Ararat Homes
Traffic Impact Analysis Supplement
City of Los Angeles
June 16, 2021

Prepared by:

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To:	Durre Shamsi, Transportation Engineer, City of Los Angeles
From:	Jano Baghdanian, JB & Associates
Date:	June 16, 2021
Subject:	Ararat Homes Traffic Analysis Supplement

JB & Associates previously submitted a Traffic Impact Study for the Robertson Hotel ("Project") on August 17, 2020. Based on the City of Los Angeles' Traffic Impact Study methodology, the traffic study included a detailed analysis of five (3) study intersections and determined that none of the study intersections would be significantly impacted by project-related traffic. On November 20, 2020, the City of Los Angeles Department of Transportation (LADOT) concurred with the findings of that study that included the analysis of the following (Please refer to Appendix A for copy of the City's transportation assessment):

- 87 dwelling units of senior adult housing
- 100 bed assisted living facility.
- 100 bed nursing home facility

Since the original traffic study was submitted and approved, the Project scope has been modified to the following:

- 101 dwelling units of senior adult housing (14-unit increase)
- 156 bed assisted living facility (56 bed increase)
- 96 bed nursing home facility (4 bed decrease)

The purpose of this memorandum is to document that the findings of no significance submitted in the original traffic study would still be applicable with the revised Project scope.

Modified Project Trip Generation

Trip rates from the *Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition* were used in the previously submitted traffic analysis and are again referenced in this supplemental analysis. Please refer to Tables 1 & 2 for summaries of the trip generation findings for the original analysis and the modified analysis respectively.

As shown in the tables, the revised Project will result in the addition of 13 AM trips and 17 PM trips when compared to the original study. Please refer to Figure 8a for an illustration of the Project's modified trip assignment.
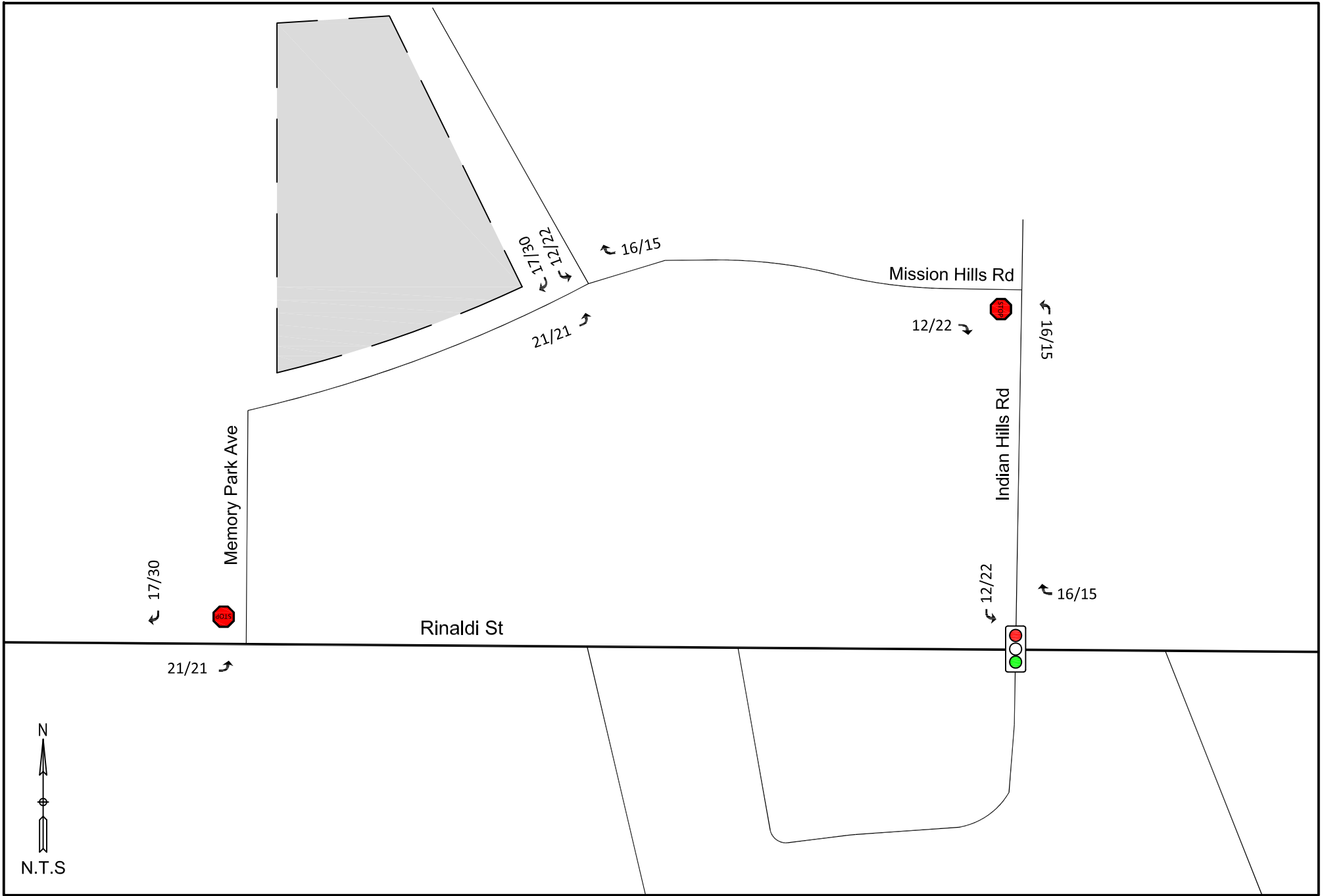
Table 1: Original Project Trip Generation[1]

