D	C	C
Approach Vol, veh/h	473					229		1745			1164	
Approach Delay, s/veh	43.8					39.3		25.6			26.6	
Approach LOS	D					D		C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	35.5	12.9	16.9	18.6	28.3	18.7	11.1				
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	7.5	31.0	14.3	19.2	19.5	19.0	15.5	18.0				
Max Q Clear Time (g_c+I1), s	7.3	19.7	8.5	10.5	13.7	12.9	14.1	5.4				
Green Ext Time (p_c), s	0.0	9.7	0.2	1.0	0.4	5.5	0.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			29.2									
HCM 2010 LOS			C									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	649	281	178	821	8	718	3	263	5	2	9
Future Volume (vph)	1	649	281	178	821	8	718	3	263	5	2	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	1770	3534		1681	1686	1583		1699	
Flt Permitted	0.25	1.00	1.00	0.22	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	459	3539	1583	405	3534		1681	1686	1583		1699	
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.90	0.90	0.90	0.75	0.75	0.75
Adj. Flow (vph)	1	698	302	205	944	9	798	3	292	7	3	12
RTOR Reduction (vph)	0	0	201	0	1	0	0	0	207	0	12	0
Lane Group Flow (vph)	1	698	101	205	952	0	399	402	85	0	10	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	26.7	25.8	25.8	39.0	33.6		22.4	22.4	22.4		2.5	
Effective Green, g (s)	26.7	25.8	25.8	39.0	33.6		22.4	22.4	22.4		2.5	
Actuated g/C Ratio	0.34	0.33	0.33	0.50	0.43		0.29	0.29	0.29		0.03	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	173	1179	527	357	1534		486	487	458		54	
v/s Ratio Prot	0.00	0.20		c0.06	c0.27		0.24	c0.24			c0.01	
v/s Ratio Perm	0.00		0.06	0.22					0.05			
v/c Ratio	0.01	0.59	0.19	0.57	0.62		0.82	0.83	0.18		0.19	
Uniform Delay, d1	16.8	21.4	18.4	12.4	17.0		25.6	25.7	20.6		36.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.2	0.8	2.2	1.9		10.7	10.9	0.2		1.7	
Delay (s)	16.8	23.6	19.2	14.6	18.9		36.3	36.6	20.8		38.2	
Level of Service	B	C	B	B	B		D	D	C		D	
Approach Delay (s)		22.3			18.1			32.3			38.2	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			24.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			77.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			65.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	855	3	2	658	34	5	0	2	9	0	80
Future Vol, veh/h	120	855	3	2	658	34	5	0	2	9	0	80
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	929	3	2	715	37	5	0	2	10	0	87

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	715	0	0	933	0	0	1554	1912	466	1446	1913	358
Stage 1	-	-	-	-	-	-	1192	1192	-	720	720	-
Stage 2	-	-	-	-	-	-	362	720	-	726	1193	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	881	-	-	729	-	-	77	67	543	92	67	638
Stage 1	-	-	-	-	-	-	199	259	-	385	430	-
Stage 2	-	-	-	-	-	-	629	430	-	382	258	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	881	-	-	729	-	-	59	57	543	81	57	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	57	-	81	57	-
Stage 1	-	-	-	-	-	-	170	221	-	328	429	-
Stage 2	-	-	-	-	-	-	542	429	-	324	220	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	55.4	15.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	79	881	-	-	729	-	-	81	638
HCM Lane V/C Ratio	0.096	0.148	-	-	0.003	-	-	0.121	0.136
HCM Control Delay (s)	55.4	9.8	-	-	10	-	-	55.5	11.5
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0	-	-	0.4	0.5

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	876	659	60	0	38
Future Vol, veh/h	0	876	659	60	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	-	-	0	-	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	952	716	65	0	41
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	358
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	-	-	0	0	638
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	638
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		11	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	638			
HCM Lane V/C Ratio	-	-	0.065			
HCM Control Delay (s)	-	-	11			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.2			

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	891	671	7	0	5
Future Vol, veh/h	0	891	671	7	0	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	-	-	-	0	-	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	968	729	8	0	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 365
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 -	- -	0 632
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 632
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	632
HCM Lane V/C Ratio	-	-	-	0.009
HCM Control Delay (s)	-	-	-	10.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	0	741	1475	15
Future Vol, veh/h	0	4	0	741	1475	15
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	4	0	805	1603	16
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	810	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	277	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	277	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	18.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	277	-	-		
HCM Lane V/C Ratio	-	0.016	-	-		
HCM Control Delay (s)	-	18.2	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	65	4	0	9	63	635	16	58	1513	25
Future Vol, veh/h	0	0	65	4	0	9	63	635	16	58	1513	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	71	4	0	10	68	690	17	63	1645	27
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2197	2629	836	1620	2634	354	1672	0	0	708	0	0
Stage 1	1784	1784	-	836	836	-	-	-	-	-	-	-
Stage 2	413	845	-	784	1798	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	48	23	267	109	23	548	183	-	-	540	-	-
Stage 1	55	133	-	259	381	-	-	-	-	-	-	-
Stage 2	537	377	-	320	131	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	267	-	0	548	183	-	-	540	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	35	0	-	163	239	-	-	-	-	-	-	-
Stage 2	331	237	-	-	0	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	23.3						3.2			0.5		
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	183	-	-	-	267	-	540	-	-			
HCM Lane V/C Ratio	0.374	-	-	-	0.265	-	0.117	-	-			
HCM Control Delay (s)	36	-	-	0	23.3	-	12.5	-	-			
HCM Lane LOS	E	-	-	A	C	-	B	-	-			
HCM 95th %tile Q(veh)	1.6	-	-	-	1	-	0.4	-	-			

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	33	464	14	45	1010
Future Vol, veh/h	41	33	464	14	45	1010
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
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	45	36	504	15	49	1098

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1159	260	0	0	520	0
Stage 1	512	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	189	739	-	-	1042	-
Stage 1	567	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	180	739	-	-	1042	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	180	739	1042	-
HCM Lane V/C Ratio	-	-	0.248	0.049	0.047	-
HCM Control Delay (s)	-	-	31.5	10.1	8.6	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.2	0.1	-