Land Use (ITE Code)	Size	Units	AM Peak Hour Trips				PM Peak Hour Trips				Daily Trips	
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total
New Project Land Use Added												
Senior Adult Housing--Attached (252)	87	du	0.20	17	35%	65%	0.26	23	55%	45%	3.70	322
					6	11			13	10		
Assisted Living (254)	100	bed	0.19	19	63%	37%	0.26	26	38%	62%	2.60	260
					12	7			10	16		
Nursing Home (620)	100	bed	0.17	17	72%	28%	0.22	22	33%	67%	3.06	306
					12	5			7	15		
Total Trip Generation				**53**	**30**	**23**		**71**	**30**	**41**		**888**

[1] ITE "Trip Generation" Manual, 10th Edition, 2017

Table 2: Modified Project Trip Generation[1]

Land Use (ITE Code)	Size	Units	AM Peak Hour Trips				PM Peak Hour Trips				Daily Trips	
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total
New Project Land Use Added												
Senior Adult Housing--Attached (252)	101	du	0.20	20	35%	65%	0.26	26	55%	45%	3.70	374
					7	13			14	12		
Assisted Living (254)	156	bed	0.19	30	63%	37%	0.26	41	38%	62%	2.60	406
					19	11			15	26		
Nursing Home (620)	96	bed	0.17	16	72%	28%	0.22	21	33%	67%	3.06	294
					11	5			7	14		
Total Trip Generation				**66**	**37**	**29**		**88**	**36**	**52**		**1,074**

[1] ITE "Trip Generation" Manual, 10th Edition, 2017

16/15

17/30
12/22

Mission Hills Rd

12/22

16/15

21/21

Memory Park Ave

Indian Hills Rd

17/30

16/15

12/22

Rinaldi St

21/21

N

N.T.S

= Project Site   xx/xx = AM/PM Peak

JB & ASSOCIATES

Figure 8a: Project Trip Assignment (Modified)

Modified Project Level of Service Findings

The additional Project trips in this modified analysis does not change the findings from the initial traffic study where no significant operational impacts were noted.

The results of the updated operational analyses are summarized in the following tables:

- Table 10a (Modified): Levels of Service, Delays and Queue Lengths for Existing and Existing Plus Project Conditions.
- Table 11a (Modified): Levels of Service, Delays and Queue Lengths for Future with and without Project Conditions.

Please refer to Appendix B for the (HCM) analysis worksheets for the analyzed intersections.

As shown in Tables 10a and 11a, with the addition of the Project traffic, most traffic movements at the 3 study intersections will operate at levels of service D or better and with the 95th percentile queue lengths of 200 feet (approximately 10 vehicles) or shorter. However, there are two particular exceptions and are addressed below.