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	882	136	92	587	152	73	510	60	338	1060	118
Future Volume (veh/h)	100	882	136	92	587	152	73	510	60	338	1060	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	109	959	148	100	638	165	79	554	65	367	1152	128
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1024	553	128	1038	592	206	952	540	277	1024	566
Arrive On Green	0.07	0.29	0.29	0.07	0.29	0.29	0.06	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	109	959	148	100	638	165	79	554	65	367	1152	128
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.9	16.4	4.2	3.4	9.7	4.5	1.4	8.4	1.8	5.0	18.0	3.5
Cycle Q Clear(g_c), s	1.9	16.4	4.2	3.4	9.7	4.5	1.4	8.4	1.8	5.0	18.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1024	553	128	1038	592	206	952	540	277	1024	566
V/C Ratio(X)	0.46	0.94	0.27	0.78	0.61	0.28	0.38	0.58	0.12	1.33	1.12	0.23
Avail Cap(c_a), veh/h	277	1024	553	143	1038	592	277	1024	572	277	1024	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	21.5	14.5	28.4	19.0	13.6	28.1	19.7	14.1	28.6	22.1	14.0
Incr Delay (d2), s/veh	1.4	15.2	0.3	22.0	1.1	0.3	1.2	0.7	0.1	169.8	69.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.2	1.9	2.5	4.9	2.0	0.7	4.2	0.8	8.9	18.5	1.6
LnGrp Delay(d),s/veh	29.3	36.8	14.8	50.4	20.0	13.9	29.3	20.4	14.2	198.4	91.2	14.2
LnGrp LOS	C	D	B	D	C	B	C	C	B	F	F	B
Approach Vol, veh/h		1216			903			698			1647	
Approach Delay, s/veh		33.4			22.3			20.9			109.1	
Approach LOS		C			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	21.2	9.0	22.5	8.2	22.5	8.7	22.7				
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	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	10.4	5.4	18.4	3.4	20.0	3.9	11.7				
Green Ext Time (p_c), s	0.0	6.0	0.0	0.0	0.0	0.0	0.0	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay				57.1								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	150	768	232	181	662	176	195	666	109	374	1020	147				
Future Volume (veh/h)	150	768	232	181	662	176	195	666	109	374	1020	147				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
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				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863				
Adj Flow Rate, veh/h	165	844	255	201	736	196	227	774	127	394	1074	155				
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1				
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.95	0.95	0.95				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	382	1054	626	288	957	673	336	1209	509	531	1497	642				
Arrive On Green	0.11	0.30	0.30	0.08	0.27	0.27	0.10	0.24	0.24	0.15	0.29	0.29				
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583				
Grp Volume(v), veh/h	165	844	255	201	736	196	227	774	127	394	1074	155				
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583				
Q Serve(g_s), s	3.6	17.5	1.5	4.5	15.2	0.0	5.1	10.9	0.0	8.7	15.0	0.0				
Cycle Q Clear(g_c), s	3.6	17.5	1.5	4.5	15.2	0.0	5.1	10.9	0.0	8.7	15.0	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Lane Grp Cap(c), veh/h	382	1054	626	288	957	673	336	1209	509	531	1497	642				
V/C Ratio(X)	0.43	0.80	0.41	0.70	0.77	0.29	0.68	0.64	0.25	0.74	0.72	0.24				
Avail Cap(c_a), veh/h	382	1282	728	420	1331	840	437	1209	509	632	1497	642				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	33.0	25.7	17.3	35.4	26.7	15.0	34.7	27.2	19.9	32.1	25.1	15.6				
Incr Delay (d2), s/veh	0.8	3.1	0.4	3.0	1.8	0.2	2.7	2.6	1.2	3.9	3.0	0.9				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	1.7	9.0	4.0	2.3	7.6	2.8	2.5	5.4	2.2	4.4	7.4	2.4				
LnGrp Delay(d),s/veh	33.8	28.8	17.7	38.5	28.5	15.2	37.3	29.8	21.1	36.0	28.1	16.5				
LnGrp LOS	C	C	B	D	C	B	D	C	C	D	C	B				
Approach Vol, veh/h	1264				1133				1128							
Approach Delay, s/veh	27.2				28.0				30.4							
Approach LOS	C				C				C							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	16.8	23.4	11.2	28.2	12.3	27.9	13.3	26.0								
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	14.6	18.9	9.7	28.8	10.1	23.4	8.6	29.9								
Max Q Clear Time (g_c+I1), s	10.7	12.9	6.5	19.5	7.1	17.0	5.6	17.2								
Green Ext Time (p_c), s	0.9	2.6	0.2	4.2	0.7	3.7	0.4	4.3								
Intersection Summary																
HCM 2010 Ctrl Delay	28.6															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	661	399	229	338	96	209	634	202	221	1091	126
Future Volume (veh/h)	198	661	399	229	338	96	209	634	202	221	1091	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	241	806	487	279	412	117	232	704	224	251	1240	143
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	836	1063	476	361	575	257	313	1032	321	619	1484	462
Arrive On Green	0.24	0.30	0.30	0.10	0.16	0.16	0.09	0.20	0.20	0.18	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	241	806	487	279	412	117	232	704	224	251	1240	143
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.8	17.5	25.5	6.7	9.4	5.7	5.6	10.9	11.2	5.5	19.4	6.0
Cycle Q Clear(g_c), s	4.8	17.5	25.5	6.7	9.4	5.7	5.6	10.9	11.2	5.5	19.4	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	836	1063	476	361	575	257	313	1032	321	619	1484	462
V/C Ratio(X)	0.29	0.76	1.02	0.77	0.72	0.46	0.74	0.68	0.70	0.41	0.84	0.31
Avail Cap(c_a), veh/h	836	1063	476	426	1080	483	385	1503	468	619	1587	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	26.9	29.7	37.0	33.7	32.2	37.6	31.3	31.4	30.8	28.2	23.4
Incr Delay (d2), s/veh	0.2	3.2	47.5	7.3	1.7	1.3	5.9	0.8	2.7	0.4	3.9	0.4
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	2.3	9.0	17.4	3.5	4.7	2.6	2.9	5.2	5.1	2.7	9.6	2.6
LnGrp Delay(d),s/veh	26.4	30.1	77.2	44.3	35.4	33.4	43.5	32.1	34.1	31.2	32.0	23.8
LnGrp LOS	C	C	F	D	D	C	D	C	C	C	C	C
Approach Vol, veh/h	1534				808				1160			
Approach Delay, s/veh	44.5				38.2				34.8			
Approach LOS	D				D				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	21.7	13.4	30.0	12.2	29.3	25.1	18.3				
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	10.9	25.1	10.5	25.5	9.5	26.5	10.1	25.9				
Max Q Clear Time (g_c+I1), s	7.5	13.2	8.7	27.5	7.6	21.4	6.8	11.4				
Green Ext Time (p_c), s	0.6	4.1	0.2	0.0	0.2	3.4	0.6	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay	37.1											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	19	32	80	3	67	4	817	76	83	1428	4
Future Volume (veh/h)	8	19	32	80	3	67	4	817	76	83	1428	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	12	28	48	170	6	143	4	860	80	92	1587	4
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.67	0.67	0.67	0.47	0.47	0.47	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	132	226	341	14	327	267	3085	286	448	3411	9
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1234	617	1058	1318	64	1529	319	4737	439	594	5237	13
Grp Volume(v), veh/h	12	0	76	170	0	149	4	615	325	92	1027	564
Grp Sat Flow(s),veh/h/ln	1234	0	1676	1318	0	1593	319	1695	1785	594	1695	1860
Q Serve(g_s), s	0.6	0.0	2.5	8.1	0.0	5.4	0.4	5.2	5.2	5.2	10.1	10.1
Cycle Q Clear(g_c), s	6.0	0.0	2.5	10.6	0.0	5.4	10.5	5.2	5.2	10.4	10.1	10.1
Prop In Lane	1.00		0.63	1.00		0.96	1.00		0.25	1.00		0.01
Lane Grp Cap(c), veh/h	272	0	359	341	0	341	267	2208	1163	448	2208	1212
V/C Ratio(X)	0.04	0.00	0.21	0.50	0.00	0.44	0.01	0.28	0.28	0.21	0.47	0.47
Avail Cap(c_a), veh/h	497	0	665	582	0	632	267	2208	1163	448	2208	1212
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	21.6	26.0	0.0	22.8	8.5	5.0	5.0	7.2	5.8	5.8
Incr Delay (d2), s/veh	0.1	0.0	0.3	1.1	0.0	0.9	0.1	0.3	0.6	1.0	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	3.0	0.0	2.4	0.0	2.5	2.7	1.0	4.8	5.4
LnGrp Delay(d),s/veh	25.4	0.0	21.9	27.1	0.0	23.6	8.6	5.3	5.6	8.2	6.5	7.1
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		88			319			944			1683	
Approach Delay, s/veh		22.4			25.5			5.4			6.8	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		18.8		48.0		18.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		26.5		43.5		26.5				
Max Q Clear Time (g_c+I1), s		12.5		8.0		12.4		12.6				
Green Ext Time (p_c), s		23.9		1.8		24.0		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	811	16	27	682	75	24	42	26	142	75	67
Future Volume (veh/h)	46	811	16	27	682	75	24	42	26	142	75	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	819	16	30	749	82	26	45	28	149	79	71
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.99	0.99	0.99	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1133	22	241	1083	484	579	462	287	651	389	349
Arrive On Green	0.05	0.32	0.32	0.03	0.31	0.31	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1774	3551	69	1774	3539	1583	1232	1075	669	1322	905	814
Grp Volume(v), veh/h	46	408	427	30	749	82	26	0	73	149	0	150
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1232	0	1745	1322	0	1719
Q Serve(g_s), s	0.0	12.6	12.6	0.0	11.5	2.3	0.8	0.0	1.5	4.7	0.0	3.4
Cycle Q Clear(g_c), s	0.0	12.6	12.6	0.0	11.5	2.3	4.2	0.0	1.5	6.2	0.0	3.4
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.38	1.00		0.47
Lane Grp Cap(c), veh/h	277	565	591	241	1083	484	579	0	749	651	0	738
V/C Ratio(X)	0.17	0.72	0.72	0.12	0.69	0.17	0.04	0.00	0.10	0.23	0.00	0.20
Avail Cap(c_a), veh/h	382	932	975	370	1864	834	579	0	749	651	0	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	18.6	18.6	24.2	18.8	15.7	12.3	0.0	10.5	12.3	0.0	11.0
Incr Delay (d2), s/veh	0.3	1.8	1.7	0.2	0.8	0.2	0.1	0.0	0.3	0.8	0.0	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	0.7	6.4	6.7	0.5	5.7	1.0	0.3	0.0	0.8	1.8	0.0	1.7
LnGrp Delay(d),s/veh	23.4	20.4	20.3	24.5	19.6	15.8	12.5	0.0	10.7	13.1	0.0	11.6
LnGrp LOS	C	C	C	C	B	B	B		B	B		B
Approach Vol, veh/h		881			861			99			299	
Approach Delay, s/veh		20.5			19.5			11.2			12.4	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	6.5	24.2		31.0	7.3	23.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	6.5	32.5		26.5	6.5	32.5				
Max Q Clear Time (g_c+I1), s		6.2	2.0	14.6		8.2	2.0	13.5				
Green Ext Time (p_c), s		1.8	0.1	5.1		1.7	0.1	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			18.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	373	178	0	732	119	61	385	527	233	245	0
Future Volume (veh/h)	0	373	178	0	732	119	61	385	527	233	245	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	444	212	0	938	153	68	428	0	253	266	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.84	0.84	0.92	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1968	613	0	1968	613	214	785	351	369	1357	0
Arrive On Green	0.00	0.39	0.39	0.00	0.39	0.39	0.06	0.22	0.00	0.11	0.27	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	444	212	0	938	153	68	428	0	253	266	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	2.8	4.5	0.0	6.6	3.1	0.9	5.1	0.0	3.4	1.9	0.0
Cycle Q Clear(g_c), s	0.0	2.8	4.5	0.0	6.6	3.1	0.9	5.1	0.0	3.4	1.9	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1968	613	0	1968	613	214	785	351	369	1357	0
V/C Ratio(X)	0.00	0.23	0.35	0.00	0.48	0.25	0.32	0.55	0.00	0.69	0.20	0.00
Avail Cap(c_a), veh/h	0	1968	613	0	1968	613	362	1340	599	369	1936	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.8	10.3	0.0	11.0	9.9	21.3	16.4	0.0	20.5	13.5	0.0
Incr Delay (d2), s/veh	0.0	0.3	1.5	0.0	0.8	1.0	0.8	0.6	0.0	5.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	2.2	0.0	3.2	1.5	0.5	2.5	0.0	1.8	0.9	0.0
LnGrp Delay(d),s/veh	0.0	10.1	11.9	0.0	11.8	10.9	22.2	17.0	0.0	25.6	13.6	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		656			1091			496			519	
Approach Delay, s/veh		10.6			11.7			17.7			19.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	9.6	15.0		22.9	7.5	17.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.1	18.0		18.4	5.0	18.1				
Max Q Clear Time (g_c+I1), s		6.5	5.4	7.1		8.6	2.9	3.9				
Green Ext Time (p_c), s		7.9	0.0	3.5		6.8	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			14.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	937	45	103	879	148	65	134	81	216	194	159
Future Volume (veh/h)	129	937	45	103	879	148	65	134	81	216	194	159
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	140	1018	49	104	888	149	69	143	86	225	202	166
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1240	632	215	1111	679	393	281	169	431	1146	513
Arrive On Green	0.09	0.35	0.35	0.06	0.31	0.31	0.05	0.26	0.26	0.12	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1091	656	1774	3539	1583
Grp Volume(v), veh/h	140	1018	49	104	888	149	69	0	229	225	202	166
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1747	1774	1770	1583
Q Serve(g_s), s	0.0	21.3	0.0	0.0	18.7	0.0	0.0	0.0	9.1	0.0	3.3	6.4
Cycle Q Clear(g_c), s	0.0	21.3	0.0	0.0	18.7	0.0	0.0	0.0	9.1	0.0	3.3	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	295	1240	632	215	1111	679	393	0	449	431	1146	513
V/C Ratio(X)	0.48	0.82	0.08	0.48	0.80	0.22	0.18	0.00	0.51	0.52	0.18	0.32
Avail Cap(c_a), veh/h	339	1460	730	271	1355	788	419	0	449	456	1146	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	24.1	15.1	35.7	25.5	14.6	23.6	0.0	25.8	28.8	19.7	20.7
Incr Delay (d2), s/veh	1.2	3.4	0.1	1.7	2.9	0.2	0.2	0.0	4.1	1.0	0.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	10.9	0.7	2.3	9.6	2.1	1.2	0.0	4.9	4.6	1.7	3.0
LnGrp Delay(d),s/veh	33.7	27.4	15.2	37.4	28.4	14.8	23.8	0.0	29.9	29.8	20.0	22.4
LnGrp LOS	C	C	B	D	C	B	C		C	C	C	C
Approach Vol, veh/h		1207			1141			298			593	
Approach Delay, s/veh		27.7			27.4			28.5			24.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	25.4	9.0	33.0	8.4	30.8	12.0	30.0				
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	10.5	20.9	7.1	33.5	5.1	26.3	9.5	31.1				
Max Q Clear Time (g_c+I1), s	2.0	11.1	2.0	23.3	2.0	8.4	2.0	20.7				
Green Ext Time (p_c), s	0.6	0.9	0.3	5.2	0.3	1.7	0.4	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay				27.1								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	3	216	15	5	5	177	527	48	70	1506	367
Future Volume (veh/h)	174	3	216	15	5	5	177	527	48	70	1506	367
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	249	4	309	24	8	8	190	567	52	77	1655	403
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	5	366	46	83	83	228	2129	193	99	1911	595
Arrive On Green	0.16	0.23	0.23	0.03	0.10	0.10	0.13	0.45	0.45	0.06	0.38	0.38
Sat Flow, veh/h	1774	20	1566	1774	856	856	1774	4746	431	1774	5085	1583
Grp Volume(v), veh/h	249	0	313	24	0	16	190	403	216	77	1655	403
Grp Sat Flow(s),veh/h/ln	1774	0	1586	1774	0	1712	1774	1695	1787	1774	1695	1583
Q Serve(g_s), s	10.4	0.0	14.4	1.0	0.0	0.7	8.0	5.7	5.8	3.3	23.0	16.3
Cycle Q Clear(g_c), s	10.4	0.0	14.4	1.0	0.0	0.7	8.0	5.7	5.8	3.3	23.0	16.3
Prop In Lane	1.00		0.99	1.00		0.50	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	289	0	371	46	0	165	228	1521	801	99	1911	595
V/C Ratio(X)	0.86	0.00	0.84	0.52	0.00	0.10	0.83	0.27	0.27	0.77	0.87	0.68
Avail Cap(c_a), veh/h	314	0	540	128	0	403	244	1521	801	221	1998	622
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	0.0	27.9	36.7	0.0	31.5	32.5	13.2	13.2	35.6	22.0	20.0
Incr Delay (d2), s/veh	19.8	0.0	8.1	8.7	0.0	0.3	20.1	0.4	0.8	12.0	4.2	2.8
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	6.7	0.0	7.1	0.6	0.0	0.3	5.2	2.7	3.0	1.9	11.5	7.5
LnGrp Delay(d),s/veh	50.9	0.0	36.0	45.4	0.0	31.7	52.6	13.6	14.0	47.6	26.2	22.7
LnGrp LOS	D		D	D		C	D	B	B	D	C	C
Approach Vol, veh/h		562			40			809			2135	
Approach Delay, s/veh		42.6			39.9			22.9			26.3	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	38.8	6.5	22.3	14.3	33.2	17.0	11.9				
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	9.5	31.0	5.5	26.0	10.5	30.0	13.5	18.0				
Max Q Clear Time (g_c+I1), s	5.3	7.8	3.0	16.4	10.0	25.0	12.4	2.7				
Green Ext Time (p_c), s	0.0	18.6	0.0	1.4	0.0	3.7	0.1	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	1208	337	168	385	1	208	6	141	6	4	12
Future Volume (vph)	6	1208	337	168	385	1	208	6	141	6	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3538		1681	1690	1583		1700	
Flt Permitted	0.49	1.00	1.00	0.10	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	913	3539	1583	193	3538		1681	1690	1583		1700	
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.76	0.76	0.76	0.64	0.64	0.64
Adj. Flow (vph)	7	1327	370	198	453	1	274	8	186	9	6	19
RTOR Reduction (vph)	0	0	196	0	0	0	0	0	157	0	18	0
Lane Group Flow (vph)	7	1327	174	198	454	0	140	142	29	0	16	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	34.9	34.1	34.1	45.1	39.8		11.5	11.5	11.5		2.6	
Effective Green, g (s)	34.9	34.1	34.1	45.1	39.8		11.5	11.5	11.5		2.6	
Actuated g/C Ratio	0.48	0.47	0.47	0.62	0.55		0.16	0.16	0.16		0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	447	1659	742	260	1936		265	267	250		60	
v/s Ratio Prot	0.00	0.37		c0.07	0.13		0.08	c0.08			c0.01	
v/s Ratio Perm	0.01		0.11	c0.40					0.02			
v/c Ratio	0.02	0.80	0.23	0.76	0.23		0.53	0.53	0.12		0.26	
Uniform Delay, d1	9.9	16.4	11.5	12.9	8.5		28.1	28.1	26.2		34.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	4.1	0.7	12.4	0.3		1.9	2.0	0.2		2.3	
Delay (s)	9.9	20.5	12.2	25.3	8.8		30.0	30.2	26.5		36.4	
Level of Service	A	C	B	C	A		C	C	C		D	
Approach Delay (s)		18.7			13.8			28.6			36.4	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			19.4			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			72.7			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			66.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	163.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	314	792	4	7	1371	110	2	0	8	35	3	433
Future Vol, veh/h	314	792	4	7	1371	110	2	0	8	35	3	433
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	341	861	4	8	1490	120	2	0	9	38	3	471
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1490	0	0	865	0	0	2308	3051	433	2618	3053	745
Stage 1	-	-	-	-	-	-	1546	1546	-	1505	1505	-
Stage 2	-	-	-	-	-	-	762	1505	-	1113	1548	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	447	-	-	774	-	-	21	12	571	~ 12	12	~ 357
Stage 1	-	-	-	-	-	-	120	174	-	127	182	-
Stage 2	-	-	-	-	-	-	363	182	-	222	174	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	447	-	-	774	-	-	-	3	571	~ 4	~ 3	~ 357
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	3	-	~ 4	~ 3	-
Stage 1	-	-	-	-	-	-	28	41	-	~ 30	180	-
Stage 2	-	-	-	-	-	-	-	180	-	52	41	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.8			0						\$ 1048.1		
HCM LOS							-			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	-	447	-	-	774	-	-	4	197			
HCM Lane V/C Ratio	-	0.764	-	-	0.01	-	-	9.511	2.406			
HCM Control Delay (s)	-	34.7	-	-	9.7	-	-	\$ 5562	\$ 685.7			
HCM Lane LOS	-	D	-	-	A	-	-	F	F			
HCM 95th %tile Q(veh)	-	6.5	-	-	0	-	-	6.5	39.2			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	833	1401	87	0	105
Future Vol, veh/h	0	833	1401	87	0	105
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	-	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	905	1523	95	0	114
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	761
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	-	-	-	0	348
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	348
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		20.3	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	348		
HCM Lane V/C Ratio	-	-	-	0.328		
HCM Control Delay (s)	-	-	-	20.3		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	1.4		

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	839	1435	12	0	16
Future Vol, veh/h	0	839	1435	12	0	16
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	-	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	912	1560	13	0	17

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 780
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 -	- -	0 338
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 338
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	338
HCM Lane V/C Ratio	-	-	-	0.051
HCM Control Delay (s)	-	-	-	16.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	0	1499	1095	13
Future Vol, veh/h	0	17	0	1499	1095	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	0	1629	1190	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	602	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	379	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	379	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	379	-	-		
HCM Lane V/C Ratio	-	0.049	-	-		
HCM Control Delay (s)	-	15	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.2	-	-		

Intersection												
Int Delay, s/veh	63.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	279	10	0	83	196	1393	10	66	915	100
Future Vol, veh/h	25	0	279	10	0	83	196	1393	10	66	915	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	240	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	303	11	0	90	213	1514	11	72	995	109
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2224	3143	552	2487	3193	762	1103	0	0	1525	0	0
Stage 1	1192	1192	-	1946	1946	-	-	-	-	-	-	-
Stage 2	1032	1951	-	541	1247	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	46	11	409	31	10	298	349	-	-	217	-	-
Stage 1	146	259	-	42	110	-	-	-	-	-	-	-
Stage 2	225	109	-	450	244	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 13	3	409	~ 3	3	298	349	-	-	217	-	-
Mov Cap-2 Maneuver	~ 13	3	-	~ 3	3	-	-	-	-	-	-	-
Stage 1	57	173	-	16	43	-	-	-	-	-	-	-
Stage 2	61	42	-	78	163	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	122.1			\$ 1608.4			3.7			1.8		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	349	-	-	13	409	26	217	-	-			
HCM Lane V/C Ratio	0.61	-	-	2.09	0.741	3.888	0.331	-	-			
HCM Control Delay (s)	30.2	-	-	\$ 1093.5	35.1	\$ 1608.4	29.6	-	-			
HCM Lane LOS	D	-	-	F	E	F	D	-	-			
HCM 95th %tile Q(veh)	3.8	-	-	4.2	5.9	12.4	1.4	-	-			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	85	1102	41	18	496
Future Vol, veh/h	25	85	1102	41	18	496
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	97	97	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	106	1136	42	19	517
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1453	589	0	0	1178	0
Stage 1	1157	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	121	452	-	-	589	-
Stage 1	261	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	117	452	-	-	589	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	22.5	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	117	452	589	-
HCM Lane V/C Ratio	-	-	0.267	0.235	0.032	-
HCM Control Delay (s)	-	-	46.6	15.4	11.3	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	1	0.9	0.1	-