Rinaldi Street and Memory Park Avenue

Shown below is a comparison of the afternoon peak hour estimated delays for the southbound left-turn movement. As shown, the change in delay from the previous analysis is less than 4 seconds and does not change the findings of the previously approved study.

	Existing	Existing + Project	Change in Delay
Original Analysis	137.17 sec/veh	145.74 sec/veh	8.57 sec/veh
Updated Analysis		148.40 sec/veh	11.23 sec/veh

	Future	Future + Project	Change in Delay
Original Analysis	192.11 sec/veh	203.08 sec/veh	10.97 sec/veh
Updated Analysis		206.77 sec/veh	14.66 sec/veh

The southbound left-turn movement at this intersection is currently opening at LOS F with an average delay of 137.17 sec/veh during the afternoon peak hour. With the addition of the Project traffic, it is estimated to remain at LOS F with an average delay of 148.40 sec/veh (previously 145.74 sec/veh) under the Existing with Project condition and 206.77 sec/veh (previously 203.08 sec/veh) under the Future with Project condition.

This three-legged intersection currently is STOP-controlled for the southbound direction and uncontrolled for the east and westbound directions. The long delay for the southbound approach is caused by the lack

of available gaps in east-west traffic to allow vehicles from Memory Park Avenue to enter Rinaldi Street. As noted in the initial study, consideration should be given to signalizing this intersection to allocate adequate timing to accommodate the southbound approach.

Rinaldi Street and Indian Hills Road

Shown below is a comparison of the afternoon peak hour estimated 95th percentile queue lengths for the eastbound through movement. As shown, the change in queue lengths from the previous analysis is less than one vehicle length and does not change the findings of the previously approved study.

	Existing	Existing + Project	Change in Queue Length
Original Analysis	541.93 ft (or 21.7 veh)	576.72 ft (or 23.1 veh)	34.79 ft (or 1.4 veh)
Updated Analysis		584.45 ft (or 23.4 veh)	42.52 ft (or 1.7 veh)

	Future	Future + Project	Change in Queue Length
Original Analysis	744.25 ft (or 29.7 veh)	818.01 ft (or 32.7 veh)	73.76 ft (or 2.9 veh)
Updated Analysis		832.95 ft (or 33.3 veh)	88.7 ft (or 3.5 veh)

The eastbound through movement at this intersection currently has a 95th percentile queue length of 541.93 feet (or approximately 21.7 vehicles) during the afternoon peak hour. With the addition of the Project traffic, the queue length is estimated to extend to 584.45 feet (previously 576.72 ft) which equates to approximately 23.4 vehicles (previously 23.1 vehicles) under the Existing with Project condition. For the Future + Project condition, the queue length is estimated to extend to 832.95 feet (previously 818.01 feet) which equates to approximately 33.3 vehicles (previously 32.7 vehicles). Even though the queuing for the eastbound through movement is substantial and is estimated to extend beyond the adjacent intersection of Rinaldi Street and Lev Avenue under future conditions, the Project will only increase the queue length by approximately 3.5 vehicles.

As noted in the initial study, the City may consider adjusting the signal timing at this intersection to reduce the queuing on Rinaldi Street. In addition, signalizing the Rinaldi Street and Memory Park Avenue could potentially reduce the traffic demand at the Rinaldi Street and Indian Hills Road intersection and improve traffic operations.

Table 10a: Levels of Service, Delays & Queue Lengths for Existing & Existing Plus Project Conditions

	Study Intersections	Intersection Control	Approach	Movement	AM Peak Existing Delay (sec)	LOS	Queue (ft)	AM Peak Existing + Project Delay (sec)	LOS	Queue (ft)	PM Peak Existing Delay (sec)	LOS	Queue (ft)	PM Peak Existing + Project Delay (sec)	LOS	Queue (ft)
1	Rinaldi St & Memory Park Ave	Stop Controlled	SB	Left	-	-	-	-	-	-	137.17	F	19.00	148.40	F	30.81
				Right	17.24	C	1.02	18.08	C	6.22	25.81	D	19.00	22.59	C	30.81
			EB	Left	16.86	C	14.37	17.82	C	21.41	10.94	B	3.21	11.16	B	6.14
				Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
			WB	Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
				Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
2	Rinaldi St & Indian Hills Rd	Signalized	NB	Thru/Left/Right	40.81	D	73.95	43.73	D	76.64	28.32	C	34.44	27.58	C	34.11
			SB	SB Thru/Left	36.31	D	89.37	37.06	D	102.33	34.41	C	258.91	34.61	C	278.00
				SB Right	40.46	D	170.32	40.37	D	170.10	24.43	C	137.83	22.92	C	132.65
			EB	Left	17.48	B	107.22	17.52	B	107.44	15.48	B	40.28	17.17	B	42.94
				Through	3.88	A	97.91	3.89	A	98.29	20.23	C	541.93	23.52	C	584.45
				Right	2.65	A	4.98	2.66	A	5.00	7.39	A	3.88	8.17	A	4.14
			WB	Left	6.02	A	3.31	6.04	A	3.32	39.72	D	31.06	44.75	D	33.47
				Through	4.66	A	153.87	4.68	A	154.47	10.06	B	181.76	11.13	B	193.45
				Right	3.48	A	49.33	3.57	A	53.47	7.73	A	21.46	8.68	A	29.08
3	Indian Hills Rd & Mission Hills Rd	Stop Controlled	NB	Thru/Left	7.37	A	3.50	7.40	A	4.39	7.35	A	2.69	7.38	A	3.66
			SB	Thru/Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
			EB	Left/Right	10.05	B	7.72	10.37	B	8.87	10.21	B	17.93	10.63	B	21.06

Table 11a: Levels of Service, Delays & Queue Lengths for Future without & with Project Conditions

| Study Intersections | Intersection Control | Approach | Movement | AM Peak | | | | | | PM Peak | | | | | |
| | | | | Future without Project | | | Future + Project | | | Future without Project | | | Future + Project | | |
				Delay (sec)	LOS	Queue (ft)	Delay (sec)	LOS	Queue (ft)	Delay (sec)	LOS	Queue (ft)	Delay (sec)	LOS	Queue (ft)
1 Rinaldi St & Memory Park Ave	Stop Controlled	SB	Left	-	-	-	-	-	-	192.11	F	24.35	206.77	F	42.44
			Right	18.70	C	1.14	19.76	C	7.01	37.47	E	24.35	31.58	D	42.44
		EB	Left	19.09	C	18.11	20.46	C	26.80	11.50	B	3.71	11.77	B	7.02
			Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
		WB	Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
			Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
2 Rinaldi St & Indian Hills Rd	Signalized	NB	Thru/Left/Right	41.90	D	80.30	46.31	D	84.66	29.46	C	37.97	29.33	C	38.23
		SB	SB Thru/Left	35.97	D	95.71	36.81	D	109.93	34.59	C	278.16	34.94	C	297.82
			SB Right	40.11	D	183.76	40.02	D	183.49	23.04	C	144.37	21.62	C	138.91
		EB	Left	25.08	C	148.69	25.15	C	149.02	18.87	B	49.19	20.76	C	52.17
			Through	4.34	A	117.81	4.35	A	118.29	33.96	C	744.25	43.83	D	832.95
			Right	2.86	A	5.66	2.87	A	5.69	8.27	A	4.56	9.08	A	4.84
		WB	Left	6.87	A	4.00	6.89	A	4.01	55.26	E	40.04	56.87	E	40.90
			Through	5.33	A	188.06	5.35	A	188.83	11.65	B	213.13	12.79	B	223.92
			Right	3.82	A	57.80	3.92	A	62.39	8.69	A	25.16	9.68	A	33.80
3 Indian Hills Rd & Mission Hills Rd	Stop Controlled	NB	Thru/Left	7.38	A	3.76	7.41	A	4.71	7.35	A	2.84	7.38	A	3.82
		SB	Thru/Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
		EB	Left/Right	10.18	B	8.43	10.53	B	9.60	10.33	B	19.83	10.78	B	22.98

Appendix A

LADOT Assessment Letter

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

15105 W. Mission Hills Road
DOT Case No. SFV 19-48714

Date: November 20, 2020

To: Claudia Rodriguez, Senior City Planner
              Department of City Planning

From: Vicente Cordero, Transportation Engineer
              Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED EXPANSION OF ARARAT HOME
              DEVELOPMENT LOCATED AT 15105 WEST MISSION HILLS ROAD**