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	780	108	87	1210	604	129	924	73	217	499	93
Future Volume (veh/h)	149	780	108	87	1210	604	129	924	73	217	499	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	162	848	117	94	1301	649	130	933	74	228	525	98
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.99	0.99	0.99	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1184	622	120	1217	688	200	1053	578	312	1168	615
Arrive On Green	0.06	0.33	0.33	0.07	0.34	0.34	0.06	0.30	0.30	0.09	0.33	0.33
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	162	848	117	94	1301	649	130	933	74	228	525	98
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	4.0	18.0	4.2	4.5	29.5	29.5	3.2	21.6	2.7	5.5	10.0	3.5
Cycle Q Clear(g_c), s	4.0	18.0	4.2	4.5	29.5	29.5	3.2	21.6	2.7	5.5	10.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	1184	622	120	1217	688	200	1053	578	312	1168	615
V/C Ratio(X)	0.81	0.72	0.19	0.78	1.07	0.94	0.65	0.89	0.13	0.73	0.45	0.16
Avail Cap(c_a), veh/h	201	1184	622	151	1217	688	269	1072	587	461	1270	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	25.0	17.1	39.4	28.2	23.3	39.6	28.7	18.1	38.0	22.6	17.1
Incr Delay (d2), s/veh	21.2	2.1	0.1	18.7	46.5	21.6	3.5	9.0	0.1	3.3	0.3	0.1
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	9.1	1.8	2.8	22.0	18.8	1.6	11.8	1.2	2.8	4.9	1.5
LnGrp Delay(d),s/veh	61.1	27.1	17.2	58.1	74.6	44.8	43.1	37.7	18.2	41.3	22.9	17.2
LnGrp LOS	E	C	B	E	F	D	D	D	B	D	C	B
Approach Vol, veh/h	1127				2044				1137			
Approach Delay, s/veh	31.0				64.4				37.1			
Approach LOS	C				E				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	30.0	10.3	33.2	9.5	32.8	9.5	34.0				
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	11.5	26.0	7.3	27.2	6.7	30.8	5.0	29.5				
Max Q Clear Time (g_c+I1), s	7.5	23.6	6.5	20.0	5.2	12.0	6.0	31.5				
Green Ext Time (p_c), s	0.3	2.0	0.0	6.7	0.1	10.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	44.9											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	699	108	173	1168	343	286	1155	129	383	1009	352
Future Volume (veh/h)	188	699	108	173	1168	343	286	1155	129	383	1009	352
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	200	744	115	182	1229	361	311	1255	140	440	1160	405
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	923	586	590	1250	763	377	1211	649	442	1307	532
Arrive On Green	0.08	0.26	0.26	0.17	0.35	0.35	0.11	0.24	0.24	0.13	0.26	0.26
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	200	744	115	182	1229	361	311	1255	140	440	1160	405
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	5.1	17.6	0.0	4.1	30.8	2.2	7.9	21.3	0.0	11.4	19.6	13.3
Cycle Q Clear(g_c), s	5.1	17.6	0.0	4.1	30.8	2.2	7.9	21.3	0.0	11.4	19.6	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	923	586	590	1250	763	377	1211	649	442	1307	532
V/C Ratio(X)	0.73	0.81	0.20	0.31	0.98	0.47	0.83	1.04	0.22	0.99	0.89	0.76
Avail Cap(c_a), veh/h	292	1199	710	590	1250	763	377	1211	649	442	1307	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	31.0	19.1	32.4	28.7	15.6	39.0	34.1	17.1	39.0	32.0	26.5
Incr Delay (d2), s/veh	8.6	3.2	0.2	0.3	21.4	0.5	13.9	35.9	0.8	41.3	9.2	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.0	1.9	2.0	18.7	5.8	4.5	13.9	2.4	7.9	10.2	8.9
LnGrp Delay(d),s/veh	48.9	34.1	19.3	32.7	50.1	16.0	52.9	70.0	17.9	80.3	41.2	36.4
LnGrp LOS	D	C	B	C	D	B	D	F	B	F	D	D
Approach Vol, veh/h	1059				1772				1706			
Approach Delay, s/veh	35.3				41.4				62.6			
Approach LOS	D				D				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	25.8	19.9	27.8	14.3	27.5	11.6	36.1				
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	11.5	21.3	8.9	30.3	9.8	23.0	7.6	31.6				
Max Q Clear Time (g_c+I1), s	13.4	23.3	6.1	19.6	9.9	21.6	7.1	32.8				
Green Ext Time (p_c), s	0.0	0.0	0.4	3.7	0.0	1.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	48.2											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	343	522	252	172	616	173	244	1206	226	226	756	186				
Future Volume (veh/h)	343	522	252	172	616	173	244	1206	226	226	756	186				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
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				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863				
Adj Flow Rate, veh/h	373	567	274	210	751	211	262	1297	243	251	840	207				
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1				
Peak Hour Factor	0.92	0.92	0.92	0.82	0.82	0.82	0.93	0.93	0.93	0.90	0.90	0.90				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	457	805	360	558	909	407	583	1507	469	334	1139	355				
Arrive On Green	0.13	0.23	0.23	0.16	0.26	0.26	0.17	0.30	0.30	0.10	0.22	0.22				
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583				
Grp Volume(v), veh/h	373	567	274	210	751	211	262	1297	243	251	840	207				
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583				
Q Serve(g_s), s	8.7	12.2	13.4	4.5	16.6	9.5	5.7	20.0	10.6	5.9	12.7	9.7				
Cycle Q Clear(g_c), s	8.7	12.2	13.4	4.5	16.6	9.5	5.7	20.0	10.6	5.9	12.7	9.7				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Lane Grp Cap(c), veh/h	457	805	360	558	909	407	583	1507	469	334	1139	355				
V/C Ratio(X)	0.82	0.70	0.76	0.38	0.83	0.52	0.45	0.86	0.52	0.75	0.74	0.58				
Avail Cap(c_a), veh/h	519	1153	516	558	1046	468	583	1564	487	394	1429	445				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	35.0	29.5	29.9	31.0	29.1	26.4	31.0	27.6	24.2	36.5	29.9	28.7				
Incr Delay (d2), s/veh	8.8	1.1	4.1	0.4	4.9	1.0	0.5	5.0	0.9	6.7	1.6	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	4.7	6.1	6.3	2.2	8.8	4.3	2.7	10.1	4.7	3.1	6.1	4.4				
LnGrp Delay(d),s/veh	43.7	30.6	34.0	31.4	34.0	27.4	31.5	32.6	25.1	43.1	31.5	30.2				
LnGrp LOS	D	C	C	C	C	C	C	C	C	D	C	C				
Approach Vol, veh/h	1214				1172				1802							
Approach Delay, s/veh	35.4				32.4				31.4							
Approach LOS	D				C				C							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	12.5	29.1	18.0	23.3	18.5	23.1	15.5	25.8								
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	9.5	25.5	10.0	27.0	11.7	23.3	12.5	24.5								
Max Q Clear Time (g_c+I1), s	7.9	22.0	6.5	15.4	7.7	14.7	10.7	18.6								
Green Ext Time (p_c), s	0.2	2.6	0.8	3.4	0.7	3.8	0.3	2.7								
Intersection Summary																
HCM 2010 Ctrl Delay	33.0															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	2	9	17	2	15	17	1779	28	24	1060	11
Future Volume (veh/h)	9	2	9	17	2	15	17	1779	28	24	1060	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	3	14	27	3	24	18	1834	29	27	1178	12
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	18	84	193	11	90	459	4063	64	284	4089	42
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.79	0.79	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1378	287	1339	1390	179	1431	469	5157	82	245	5191	53
Grp Volume(v), veh/h	14	0	17	27	0	27	18	1205	658	27	769	421
Grp Sat Flow(s),veh/h/ln	1378	0	1626	1390	0	1610	469	1695	1848	245	1695	1853
Q Serve(g_s), s	0.6	0.0	0.6	1.1	0.0	1.0	0.7	7.1	7.1	2.5	3.8	3.8
Cycle Q Clear(g_c), s	1.6	0.0	0.6	1.7	0.0	1.0	4.4	7.1	7.1	9.5	3.8	3.8
Prop In Lane	1.00		0.82	1.00		0.89	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	102	193	0	101	459	2671	1456	284	2671	1460
V/C Ratio(X)	0.08	0.00	0.17	0.14	0.00	0.27	0.04	0.45	0.45	0.10	0.29	0.29
Avail Cap(c_a), veh/h	589	0	580	601	0	574	459	2671	1456	284	2671	1460
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	26.8	27.6	0.0	26.9	2.4	2.1	2.1	3.7	1.8	1.8
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.3	0.0	1.4	0.2	0.6	1.0	0.7	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.5	0.0	0.5	0.1	3.4	3.9	0.2	1.8	2.1
LnGrp Delay(d),s/veh	27.8	0.0	27.5	27.9	0.0	28.3	2.5	2.7	3.1	4.3	2.0	2.3
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		31			54			1881			1217	
Approach Delay, s/veh		27.7			28.1			2.8			2.2	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		8.3		52.0		8.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.5		21.5		47.5		21.5				
Max Q Clear Time (g_c+I1), s		9.1		3.6		11.5		3.7				
Green Ext Time (p_c), s		32.6		0.3		30.8		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			3.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	977	15	63	1631	172	37	84	48	83	43	82
Future Volume (veh/h)	91	977	15	63	1631	172	37	84	48	83	43	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	95	1018	16	66	1717	181	52	118	68	91	47	90
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.71	0.71	0.71	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1317	21	518	1862	833	314	272	157	278	140	268
Arrive On Green	0.06	0.37	0.37	0.21	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1774	3566	56	1774	3539	1583	1247	1110	640	1193	573	1097
Grp Volume(v), veh/h	95	505	529	66	1717	181	52	0	186	91	0	137
Grp Sat Flow(s),veh/h/ln	1774	1770	1853	1774	1770	1583	1247	0	1750	1193	0	1669
Q Serve(g_s), s	0.0	19.6	19.6	0.0	34.7	4.7	2.8	0.0	7.0	5.4	0.0	5.2
Cycle Q Clear(g_c), s	0.0	19.6	19.6	0.0	34.7	4.7	8.0	0.0	7.0	12.4	0.0	5.2
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.37	1.00		0.66
Lane Grp Cap(c), veh/h	191	654	684	518	1862	833	314	0	428	278	0	409
V/C Ratio(X)	0.50	0.77	0.77	0.13	0.92	0.22	0.17	0.00	0.43	0.33	0.00	0.34
Avail Cap(c_a), veh/h	241	978	1024	518	1892	847	314	0	428	278	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	21.6	21.6	21.4	16.9	9.8	27.4	0.0	24.8	30.0	0.0	24.1
Incr Delay (d2), s/veh	2.0	2.2	2.1	0.1	8.0	0.1	1.1	0.0	3.2	3.1	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.9	10.4	1.1	18.8	2.1	1.1	0.0	3.7	2.0	0.0	2.6
LnGrp Delay(d),s/veh	36.6	23.8	23.7	21.5	24.9	10.0	28.5	0.0	27.9	33.1	0.0	26.3
LnGrp LOS	D	C	C	C	C	A	C		C	C		C
Approach Vol, veh/h	1129			1964			238			228		
Approach Delay, s/veh	24.8			23.4			28.1			29.0		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	20.9	33.2		23.5	8.8	45.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	5.1	42.9		19.0	6.5	41.5				
Max Q Clear Time (g_c+I1), s		10.0	2.0	21.6		14.4	2.0	36.7				
Green Ext Time (p_c), s		1.7	0.1	7.1		1.0	0.1	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	1034	373	0	500	97	122	383	487	229	632	0
Future Volume (veh/h)	0	1034	373	0	500	97	122	383	487	229	632	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	1066	385	0	515	100	145	456	0	246	680	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.84	0.84	0.84	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1856	578	0	1856	578	299	917	410	363	1411	0
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.09	0.26	0.00	0.11	0.28	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	1066	385	0	515	100	145	456	0	246	680	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	8.4	10.2	0.0	3.6	2.1	2.0	5.5	0.0	3.4	5.6	0.0
Cycle Q Clear(g_c), s	0.0	8.4	10.2	0.0	3.6	2.1	2.0	5.5	0.0	3.4	5.6	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1856	578	0	1856	578	299	917	410	363	1411	0
V/C Ratio(X)	0.00	0.57	0.67	0.00	0.28	0.17	0.49	0.50	0.00	0.68	0.48	0.00
Avail Cap(c_a), veh/h	0	1856	578	0	1856	578	345	1277	571	366	1866	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.7	13.3	0.0	11.2	10.7	21.7	15.7	0.0	21.5	15.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	6.0	0.0	0.4	0.7	1.2	0.4	0.0	4.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	5.3	0.0	1.7	1.0	1.0	2.7	0.0	1.9	2.6	0.0
LnGrp Delay(d),s/veh	0.0	14.0	19.3	0.0	11.6	11.4	22.9	16.1	0.0	26.4	15.3	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		1451			615			601			926	
Approach Delay, s/veh		15.4			11.5			17.8			18.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	9.8	17.4		22.7	8.8	18.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.2	5.3	18.0		18.2	5.0	18.3				
Max Q Clear Time (g_c+I1), s		12.2	5.4	7.5		5.6	4.0	7.6				
Green Ext Time (p_c), s		4.9	0.0	5.5		9.3	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	916	66	159	1541	213	97	198	106	222	175	141
Future Volume (veh/h)	165	916	66	159	1541	213	97	198	106	222	175	141
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	172	954	69	164	1589	220	110	225	120	247	194	157
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	1159	606	366	1416	749	395	290	155	284	961	430
Arrive On Green	0.07	0.33	0.33	0.14	0.40	0.40	0.05	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1145	610	1774	3539	1583
Grp Volume(v), veh/h	172	954	69	164	1589	220	110	0	345	247	194	157
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1755	1774	1770	1583
Q Serve(g_s), s	4.4	22.0	0.0	1.6	35.5	1.1	0.0	0.0	16.2	4.3	3.7	7.1
Cycle Q Clear(g_c), s	4.4	22.0	0.0	1.6	35.5	1.1	0.0	0.0	16.2	4.3	3.7	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	207	1159	606	366	1416	749	395	0	445	284	961	430
V/C Ratio(X)	0.83	0.82	0.11	0.45	1.12	0.29	0.28	0.00	0.78	0.87	0.20	0.37
Avail Cap(c_a), veh/h	211	1384	706	366	1416	749	416	0	445	304	961	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	27.5	17.7	32.2	26.6	14.3	26.8	0.0	30.8	37.9	24.9	26.1
Incr Delay (d2), s/veh	23.5	3.5	0.1	0.9	65.0	0.2	0.4	0.0	12.4	21.9	0.5	2.4
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	5.5	11.3	1.1	3.6	29.9	0.4	2.2	0.0	9.4	7.6	1.9	3.4
LnGrp Delay(d),s/veh	62.8	31.0	17.8	33.1	91.6	14.5	27.1	0.0	43.2	59.8	25.4	28.5
LnGrp LOS	E	C	B	C	F	B	C		D	E	C	C
Approach Vol, veh/h		1195			1973			455			598	
Approach Delay, s/veh		34.8			78.2			39.3			40.4	
Approach LOS		C			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	27.0	17.2	33.6	9.4	28.6	10.8	40.0				
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	7.5	22.5	7.3	34.7	5.9	24.1	6.5	35.5				
Max Q Clear Time (g_c+I1), s	6.3	18.2	3.6	24.0	2.0	9.1	6.4	37.5				
Green Ext Time (p_c), s	0.1	0.8	0.4	5.0	0.4	1.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				56.4								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	368	2	306	128	11	53	365	1218	10	106	747	396
Future Volume (veh/h)	368	2	306	128	11	53	365	1218	10	106	747	396
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	387	2	322	141	12	58	388	1296	11	114	803	426
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	2	354	177	39	187	414	1973	17	144	1155	360
Arrive On Green	0.19	0.22	0.22	0.10	0.14	0.14	0.23	0.38	0.38	0.08	0.23	0.23
Sat Flow, veh/h	1774	10	1575	1774	279	1347	1774	5201	44	1774	5085	1583
Grp Volume(v), veh/h	387	0	324	141	0	70	388	845	462	114	803	426
Grp Sat Flow(s),veh/h/ln	1774	0	1585	1774	0	1625	1774	1695	1855	1774	1695	1583
Q Serve(g_s), s	15.5	0.0	16.7	6.5	0.0	3.2	18.0	17.2	17.2	5.3	12.1	19.0
Cycle Q Clear(g_c), s	15.5	0.0	16.7	6.5	0.0	3.2	18.0	17.2	17.2	5.3	12.1	19.0
Prop In Lane	1.00		0.99	1.00		0.83	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	329	0	356	177	0	226	414	1286	704	144	1155	360
V/C Ratio(X)	1.18	0.00	0.91	0.80	0.00	0.31	0.94	0.66	0.66	0.79	0.70	1.18
Avail Cap(c_a), veh/h	329	0	364	303	0	350	414	1286	704	159	1155	360
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	0.0	31.6	36.8	0.0	32.4	31.5	21.5	21.5	37.8	29.7	32.3
Incr Delay (d2), s/veh	106.9	0.0	25.7	8.0	0.0	0.8	29.1	2.6	4.8	21.8	3.5	107.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.2	0.0	9.8	3.6	0.0	1.5	12.1	8.4	9.7	3.5	6.0	19.0
LnGrp Delay(d),s/veh	140.9	0.0	57.3	44.8	0.0	33.2	60.6	24.1	26.2	59.5	33.1	140.1
LnGrp LOS	F		E	D		C	E	C	C	E	C	F
Approach Vol, veh/h	711					211		1695			1343	
Approach Delay, s/veh	102.8					40.9		33.0			69.3	
Approach LOS	F					D		C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	36.2	12.8	23.3	24.0	23.5	20.0	16.1				
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	7.5	31.0	14.3	19.2	19.5	19.0	15.5	18.0				
Max Q Clear Time (g_c+I1), s	7.3	19.2	8.5	18.7	20.0	21.0	17.5	5.2				
Green Ext Time (p_c), s	0.0	9.9	0.2	0.1	0.0	0.0	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			58.3									
HCM 2010 LOS			E									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	677	255	161	744	7	650	3	238	4	2	8
Future Volume (vph)	1	677	255	161	744	7	650	3	238	4	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3534		1681	1686	1583		1695	
Flt Permitted	0.31	1.00	1.00	0.21	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	573	3539	1583	395	3534		1681	1686	1583		1695	
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.90	0.90	0.90	0.75	0.75	0.75
Adj. Flow (vph)	1	728	274	185	855	8	722	3	264	5	3	11
RTOR Reduction (vph)	0	0	179	0	1	0	0	0	190	0	11	0
Lane Group Flow (vph)	1	728	95	185	862	0	361	364	74	0	8	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	26.6	25.8	25.8	38.8	33.5		20.9	20.9	20.9		1.3	
Effective Green, g (s)	26.6	25.8	25.8	38.8	33.5		20.9	20.9	20.9		1.3	
Actuated g/C Ratio	0.36	0.35	0.35	0.52	0.45		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	217	1225	548	362	1589		471	472	444		29	
v/s Ratio Prot	0.00	0.21		c0.06	c0.24		0.21	c0.22			c0.00	
v/s Ratio Perm	0.00		0.06	0.21					0.05			
v/c Ratio	0.00	0.59	0.17	0.51	0.54		0.77	0.77	0.17		0.28	
Uniform Delay, d1	15.4	20.0	16.9	11.1	14.9		24.6	24.6	20.2		36.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.1	0.7	1.2	1.3		7.3	7.6	0.2		5.3	
Delay (s)	15.4	22.2	17.6	12.4	16.3		31.9	32.2	20.4		41.4	
Level of Service	B	C	B	B	B		C	C	C		D	
Approach Delay (s)		20.9			15.6			28.9			41.4	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			21.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			74.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			63.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	964	3	2	733	14	6	0	2	2	0	22
Future Vol, veh/h	49	964	3	2	733	14	6	0	2	2	0	22
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	0	-	-	0	-	0	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1048	3	2	797	15	7	0	2	2	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	797	0	0	1051	0	0	1559	1957	526	1431	1959	398
Stage 1	-	-	-	-	-	-	1156	1156	-	801	801	-
Stage 2	-	-	-	-	-	-	403	801	-	630	1158	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	821	-	-	658	-	-	76	63	496	95	63	601
Stage 1	-	-	-	-	-	-	209	269	-	344	395	-
Stage 2	-	-	-	-	-	-	595	395	-	436	269	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	821	-	-	658	-	-	69	59	496	90	59	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	69	59	-	90	59	-
Stage 1	-	-	-	-	-	-	196	252	-	322	394	-
Stage 2	-	-	-	-	-	-	570	394	-	406	252	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	50.3	14.1
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	88	821	-	-	658	-	-	90	601
HCM Lane V/C Ratio	0.099	0.065	-	-	0.003	-	-	0.024	0.04
HCM Control Delay (s)	50.3	9.7	-	-	10.5	-	-	46	11.2
HCM Lane LOS	F	A	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	0.1	0.1

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	967	727	22	0	11
Future Vol, veh/h	0	967	727	22	0	11
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	-	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	1051	790	24	0	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 395
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 -	- -	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	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	604
HCM Lane V/C Ratio	-	-	-	0.02
HCM Control Delay (s)	-	-	-	11.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	983	741	1	0	1
Future Vol, veh/h	0	983	741	1	0	1
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	-	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	1068	805	1	0	1
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	403
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	-	-	-	0	597
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	597
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		11	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	597		
HCM Lane V/C Ratio	-	-	-	0.002		
HCM Control Delay (s)	-	-	-	11		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	818	1629	10
Future Vol, veh/h	0	1	0	818	1629	10
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	1	0	889	1771	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	891	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	245	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	245	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	245	-	-		
HCM Lane V/C Ratio	-	0.004	-	-		
HCM Control Delay (s)	-	19.8	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0	-	-		

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	24	5	0	10	21	701	17	64	1670	8
Future Vol, veh/h	0	0	24	5	0	10	21	701	17	64	1670	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	26	5	0	11	23	762	18	70	1815	9
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2309	2785	912	1682	2780	390	1824	0	0	780	0	0
Stage 1	1959	1959	-	817	817	-	-	-	-	-	-	-
Stage 2	350	826	-	865	1963	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	41	19	237	100	19	520	153	-	-	499	-	-
Stage 1	41	108	-	266	388	-	-	-	-	-	-	-
Stage 2	586	385	-	285	108	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	36	16	237	79	16	520	153	-	-	499	-	-
Mov Cap-2 Maneuver	36	16	-	79	16	-	-	-	-	-	-	-
Stage 1	35	108	-	226	330	-	-	-	-	-	-	-
Stage 2	488	327	-	254	108	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	22.1			26.7			0.9			0.5		
HCM LOS	C			D								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	153	-	-	-	237	182	499	-	-			
HCM Lane V/C Ratio	0.149	-	-	-	0.11	0.09	0.139	-	-			
HCM Control Delay (s)	32.6	-	-	0	22.1	26.7	13.4	-	-			
HCM Lane LOS	D	-	-	A	C	D	B	-	-			
HCM 95th %tile Q(veh)	0.5	-	-	-	0.4	0.3	0.5	-	-			

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	37	444	13	50	981
Future Vol, veh/h	39	37	444	13	50	981
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	40	483	14	54	1066
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1132	248	0	0	497	0
Stage 1	490	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	197	752	-	-	1063	-
Stage 1	581	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	752	-	-	1063	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	20.2	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 187 752 1063	-	-		
HCM Lane V/C Ratio	-	- 0.227 0.053 0.051	-	-		
HCM Control Delay (s)	-	- 29.8 10.1 8.6	-	-		
HCM Lane LOS	-	- D B A	-	-		
HCM 95th %tile Q(veh)	-	- 0.8 0.2 0.2	-	-		

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	970	150	101	642	168	80	563	67	373	1171	129
Future Volume (veh/h)	110	970	150	101	642	168	80	563	67	373	1171	129
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	120	1054	163	110	698	183	87	612	73	405	1273	140
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1012	551	140	1046	594	214	953	552	273	1015	564
Arrive On Green	0.07	0.29	0.29	0.08	0.30	0.30	0.06	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	120	1054	163	110	698	183	87	612	73	405	1273	140
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.1	18.0	4.7	3.8	10.9	5.1	1.5	9.6	2.0	5.0	18.0	3.9
Cycle Q Clear(g_c), s	2.1	18.0	4.7	3.8	10.9	5.1	1.5	9.6	2.0	5.0	18.0	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1012	551	140	1046	594	214	953	552	273	1015	564
V/C Ratio(X)	0.50	1.04	0.30	0.78	0.67	0.31	0.41	0.64	0.13	1.48	1.25	0.25
Avail Cap(c_a), veh/h	273	1012	551	141	1046	594	273	1012	578	273	1015	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	22.5	14.9	28.4	19.5	13.9	28.4	20.3	14.0	29.0	22.4	14.3
Incr Delay (d2), s/veh	1.6	39.6	0.3	24.4	1.6	0.3	1.2	1.3	0.1	235.1	122.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	14.3	2.1	2.8	5.6	2.3	0.8	4.8	0.9	11.3	26.0	1.7
LnGrp Delay(d),s/veh	29.8	62.0	15.2	52.8	21.1	14.2	29.6	21.6	14.1	264.1	145.1	14.5
LnGrp LOS	C	F	B	D	C	B	C	C	B	F	F	B
Approach Vol, veh/h	1337				991				772			
Approach Delay, s/veh	53.4				23.3				21.8			
Approach LOS	D				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	21.4	9.5	22.5	8.4	22.5	8.9	23.1				
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	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	11.6	5.8	20.0	3.5	20.0	4.1	12.9				
Green Ext Time (p_c), s	0.0	5.3	0.0	0.0	0.0	0.0	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay	82.4											
HCM 2010 LOS	F											