The Department of Transportation (DOT) has reviewed the transportation assessment prepared by Jano Baghdanian & Associates, dated August 2020, for the proposed expansion of Ararat Home Development located at 15105 West Mission Hills Road in the Mission Hills - Panorama City and North Hills Community Planning Area of the City of Los Angeles. The proposed project will include the construction of 87 dwelling units of senior adult housing, a 100-bed assisted living facility and a 100-bed nursing home. On July 30, 2019, pursuant to Senate Bill (SB) 743 and the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as the criteria by which to determine transportation impacts under CEQA. Based on the VMT thresholds established in LADOT's Transportation Assessment Guidelines (TAG), the proposed project would not result in a significant transportation impact on VMT as described below.

DISCUSSION AND FINDINGS

A.   Project Description
      The Project applicant proposes to construct 87 dwelling units of senior adult housing, a 100-bed assisted living facility and a 100-bed nursing home. The Project site is currently occupied by three single-family housing units. The housing units will be demolished as part of the proposed project. Construction and occupancy of the Project is planned to be completed by the year 2025.

B.   CEQA Screening Threshold
      Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool Version 1.3, which draws upon trip rate estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition as well as applying trip generation adjustments when applicable. This trip generation adjustment is based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold. A copy of the VMT calculator-screening pages are provided in **Attachment A**. Additionally, the analysis included further discussion of the CEQA transportation impact thresholds:

      1. **Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies**
         The transportation assessment evaluated the proposed project for conformance with the adopted City's transportation plans and policies for all travel modes. It was determined by the applicant that the project does not obstruct or conflict with the City's

development policies and standards for the transportation system.

2. **Threshold T-2.1: Causing Substantial Vehicle Miles Traveled**
   Using the VMT Calculator, the assessment determined that the project would generate a 978 net increase in DVT and a 9,161 net increase in daily VMT, therefore further analysis was required. The analysis concluded that the project would not result in a significant VMT impact as discussed below under Section C, CEQA Transportation Analysis.

3. **Threshold T-3: Substantially Increasing Hazards Due To a Geometric Design Feature or Incompatible Use**
   The project does not involve any design features that are unusual for the area or any incompatible use.

C.   CEQA Transportation Analysis

The new LADOT Transportation Assessment Guidelines (TAG) provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds. The DOT VMT Calculator tool measures project impact in terms of Household VMT per Capita, and Work VMT per Employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the North Valley APC area, in which the project is located, the following thresholds have been established:

> ➢ Daily Household VMT per Capita: 9.2
> ➢ Daily Work VMT per Employee: 15.0

As cited in the VMT Analysis report, prepared by Jano Baghdanian & Associates, the project proposes to incorporate the TDM strategy of bike parking per Los Angeles Municipal Code (LAMC) as a project design feature. The proposed project is projected to have a Household VMT per capita of 10.5 and a Work VMT per employee of 13.1. Therefore, it is concluded that implementation of the Project would not result in a significant impact of Household or work VMT per capita. However, with the suggested TDM measures in place, the project is estimated to generate 8,397 daily VMT (a reduction of 764 daily VMT compared to pre TDM mitigation measures), which will reduce the Household VMT per capita to 9.2 as shown in Appendix A.

D.   Access and Circulation

During preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the LAMC. Therefore, DOT continues to require and review a project's site access, circulation, and operational plan to determine if any access enhancements, transit amenities, intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. In accordance with this authority, the project has completed a circulation analysis using a "HCM and Level of Service" screening methodology that indicates that the trips generated by the proposed development will not likely result in adverse circulation conditions at several locations. Vehicular access to the proposed development will be provided via a driveway on Mission Hills Road at the western boundary of the project site and via the existing local access road along the eastern boundary of

the site. The mission Hills driveway will provide both ingress to and egress from the parking structure underneath the proposed assisted living and nursing home. The access road driveway will provide the access to the to the proposed senior adult housing development to the north as well as the pick-up/drop-off area for the proposed assisted living and nursing home facilities. DOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these details is provided as **Attachment B** to this report.