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	166	847	256	200	726	192	214	725	121	408	1114	160
Future Volume (veh/h)	166	847	256	200	726	192	214	725	121	408	1114	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	182	931	281	222	807	213	249	843	141	429	1173	168
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	396	1104	655	306	1011	699	350	1156	500	536	1431	628
Arrive On Green	0.12	0.31	0.31	0.09	0.29	0.29	0.10	0.23	0.23	0.16	0.28	0.28
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	182	931	281	222	807	213	249	843	141	429	1173	168
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	4.1	20.4	2.1	5.2	17.6	0.0	5.8	12.8	0.0	10.0	17.9	0.0
Cycle Q Clear(g_c), s	4.1	20.4	2.1	5.2	17.6	0.0	5.8	12.8	0.0	10.0	17.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	1104	655	306	1011	699	350	1156	500	536	1431	628
V/C Ratio(X)	0.46	0.84	0.43	0.73	0.80	0.30	0.71	0.73	0.28	0.80	0.82	0.27
Avail Cap(c_a), veh/h	396	1226	709	401	1272	816	418	1156	500	604	1431	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	26.7	17.4	36.9	27.5	15.0	36.2	29.8	21.4	33.9	27.9	16.9
Incr Delay (d2), s/veh	0.8	5.1	0.4	4.5	2.9	0.2	4.5	4.1	1.4	6.8	5.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	10.7	4.5	2.7	8.9	3.2	3.0	6.4	2.6	5.3	9.1	2.7
LnGrp Delay(d),s/veh	35.2	31.8	17.8	41.4	30.4	15.2	40.7	33.8	22.8	40.7	33.3	18.0
LnGrp LOS	D	C	B	D	C	B	D	C	C	D	C	B
Approach Vol, veh/h	1394				1242				1233			
Approach Delay, s/veh	29.5				29.8				34.0			
Approach LOS	C				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	23.4	11.9	30.4	12.9	27.9	14.1	28.3				
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	14.6	18.9	9.7	28.8	10.1	23.4	8.6	29.9				
Max Q Clear Time (g_c+I1), s	12.0	14.8	7.2	22.4	7.8	19.9	6.1	19.6				
Green Ext Time (p_c), s	0.7	2.1	0.2	3.5	0.6	2.4	0.4	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay	31.8											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	217	730	440	252	373	105	230	692	223	243	1197	138
Future Volume (veh/h)	217	730	440	252	373	105	230	692	223	243	1197	138
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	265	890	537	307	455	128	256	769	248	276	1360	157
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	783	1028	460	382	616	276	333	1095	341	613	1509	470
Arrive On Green	0.23	0.29	0.29	0.11	0.17	0.17	0.10	0.22	0.22	0.18	0.30	0.30
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	265	890	537	307	455	128	256	769	248	276	1360	157
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	5.7	20.9	25.5	7.6	10.7	6.4	6.4	12.3	12.8	6.3	22.5	6.8
Cycle Q Clear(g_c), s	5.7	20.9	25.5	7.6	10.7	6.4	6.4	12.3	12.8	6.3	22.5	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	783	1028	460	382	616	276	333	1095	341	613	1509	470
V/C Ratio(X)	0.34	0.87	1.17	0.80	0.74	0.46	0.77	0.70	0.73	0.45	0.90	0.33
Avail Cap(c_a), veh/h	783	1028	460	412	1044	467	372	1454	453	613	1535	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	29.5	31.1	38.1	34.4	32.6	38.7	31.8	32.0	32.2	29.6	24.1
Incr Delay (d2), s/veh	0.3	7.9	96.7	10.3	1.8	1.2	8.5	1.0	4.0	0.5	7.6	0.4
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	11.3	23.5	4.2	5.4	2.9	3.4	5.8	5.9	3.0	11.5	3.0
LnGrp Delay(d),s/veh	28.6	37.4	127.8	48.4	36.1	33.8	47.2	32.8	36.0	32.8	37.3	24.5
LnGrp LOS	C	D	F	D	D	C	D	C	D	C	D	C
Approach Vol, veh/h	1692				890				1273			
Approach Delay, s/veh	64.7				40.0				36.4			
Approach LOS	E				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.1	23.4	14.3	30.0	13.0	30.6	24.5	19.8				
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	10.9	25.1	10.5	25.5	9.5	26.5	10.1	25.9				
Max Q Clear Time (g_c+I1), s	8.3	14.8	9.6	27.5	8.4	24.5	7.7	12.7				
Green Ext Time (p_c), s	0.5	4.1	0.1	0.0	0.1	1.5	0.6	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay	45.1											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	21	36	88	3	73	5	891	84	91	1566	5
Future Volume (veh/h)	9	21	36	88	3	73	5	891	84	91	1566	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	13	31	54	187	6	155	5	938	88	101	1740	6
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.67	0.67	0.67	0.47	0.47	0.47	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	141	246	354	14	355	231	3014	282	405	3332	11
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1220	611	1064	1307	59	1533	275	4732	443	547	5232	18
Grp Volume(v), veh/h	13	0	85	187	0	161	5	671	355	101	1128	618
Grp Sat Flow(s),veh/h/ln	1220	0	1675	1307	0	1592	275	1695	1785	547	1695	1860
Q Serve(g_s), s	0.6	0.0	2.8	9.2	0.0	5.9	0.7	6.1	6.2	7.0	12.4	12.4
Cycle Q Clear(g_c), s	6.5	0.0	2.8	12.0	0.0	5.9	13.0	6.1	6.2	13.2	12.4	12.4
Prop In Lane	1.00		0.64	1.00		0.96	1.00		0.25	1.00		0.01
Lane Grp Cap(c), veh/h	282	0	387	354	0	368	231	2159	1137	405	2159	1184
V/C Ratio(X)	0.05	0.00	0.22	0.53	0.00	0.44	0.02	0.31	0.31	0.25	0.52	0.52
Avail Cap(c_a), veh/h	473	0	650	559	0	618	231	2159	1137	405	2159	1184
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	21.3	26.1	0.0	22.4	10.3	5.6	5.6	8.6	6.7	6.7
Incr Delay (d2), s/veh	0.1	0.0	0.3	1.2	0.0	0.8	0.2	0.4	0.7	1.5	0.9	1.6
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	0.2	0.0	1.3	3.4	0.0	2.7	0.1	2.9	3.2	1.2	5.9	6.7
LnGrp Delay(d),s/veh	25.3	0.0	21.5	27.4	0.0	23.3	10.5	6.0	6.3	10.1	7.7	8.4
LnGrp LOS	C		C	C		C	B	A	A	B	A	A
Approach Vol, veh/h		98			348			1031			1847	
Approach Delay, s/veh		22.0			25.5			6.1			8.0	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		20.3		48.0		20.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		26.5		43.5		26.5				
Max Q Clear Time (g_c+I1), s		15.0		8.5		15.2		14.0				
Green Ext Time (p_c), s		23.9		2.0		23.9		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			9.7									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	890	17	30	744	82	26	46	28	155	83	74
Future Volume (veh/h)	51	890	17	30	744	82	26	46	28	155	83	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	899	17	33	818	90	28	49	30	163	87	78
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.99	0.99	0.99	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	1208	23	235	1148	514	541	449	275	621	376	337
Arrive On Green	0.05	0.34	0.34	0.03	0.32	0.32	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1774	3553	67	1774	3539	1583	1216	1083	663	1314	907	813
Grp Volume(v), veh/h	52	448	468	33	818	90	28	0	79	163	0	165
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1216	0	1746	1314	0	1719
Q Serve(g_s), s	0.0	14.3	14.3	0.0	13.0	2.6	1.0	0.0	1.8	5.6	0.0	4.0
Cycle Q Clear(g_c), s	0.0	14.3	14.3	0.0	13.0	2.6	5.0	0.0	1.8	7.3	0.0	4.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.38	1.00		0.47
Lane Grp Cap(c), veh/h	276	602	629	235	1148	514	541	0	723	621	0	712
V/C Ratio(X)	0.19	0.74	0.74	0.14	0.71	0.18	0.05	0.00	0.11	0.26	0.00	0.23
Avail Cap(c_a), veh/h	367	899	940	354	1798	805	541	0	723	621	0	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	18.7	18.7	25.3	19.0	15.5	13.7	0.0	11.5	13.7	0.0	12.1
Incr Delay (d2), s/veh	0.3	1.9	1.8	0.3	0.8	0.2	0.2	0.0	0.3	1.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.3	7.6	0.5	6.5	1.1	0.4	0.0	0.9	2.2	0.0	2.0
LnGrp Delay(d),s/veh	24.3	20.5	20.4	25.5	19.8	15.6	13.9	0.0	11.8	14.8	0.0	12.9
LnGrp LOS	C	C	C	C	B	B	B		B	B		B
Approach Vol, veh/h		968			941			107			328	
Approach Delay, s/veh		20.7			19.6			12.4			13.8	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	6.7	26.2		31.0	7.7	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	6.5	32.5		26.5	6.5	32.5				
Max Q Clear Time (g_c+I1), s		7.0	2.0	16.3		9.3	2.0	15.0				
Green Ext Time (p_c), s		2.0	0.1	5.4		1.9	0.1	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay				18.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	406	193	0	792	131	67	425	570	252	270	0
Future Volume (veh/h)	0	406	193	0	792	131	67	425	570	252	270	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	483	230	0	1015	168	74	472	0	274	293	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.84	0.84	0.92	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1934	602	0	1934	602	224	833	373	363	1401	0
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.07	0.24	0.00	0.11	0.28	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	483	230	0	1015	168	74	472	0	274	293	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	3.1	5.1	0.0	7.5	3.6	1.0	5.7	0.0	3.7	2.1	0.0
Cycle Q Clear(g_c), s	0.0	3.1	5.1	0.0	7.5	3.6	1.0	5.7	0.0	3.7	2.1	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1934	602	0	1934	602	224	833	373	363	1401	0
V/C Ratio(X)	0.00	0.25	0.38	0.00	0.52	0.28	0.33	0.57	0.00	0.76	0.21	0.00
Avail Cap(c_a), veh/h	0	1934	602	0	1934	602	356	1317	589	363	1902	0
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)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	10.3	10.9	0.0	11.6	10.4	21.6	16.3	0.0	21.0	13.5	0.0
Incr Delay (d2), s/veh	0.0	0.3	1.8	0.0	1.0	1.2	0.9	0.6	0.0	8.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	2.5	0.0	3.7	1.7	0.5	2.8	0.0	2.2	1.0	0.0
LnGrp Delay(d),s/veh	0.0	10.6	12.7	0.0	12.6	11.5	22.5	16.9	0.0	29.8	13.5	0.0
LnGrp LOS		B	B		B	B	C	B		C	B	
Approach Vol, veh/h		713			1183			546			567	
Approach Delay, s/veh		11.3			12.5			17.7			21.4	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	9.6	15.9		22.9	7.7	17.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.1	18.0		18.4	5.0	18.1				
Max Q Clear Time (g_c+l1), s		7.1	5.7	7.7		9.5	3.0	4.1				
Green Ext Time (p_c), s		8.1	0.0	3.7		6.7	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay				14.8								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1030	50	113	964	163	72	148	90	238	214	176
Future Volume (veh/h)	142	1030	50	113	964	163	72	148	90	238	214	176
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	154	1120	54	114	974	165	77	157	96	248	223	183
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1299	660	201	1166	702	372	270	165	398	1109	496
Arrive On Green	0.09	0.37	0.37	0.06	0.33	0.33	0.05	0.25	0.25	0.11	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1083	662	1774	3539	1583
Grp Volume(v), veh/h	154	1120	54	114	974	165	77	0	253	248	223	183
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1746	1774	1770	1583
Q Serve(g_s), s	1.1	24.6	0.0	0.2	21.4	0.0	0.0	0.0	10.7	1.3	3.9	7.5
Cycle Q Clear(g_c), s	1.1	24.6	0.0	0.2	21.4	0.0	0.0	0.0	10.7	1.3	3.9	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	284	1299	660	201	1166	702	372	0	435	398	1109	496
V/C Ratio(X)	0.54	0.86	0.08	0.57	0.84	0.24	0.21	0.00	0.58	0.62	0.20	0.37
Avail Cap(c_a), veh/h	320	1413	711	253	1312	767	392	0	435	418	1109	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	24.6	14.8	37.2	26.0	14.5	25.4	0.0	27.7	31.2	21.1	22.4
Incr Delay (d2), s/veh	1.6	5.4	0.1	2.5	4.4	0.2	0.3	0.0	5.6	2.7	0.4	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	13.0	0.8	2.6	11.1	2.4	1.5	0.0	5.8	5.5	2.0	3.6
LnGrp Delay(d),s/veh	35.6	30.0	14.8	39.7	30.4	14.7	25.7	0.0	33.3	33.8	21.5	24.5
LnGrp LOS	D	C	B	D	C	B	C		C	C	C	C
Approach Vol, veh/h		1328			1253			330			654	
Approach Delay, s/veh		30.0			29.2			31.5			27.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	25.4	9.1	35.3	8.7	30.8	12.3	32.1				
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	10.5	20.9	7.1	33.5	5.1	26.3	9.5	31.1				
Max Q Clear Time (g_c+I1), s	3.3	12.7	2.2	26.6	2.0	9.5	3.1	23.4				
Green Ext Time (p_c), s	0.6	0.9	0.3	4.2	0.3	1.8	0.4	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			29.3									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	3	223	16	5	6	182	584	53	77	1662	379
Future Volume (veh/h)	180	3	223	16	5	6	182	584	53	77	1662	379
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	257	4	319	25	8	10	196	628	57	85	1826	416
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	4	352	47	122	152	222	2243	202	111	2081	648
Arrive On Green	0.09	0.22	0.22	0.03	0.16	0.16	0.13	0.47	0.47	0.06	0.41	0.41
Sat Flow, veh/h	1774	20	1567	1774	754	942	1774	4750	428	1774	5085	1583
Grp Volume(v), veh/h	257	0	323	25	0	18	196	447	238	85	1826	416
Grp Sat Flow(s),veh/h/ln	1774	0	1586	1774	0	1696	1774	1695	1787	1774	1695	1583
Q Serve(g_s), s	7.5	0.0	16.6	1.2	0.0	0.8	9.1	6.7	6.8	4.0	27.7	17.7
Cycle Q Clear(g_c), s	7.5	0.0	16.6	1.2	0.0	0.8	9.1	6.7	6.8	4.0	27.7	17.7
Prop In Lane	1.00		0.99	1.00		0.56	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	159	0	356	47	0	274	222	1601	844	111	2081	648
V/C Ratio(X)	1.62	0.00	0.91	0.54	0.00	0.07	0.88	0.28	0.28	0.77	0.88	0.64
Avail Cap(c_a), veh/h	159	0	369	127	0	364	222	1601	844	311	2183	680
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	0.0	31.7	40.3	0.0	29.8	36.1	13.5	13.5	38.7	22.8	19.8
Incr Delay (d2), s/veh	305.8	0.0	24.9	9.2	0.0	0.1	31.2	0.4	0.8	10.6	4.3	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.1	0.0	9.7	0.7	0.0	0.4	6.4	3.2	3.5	2.3	13.7	8.0
LnGrp Delay(d),s/veh	344.0	0.0	56.5	49.5	0.0	29.9	67.2	13.9	14.3	49.4	27.1	21.8
LnGrp LOS	F		E	D		C	E	B	B	D	C	C
Approach Vol, veh/h	580					43		881		2327		
Approach Delay, s/veh	183.9					41.3		25.9		27.0		
Approach LOS	F					D		C		C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	44.1	6.7	23.3	15.0	38.8	12.0	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	14.7	31.8	6.0	19.5	10.5	36.0	7.5	18.0				
Max Q Clear Time (g_c+I1), s	6.0	8.8	3.2	18.6	11.1	29.7	9.5	2.8				
Green Ext Time (p_c), s	0.1	19.6	0.0	0.2	0.0	4.6	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			50.6									
HCM 2010 LOS			D									

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	1322	372	185	425	1	230	7	156	6	5	14
Future Volume (vph)	7	1322	372	185	425	1	230	7	156	6	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	3538		1681	1690	1583		1701	
Flt Permitted	0.47	1.00	1.00	0.10	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	872	3539	1583	193	3538		1681	1690	1583		1701	
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.76	0.76	0.76	0.64	0.64	0.64
Adj. Flow (vph)	8	1453	409	218	500	1	303	9	205	9	8	22
RTOR Reduction (vph)	0	0	223	0	0	0	0	0	171	0	21	0
Lane Group Flow (vph)	8	1453	186	218	501	0	155	157	34	0	18	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	35.0	34.1	34.1	45.1	39.7		12.3	12.3	12.3		3.9	
Effective Green, g (s)	35.0	34.1	34.1	45.1	39.7		12.3	12.3	12.3		3.9	
Actuated g/C Ratio	0.47	0.46	0.46	0.60	0.53		0.16	0.16	0.16		0.05	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	418	1613	721	253	1877		276	277	260		88	
v/s Ratio Prot	0.00	0.41		c0.07	0.14		0.09	c0.09			c0.01	
v/s Ratio Perm	0.01		0.12	c0.44					0.02			
v/c Ratio	0.02	0.90	0.26	0.86	0.27		0.56	0.57	0.13		0.21	
Uniform Delay, d1	10.6	18.8	12.6	16.8	9.6		28.8	28.8	26.7		34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	8.5	0.9	24.6	0.3		2.6	2.7	0.2		1.2	
Delay (s)	10.7	27.3	13.4	41.4	9.9		31.4	31.4	26.9		35.1	
Level of Service	B	C	B	D	A		C	C	C		D	
Approach Delay (s)		24.2			19.5			29.6			35.1	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			74.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			71.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	505.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	327	879	5	8	1526	115	9	0	2	36	3	450
Future Vol, veh/h	327	879	5	8	1526	115	9	0	2	36	3	450
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	215	-	-	170	-	0	-	-	-	215	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	355	955	5	9	1659	125	10	0	2	39	3	489
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1659	0	0	961	0	0	2517	3345	480	2865	3348	829
Stage 1	-	-	-	-	-	-	1669	1669	-	1676	1676	-
Stage 2	-	-	-	-	-	-	848	1676	-	1189	1672	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	384	-	-	712	-	-	14	8	532	~ 8	8	~ 314
Stage 1	-	-	-	-	-	-	100	151	-	99	150	-
Stage 2	-	-	-	-	-	-	322	150	-	199	151	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	384	-	-	712	-	-	-	1	532	~ 1	~ 1	~ 314
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	1	-	~ 1	~ 1	-
Stage 1	-	-	-	-	-	-	~ 8	11	-	~ 7	148	-
Stage 2	-	-	-	-	-	-	-	148	-	~ 15	11	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	16.8			0						\$ 3431.7		
HCM LOS							-			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	-	384	-	-	712	-	-	1	102			
HCM Lane V/C Ratio	-	0.926	-	-	0.012	-	-	39.13	4.827			
HCM Control Delay (s)	-	62.3	-	-	10.1	-	\$ 23888.9	\$ 1806				
HCM Lane LOS	-	F	-	-	B	-	-	F	F			
HCM 95th %tile Q(veh)	-	9.9	-	-	0	-	-	6.9	52.3			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	920	1547	91	0	109
Future Vol, veh/h	0	920	1547	91	0	109
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	-	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	1000	1682	99	0	118