PROJECT REQUIREMENTS

A.   CEQA-Related Requirement
      As a result of the expected significant impacts identified in the project's transportation impact study, DOT recommends that the applicant be required to implement the following transportation demand management (TDM) mitigation measures:

- Bike Parking per LAMC - The project will provide bicycle parking spaces on-site. Providing bicycle parking supports safe and comfortable bicycle travel to the project. The project must design the project to ensure a bicycle, transit, and pedestrian-friendly environment with convenient access points, secure bicycle facilities with lockers and showers.

- Promotions and Marketing - Employees and residents would be provided with materials and promotions encouraging use of alternative modes of transportation. This type of campaign helps to raise awareness of the options available to various alternatives to driving.

- Unbundle Parking - Unbundling parking costs from property costs would require those who wish to purchase parking spaces to do so at an additional cost from the property cost. This removes the burden from those who do not wish to utilize a parking space. An assumption is made that the parking costs are passed through to the vehicle owners/drivers utilizing the parking spaces

B.   Non-CEQA-Related Requirements and Considerations
      To comply with transportation and mobility goals and provisions of adopted City plans and ordinances, the applicant should be required to implement the following:

1.   Parking Requirements
      The traffic study indicated that the project would   provide project parking in a subterranean structure with 135 spaces. The applicant should check with the Departments of Building and Safety and City Planning on the number of Code-required parking spaces needed for this project.

2.   Highway Dedication and Street Widening Requirements
      Per the new Mobility Element of the General Plan, **Mission Hills Road** is designated as a local streets which would require an 18-foot half-width roadway within a 30-foot half-width right-of-way. The applicant should check with the Bureau of Engineering's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

3.   Project Access and Circulation
Vehicular access to the proposed development will be provided via a driveway on Mission Hills Road at the western boundary of the project site and via the existing local access road along the eastern boundary of the site. The mission Hills driveway will provide both ingress to and egress from the parking structure underneath the proposed assisted living and nursing home. The access road driveway will provide the access to the to the proposed senior adult housing development to the north as well as the pick-up/drop-off area for the proposed assisted living and nursing home facilities as illustrated in **Attachment C**. The review of this study does not constitute approval of the dimensions for any new proposed driveway. Review and approval of the driveways should be coordinated with DOT's Citywide Planning Coordination Section (6262 Van Nuys Boulevard, 3rd Floor, Room 320, at 818-374-4699). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design.

4.   High Injury Network
The City of Los Angeles Vision Zero Identified a strategic plan to reduce traffic deaths to zero by focusing on engineering, enforcement, education, and evaluation. The LADOT identified a High Injury Network (HIN) of city streets. The HIN identifies streets with a high number of traffic-related sever injuries and deaths across all modes of travel with emphasis on those involving pedestrians and cyclists. The segment of Rinaldi Street from Indian Hill Road to Laurel Canyon Boulevard is included in High Injury Network. The project location, access or project-related changes to the public right-of-way will not affect relative to proximity to the High Injury Network.

5.   Worksite Traffic Control Plan
DOT recommends that a construction worksite traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/what-we-do/plan-review to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related truck traffic be restricted to off-peak hours.

6.   TDM Ordinance Requirements
The TDM Ordinance (LAMC 12.26 J) is currently being updated. The updated ordinance, which is currently progressing through the City's approval process, will:

- Expand the reach and application of TDM strategies to more land uses and neighborhoods,
- Rely on a broader range of strategies that can be updated to keep pace with technology, and
- Provide flexibility for developments and communities to choose strategies that work best for their neighborhood context.

Although not yet adopted, DOT recommends that the applicant be subject to the terms of the proposed TDM Ordinance update expected in 2020. The updated ordinance is expected to be completed prior to the anticipated construction of this project.

7.   Development Review Fees
Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Durre Shamsi of my staff at (818) 374-4694.

c: Paola Bassignana, Council District 7
Steve Rostam, DOT East Valley District
Ali Nahass, BOE Valley District
Quyen Phan, BOE Land Development Group
Jano Baghdanian, Jano Baghdanian & Associates

Attachment A
City of LA VMT Calculator Results

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project:	Ararat Home
Scenario:	
Address:	15105 W MISSION HILLS ROAD, 91345

www ♂

Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

● Yes   ◉ No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU

✖

■ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Affordable Housing - Permanent ▼		DU
Housing | Multi-Family		
(custom) Assisted Living & Nursing		
(custom) Assisted Living & Nursing		
(custom) Assisted Living & Nursing		
(custom) Assisted Living & Nursing		

✚

☑ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
0 Daily Vehicle Trips	**978** Daily Vehicle Trips
0 Daily VMT	**9,161** Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips   **978**
Net Daily Trips

The net increase in daily VMT ≤ 0   **9,161**
Net Daily VMT

The proposed project consists of only retail land uses ≤ 50,000 square feet total.   **0.000**
ksf

The proposed project is required to perform VMT analysis.