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 841
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 -	- -	0 308
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 308
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	308
HCM Lane V/C Ratio	-	-	-	0.385
HCM Control Delay (s)	-	-	-	23.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.7

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	926	1584	12	0	17
Future Vol, veh/h	0	926	1584	12	0	17
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	-	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	1007	1722	13	0	18

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 861
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 -	- -	0 299
Stage 1	0 -	- -	0 -
Stage 2	0 -	- -	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- -	- -	- 299
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	299
HCM Lane V/C Ratio	-	-	-	0.062
HCM Control Delay (s)	-	-	-	17.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	0	1655	1208	13
Future Vol, veh/h	0	18	0	1655	1208	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	0	1799	1313	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	664	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	346	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	346	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	346	-	-
HCM Lane V/C Ratio	-	0.057	-	-
HCM Control Delay (s)	-	16	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection												
Int Delay, s/veh	212.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	289	11	0	92	205	1538	11	72	1010	105
Future Vol, veh/h	26	0	289	11	0	92	205	1538	11	72	1010	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	240	-	-	240	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	314	12	0	100	223	1672	12	78	1098	114
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2425	3440	606	2719	3491	842	1212	0	0	1684	0	0
Stage 1	1311	1311	-	2123	2123	-	-	-	-	-	-	-
Stage 2	1114	2129	-	596	1368	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	34	7	377	22	6	264	309	-	-	180	-	-
Stage 1	120	227	-	31	89	-	-	-	-	-	-	-
Stage 2	200	89	-	417	213	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 6	1	377	~ 1	1	264	309	-	-	180	-	-
Mov Cap-2 Maneuver	~ 6	1	-	~ 1	1	-	-	-	-	-	-	-
Stage 1	33	129	-	~ 9	25	-	-	-	-	-	-	-
Stage 2	35	25	-	39	121	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	278.4			\$ 5956.2			4.9			2.4		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	309	-	-	6	377	9	180	-	-			
HCM Lane V/C Ratio	0.721	-	-	4.71	0.833	12.44	0.435	-	-			
HCM Control Delay (s)	41.8	-	-	\$ 2842.9	47.5	\$ 5956.2	39.6	-	-			
HCM Lane LOS	E	-	-	F	E	F	E	-	-			
HCM 95th %tile Q(veh)	5.2	-	-	4.9	7.6	15.6	2	-	-			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	94	1192	44	20	538
Future Vol, veh/h	28	94	1192	44	20	538
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	170	0	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	97	97	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	118	1229	45	21	560
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1574	637	0	0	1274	0
Stage 1	1252	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	101	420	-	-	541	-
Stage 1	233	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	97	420	-	-	541	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	233	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.2	0		0.4		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 97 420	541	-		
HCM Lane V/C Ratio	-	- 0.361 0.28	0.039	-		
HCM Control Delay (s)	-	- 61.7 16.9	11.9	-		
HCM Lane LOS	-	- F C	B	-		
HCM 95th %tile Q(veh)	-	- 1.4 1.1	0.1	-		

HCM 2010 Signalized Intersection Summary

3: La Canada & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	855	119	96	1320	667	141	1020	80	240	551	102
Future Volume (veh/h)	163	855	119	96	1320	667	141	1020	80	240	551	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	177	929	129	103	1419	717	142	1030	81	253	580	107
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.99	0.99	0.99	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1144	610	130	1200	691	213	1058	590	335	1184	621
Arrive On Green	0.06	0.32	0.32	0.07	0.34	0.34	0.06	0.30	0.30	0.10	0.33	0.33
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	177	929	129	103	1419	717	142	1030	81	253	580	107
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	4.4	21.0	4.7	5.0	29.5	29.5	3.5	25.0	2.9	6.2	11.3	3.8
Cycle Q Clear(g_c), s	4.4	21.0	4.7	5.0	29.5	29.5	3.5	25.0	2.9	6.2	11.3	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1144	610	130	1200	691	213	1058	590	335	1184	621
V/C Ratio(X)	0.89	0.81	0.21	0.79	1.18	1.04	0.67	0.97	0.14	0.75	0.49	0.17
Avail Cap(c_a), veh/h	198	1144	610	149	1200	691	265	1058	590	455	1253	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	27.0	17.9	39.6	28.7	24.5	39.9	30.1	18.1	38.2	23.0	17.2
Incr Delay (d2), s/veh	36.5	4.6	0.2	21.8	90.7	44.2	4.5	21.4	0.1	4.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.9	2.1	3.2	29.5	25.0	1.8	15.3	1.3	3.2	5.6	1.7
LnGrp Delay(d),s/veh	77.2	31.6	18.1	61.4	119.5	68.7	44.4	51.6	18.2	43.0	23.3	17.4
LnGrp LOS	E	C	B	E	F	F	D	D	B	D	C	B
Approach Vol, veh/h	1235				2239				1253			
Approach Delay, s/veh	36.7				100.5				48.6			
Approach LOS	D				F				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	30.5	10.9	32.6	9.9	33.6	9.5	34.0				
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	11.5	26.0	7.3	27.2	6.7	30.8	5.0	29.5				
Max Q Clear Time (g_c+I1), s	8.2	27.0	7.0	23.0	5.5	13.3	6.4	31.5				
Green Ext Time (p_c), s	0.3	0.0	0.0	4.1	0.0	11.1	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	63.1											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

6: La Cholla & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	770	119	191	1279	368	313	1238	142	413	1068	377
Future Volume (veh/h)	207	770	119	191	1279	368	313	1238	142	413	1068	377
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	220	819	127	201	1346	387	340	1346	154	475	1228	433
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	989	615	537	1243	758	375	1204	622	440	1300	538
Arrive On Green	0.08	0.28	0.28	0.16	0.35	0.35	0.11	0.24	0.24	0.13	0.26	0.26
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	220	819	127	201	1346	387	340	1346	154	475	1228	433
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	5.6	19.5	0.0	4.7	31.6	3.7	8.8	21.3	0.0	11.5	21.3	14.8
Cycle Q Clear(g_c), s	5.6	19.5	0.0	4.7	31.6	3.7	8.8	21.3	0.0	11.5	21.3	14.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	989	615	537	1243	758	375	1204	622	440	1300	538
V/C Ratio(X)	0.76	0.83	0.21	0.37	1.08	0.51	0.91	1.12	0.25	1.08	0.94	0.80
Avail Cap(c_a), veh/h	291	1192	705	537	1243	758	375	1204	622	440	1300	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	30.4	18.3	34.0	29.2	16.2	39.6	34.3	18.4	39.2	32.9	27.0
Incr Delay (d2), s/veh	10.9	4.2	0.2	0.4	51.2	0.6	25.1	64.9	1.0	66.1	14.9	12.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.1	2.1	2.3	24.2	1.7	5.5	17.1	2.7	9.5	11.8	8.2
LnGrp Delay(d),s/veh	51.2	34.6	18.5	34.5	80.4	16.7	64.7	99.2	19.3	105.4	47.7	39.1
LnGrp LOS	D	C	B	C	F	B	E	F	B	F	D	D
Approach Vol, veh/h	1166				1934				1840			
Approach Delay, s/veh	36.0				62.9				86.1			
Approach LOS	D				E				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	25.8	18.5	29.7	14.3	27.5	12.1	36.1				
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	11.5	21.3	8.9	30.3	9.8	23.0	7.6	31.6				
Max Q Clear Time (g_c+I1), s	13.5	23.3	6.7	21.5	10.8	23.3	7.6	33.6				
Green Ext Time (p_c), s	0.0	0.0	0.4	3.6	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	63.3											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

9: La Cholla /La Cholla & Orange Grove

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	372	577	278	190	680	188	269	1309	250	246	822	202
Future Volume (veh/h)	372	577	278	190	680	188	269	1309	250	246	822	202
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	404	627	302	232	829	229	289	1408	269	273	913	224
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.82	0.82	0.82	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	476	850	380	562	939	420	556	1476	460	348	1169	364
Arrive On Green	0.14	0.24	0.24	0.16	0.27	0.27	0.16	0.29	0.29	0.10	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	404	627	302	232	829	229	289	1408	269	273	913	224
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	10.1	14.4	15.7	5.3	19.7	10.9	6.8	23.9	12.8	6.8	14.8	11.1
Cycle Q Clear(g_c), s	10.1	14.4	15.7	5.3	19.7	10.9	6.8	23.9	12.8	6.8	14.8	11.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	476	850	380	562	939	420	556	1476	460	348	1169	364
V/C Ratio(X)	0.85	0.74	0.79	0.41	0.88	0.55	0.52	0.95	0.59	0.78	0.78	0.62
Avail Cap(c_a), veh/h	490	1088	487	562	987	442	556	1476	460	372	1349	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	30.8	31.3	33.0	31.0	27.7	33.7	30.6	26.6	38.5	31.7	30.3
Incr Delay (d2), s/veh	12.9	2.0	6.9	0.5	9.2	1.3	0.9	13.9	1.9	10.0	2.6	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	7.2	7.6	2.6	10.9	4.9	3.3	13.0	5.8	3.7	7.2	5.0
LnGrp Delay(d),s/veh	49.9	32.8	38.2	33.4	40.2	29.0	34.6	44.5	28.6	48.5	34.4	32.4
LnGrp LOS	D	C	D	C	D	C	C	D	C	D	C	C
Approach Vol, veh/h	1333				1290				1966			
Approach Delay, s/veh	39.2				37.0				40.9			
Approach LOS	D				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	30.0	18.8	25.6	18.7	24.7	16.6	27.8				
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	9.5	25.5	10.0	27.0	11.7	23.3	12.5	24.5				
Max Q Clear Time (g_c+I1), s	8.8	25.9	7.3	17.7	8.8	16.8	12.1	21.7				
Green Ext Time (p_c), s	0.1	0.0	0.7	3.4	0.6	3.4	0.1	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	38.7											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

12: La Cholla & Omar

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	2	9	17	2	15	18	1932	31	26	1151	12
Future Volume (veh/h)	9	2	9	17	2	15	18	1932	31	26	1151	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	3	14	27	3	24	19	1992	32	29	1279	13
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	18	84	193	11	90	425	4061	65	256	4089	42
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.79	0.79	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1378	287	1339	1390	179	1431	425	5156	83	209	5191	53
Grp Volume(v), veh/h	14	0	17	27	0	27	19	1309	715	29	835	457
Grp Sat Flow(s),veh/h/ln	1378	0	1626	1390	0	1610	425	1695	1848	209	1695	1853
Q Serve(g_s), s	0.6	0.0	0.6	1.1	0.0	1.0	0.8	8.1	8.1	3.4	4.2	4.2
Cycle Q Clear(g_c), s	1.6	0.0	0.6	1.7	0.0	1.0	5.0	8.1	8.1	11.4	4.2	4.2
Prop In Lane	1.00		0.82	1.00		0.89	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	102	193	0	101	425	2671	1456	256	2671	1460
V/C Ratio(X)	0.08	0.00	0.17	0.14	0.00	0.27	0.04	0.49	0.49	0.11	0.31	0.31
Avail Cap(c_a), veh/h	589	0	580	601	0	574	425	2671	1456	256	2671	1460
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	26.8	27.6	0.0	26.9	2.5	2.2	2.2	4.2	1.8	1.8
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.3	0.0	1.4	0.2	0.6	1.2	0.9	0.3	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	0.2	0.0	0.3	0.5	0.0	0.5	0.1	3.9	4.4	0.3	2.0	2.3
LnGrp Delay(d),s/veh	27.8	0.0	27.5	27.9	0.0	28.3	2.7	2.9	3.4	5.1	2.1	2.4
LnGrp LOS	C		C	C		C	A	A	A	A	A	A
Approach Vol, veh/h		31			54			2043			1321	
Approach Delay, s/veh		27.7			28.1			3.0			2.3	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		8.3		52.0		8.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.5		21.5		47.5		21.5				
Max Q Clear Time (g_c+I1), s		10.1		3.6		13.4		3.7				
Green Ext Time (p_c), s		33.6		0.3		30.8		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			3.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

15: Mona Lisa & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	890	16	69	1768	187	41	93	53	91	47	91
Future Volume (veh/h)	100	890	16	69	1768	187	41	93	53	91	47	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	927	17	73	1861	197	58	131	75	100	52	100
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.71	0.71	0.71	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	1211	22	575	1873	838	297	270	154	257	138	266
Arrive On Green	0.06	0.34	0.34	0.24	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1774	3556	65	1774	3539	1583	1230	1113	637	1171	571	1098
Grp Volume(v), veh/h	104	461	483	73	1861	197	58	0	206	100	0	152
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1230	0	1750	1171	0	1669
Q Serve(g_s), s	0.3	18.2	18.2	0.0	40.9	5.2	3.2	0.0	7.9	6.3	0.0	6.0
Cycle Q Clear(g_c), s	0.3	18.2	18.2	0.0	40.9	5.2	9.2	0.0	7.9	14.2	0.0	6.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.36	1.00		0.66
Lane Grp Cap(c), veh/h	192	603	631	575	1873	838	297	0	424	257	0	404
V/C Ratio(X)	0.54	0.77	0.77	0.13	0.99	0.24	0.20	0.00	0.49	0.39	0.00	0.38
Avail Cap(c_a), veh/h	239	968	1013	575	1873	838	297	0	424	257	0	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	23.1	23.1	20.2	18.3	9.9	28.6	0.0	25.5	31.6	0.0	24.8
Incr Delay (d2), s/veh	2.4	2.1	2.0	0.1	19.2	0.1	1.5	0.0	3.9	4.4	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	9.2	9.6	1.2	24.6	2.3	1.2	0.0	4.3	2.3	0.0	3.0
LnGrp Delay(d),s/veh	37.3	25.1	25.0	20.3	37.5	10.1	30.1	0.0	29.5	36.0	0.0	27.4
LnGrp LOS	D	C	C	C	D	B	C		C	D		C
Approach Vol, veh/h	1048				2131				264			
Approach Delay, s/veh	26.3				34.4				29.6			
Approach LOS	C				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	23.5		23.7	31.2	23.5		8.9	46.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	19.0		5.1	42.9	19.0		6.5	41.5				
Max Q Clear Time (g_c+I1), s	11.2		2.0	20.2	16.2		2.3	42.9				
Green Ext Time (p_c), s	1.7		0.1	6.5	0.8		0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	31.5											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

23: Magee & La Cholla

2/19/2018

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	0	1116	403	0	542	108	135	423	528	249	698	0
Future Volume (veh/h)	0	1116	403	0	542	108	135	423	528	249	698	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	0	1151	415	0	559	111	161	504	0	268	751	0
Adj No. of Lanes	0	3	1	0	3	1	2	2	1	2	3	0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.84	0.84	0.84	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	0
Cap, veh/h	0	1821	567	0	1821	567	304	962	430	359	1464	0
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.09	0.27	0.00	0.10	0.29	0.00
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3442	3539	1583	3442	5253	0
Grp Volume(v), veh/h	0	1151	415	0	559	111	161	504	0	268	751	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1721	1770	1583	1721	1695	0
Q Serve(g_s), s	0.0	9.5	11.6	0.0	4.0	2.5	2.3	6.1	0.0	3.8	6.3	0.0
Cycle Q Clear(g_c), s	0.0	9.5	11.6	0.0	4.0	2.5	2.3	6.1	0.0	3.8	6.3	0.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1821	567	0	1821	567	304	962	430	359	1464	0
V/C Ratio(X)	0.00	0.63	0.73	0.00	0.31	0.20	0.53	0.52	0.00	0.75	0.51	0.00
Avail Cap(c_a), veh/h	0	1821	567	0	1821	567	339	1254	561	359	1831	0
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(l)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	0.0	11.8	11.3	22.2	15.7	0.0	22.1	15.1	0.0
Incr Delay (d2), s/veh	0.0	1.7	8.1	0.0	0.4	0.8	1.4	0.4	0.0	8.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	6.3	0.0	1.9	1.2	1.1	3.0	0.0	2.2	3.0	0.0
LnGrp Delay(d),s/veh	0.0	15.2	22.3	0.0	12.2	12.0	23.6	16.2	0.0	30.4	15.4	0.0
LnGrp LOS		B	C		B	B	C	B		C	B	
Approach Vol, veh/h		1566			670			665			1019	
Approach Delay, s/veh		17.1			12.2			18.0			19.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	9.8	18.3		22.7	9.0	19.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.2	5.3	18.0		18.2	5.0	18.3				
Max Q Clear Time (g_c+l1), s		13.6	5.8	8.1		6.0	4.3	8.3				
Green Ext Time (p_c), s		4.0	0.0	5.7		9.5	0.0	5.7				
Intersection Summary												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

28: Shannon & Ina

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	891	73	172	1674	232	108	219	115	243	194	155
Future Volume (veh/h)	182	891	73	172	1674	232	108	219	115	243	194	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	190	928	76	177	1726	239	123	249	131	270	216	172
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	1129	616	412	1475	806	372	252	133	247	853	382
Arrive On Green	0.07	0.32	0.32	0.17	0.42	0.42	0.07	0.22	0.22	0.09	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	1151	605	1774	3539	1583
Grp Volume(v), veh/h	190	928	76	177	1726	239	123	0	380	270	216	172
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1756	1774	1770	1583
Q Serve(g_s), s	5.5	21.8	0.0	2.0	37.5	0.0	0.0	0.0	19.4	8.3	4.4	8.3
Cycle Q Clear(g_c), s	5.5	21.8	0.0	2.0	37.5	0.0	0.0	0.0	19.4	8.3	4.4	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	208	1129	616	412	1475	806	372	0	384	247	853	382
V/C Ratio(X)	0.91	0.82	0.12	0.43	1.17	0.30	0.33	0.00	0.99	1.09	0.25	0.45
Avail Cap(c_a), veh/h	208	1357	718	412	1475	806	372	0	384	247	853	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	28.3	17.6	30.8	26.3	12.8	29.7	0.0	35.0	39.4	27.6	29.1
Incr Delay (d2), s/veh	39.2	3.5	0.1	0.7	84.3	0.2	0.5	0.0	43.2	84.7	0.7	3.8
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	6.9	11.1	1.2	3.8	35.5	3.4	2.7	0.0	14.0	11.9	2.2	4.0
LnGrp Delay(d),s/veh	79.3	31.8	17.7	31.5	110.6	13.0	30.2	0.0	78.2	124.2	28.3	32.9
LnGrp LOS	E	C	B	C	F	B	C		E	F	C	C
Approach Vol, veh/h	1194				2142				503			
Approach Delay, s/veh	38.5				93.1				66.5			
Approach LOS	D				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	24.2	19.8	33.2	10.8	26.2	11.0	42.0				
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	8.3	19.7	9.5	34.5	6.3	21.7	6.5	37.5				
Max Q Clear Time (g_c+I1), s	10.3	21.4	4.0	23.8	2.0	10.3	7.5	39.5				
Green Ext Time (p_c), s	0.0	0.0	0.6	4.9	0.5	1.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	72.1											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

34: La Cholla & Foothills Mall

2/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	2	323	141	12	59	390	1347	11	117	823	411
Future Volume (veh/h)	393	2	323	141	12	59	390	1347	11	117	823	411
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	414	2	340	155	13	65	415	1433	12	126	885	442
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	2	356	192	41	205	408	1900	16	157	1138	354
Arrive On Green	0.18	0.23	0.23	0.11	0.15	0.15	0.23	0.37	0.37	0.09	0.22	0.22
Sat Flow, veh/h	1774	9	1575	1774	271	1353	1774	5202	44	1774	5085	1583
Grp Volume(v), veh/h	414	0	342	155	0	78	415	934	511	126	885	442
Grp Sat Flow(s),veh/h/ln	1774	0	1585	1774	0	1624	1774	1695	1855	1774	1695	1583
Q Serve(g_s), s	15.5	0.0	18.1	7.2	0.0	3.6	19.5	20.5	20.5	5.9	13.9	19.0
Cycle Q Clear(g_c), s	15.5	0.0	18.1	7.2	0.0	3.6	19.5	20.5	20.5	5.9	13.9	19.0
Prop In Lane	1.00		0.99	1.00		0.83	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	324	0	359	192	0	246	408	1238	678	157	1138	354
V/C Ratio(X)	1.28	0.00	0.95	0.81	0.00	0.32	1.02	0.75	0.75	0.80	0.78	1.25
Avail Cap(c_a), veh/h	324	0	359	299	0	344	408	1238	678	157	1138	354
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	32.4	37.0	0.0	32.1	32.7	23.6	23.6	38.0	30.9	32.9
Incr Delay (d2), s/veh	146.8	0.0	35.5	8.8	0.0	0.7	49.2	4.3	7.6	25.3	5.2	132.6
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	20.7	0.0	11.4	4.0	0.0	1.7	15.0	10.3	11.9	4.0	7.0	21.3
LnGrp Delay(d),s/veh	181.4	0.0	67.9	45.8	0.0	32.8	81.9	27.9	31.2	63.3	36.2	165.5
LnGrp LOS	F		E	D		C	F	C	C	E	D	F
Approach Vol, veh/h	756				233				1860			
Approach Delay, s/veh	130.1				41.5				40.9			
Approach LOS	F				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	35.5	13.7	23.7	24.0	23.5	20.0	17.4				
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	7.5	31.0	14.3	19.2	19.5	19.0	15.5	18.0				
Max Q Clear Time (g_c+I1), s	7.9	22.5	9.2	20.1	21.5	21.0	17.5	5.6				
Green Ext Time (p_c), s	0.0	7.7	0.2	0.0	0.0	0.0	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	69.1											
HCM 2010 LOS	E											

HCM Signalized Intersection Capacity Analysis

31: Shannon/Tuscany & Magee

2/19/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	738	281	178	821	8	718	3	263	5	2	9
Future Volume (vph)	1	738	281	178	821	8	718	3	263	5	2	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	1770	3534		1681	1686	1583		1699	
Flt Permitted	0.25	1.00	1.00	0.17	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	459	3539	1583	318	3534		1681	1686	1583		1699	
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.90	0.90	0.90	0.75	0.75	0.75
Adj. Flow (vph)	1	794	302	205	944	9	798	3	292	7	3	12
RTOR Reduction (vph)	0	0	201	0	1	0	0	0	207	0	12	0
Lane Group Flow (vph)	1	794	101	205	952	0	399	402	85	0	10	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Actuated Green, G (s)	26.7	25.8	25.8	39.0	33.6		22.4	22.4	22.4		2.5	
Effective Green, g (s)	26.7	25.8	25.8	39.0	33.6		22.4	22.4	22.4		2.5	
Actuated g/C Ratio	0.34	0.33	0.33	0.50	0.43		0.29	0.29	0.29		0.03	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	173	1179	527	323	1534		486	487	458		54	
v/s Ratio Prot	0.00	0.22		c0.07	0.27		0.24	c0.24			c0.01	
v/s Ratio Perm	0.00		0.06	c0.25					0.05			
v/c Ratio	0.01	0.67	0.19	0.63	0.62		0.82	0.83	0.18		0.19	
Uniform Delay, d1	16.8	22.2	18.4	13.1	17.0		25.6	25.7	20.6		36.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	3.1	0.8	4.0	1.9		10.7	10.9	0.2		1.7	
Delay (s)	16.8	25.3	19.2	17.1	18.9		36.3	36.6	20.8		38.2	
Level of Service	B	C	B	B	B		D	D	C		D	
Approach Delay (s)		23.6			18.6			32.3			38.2	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			24.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			77.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			68.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												