8/17/2020

Attachment A
City of LA VMT Calculator Results

8/17/2020

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: Ararat Home

Scenario:

Address: 15105 W MISSION HILLS ROAD, 91345

Proposed Project Land Use Type
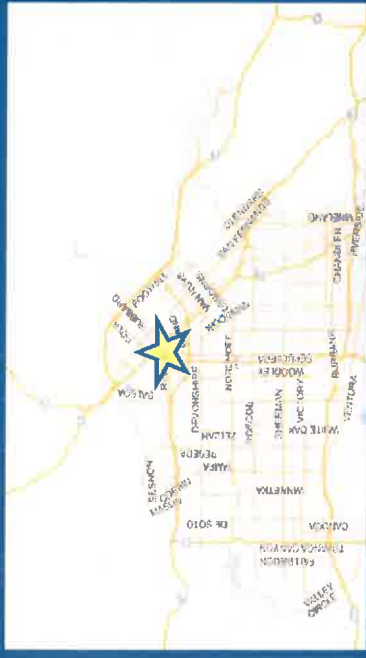
Proposed Project Land Use Type		Value	Unit
Housing	Multi-Family	87	DU
(custom) Assisted Living & Nursing Home	Daily	566	Trips
(custom) Assisted Living & Nursing Home	HBW-	13	Percent
(custom) Assisted Living & Nursing Home	HBO-/	70	Percent
(custom) Assisted Living & Nursing Home	NHB-/	9	Percent
(custom) Assisted Living & Nursing Home	HBW-	0	Percent
(custom) Assisted Living & Nursing Home	HBO-F	0	Percent
(custom) Assisted Living & Nursing Home	NHB-F	8	Percent
(custom) Assisted Living & Nursing Home	Daily	0	Residents
(custom) Assisted Living & Nursing Home	Daily	70	Employees
(custom) Assisted Living & Nursing Home	Daily	Non-Retail	Retail/Non-Re

TDM Strategies

Select each section to show individual strategies
Use ✔ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

A Parking

Reduce Parking Supply — 100 — city code parking provision for the project site
☐ Proposed Prj ☐ Mitigation — 74 — actual parking provision for the project site

Unbundle Parking — 50 — monthly parking cost (dollar) for the project site
☐ Proposed Prj ✔ Mitigation

Parking Cash-Out — 50 — percent of employees eligible
☐ Proposed Prj ☐ Mitigation

Price Workplace Parking — 6.00 — daily parking charge (dollar)
☐ Proposed Prj ☐ Mitigation — 50 — percent of employees subject to priced parking

Residential Area Parking Permits — 200 — cost (dollar) of annual permit
☐ Proposed Prj ☐ Mitigation

B **Transit**

C **Education & Encouragement**

D **Commute Trip Reductions**

E **Shared Mobility**

F **Bicycle Infrastructure**

G **Neighborhood Enhancement**

Analysis Results

	Proposed Project	With Mitigation
Daily Vehicle Trips	978	895
Daily VMT	9,161	8,397
Household VMT per Capita	10.5	9.2 Household VMT
Work VMT per Employee	13.1	13.1

Significant VMT Impact?

Household: Yes
Threshold = 9.2
15% Below APC

Household: No
Threshold = 9.2
15% Below APC

Work: No
Threshold = 15.0
15% Below APC

Work: No
Threshold = 15.0
15% Below APC

Measuring the Miles

Attachment B

Table 10: Levels of Service, Delays & Queue Lengths for Existing & Existing Plus Project Conditions

Study Intersections	Intersection Control	Approach	Movement	AM Peak Existing Delay (sec)	AM Peak Existing LOS	AM Peak Existing Queue (ft)	AM Peak Existing + Project Delay (sec)	AM Peak Existing + Project LOS	AM Peak Existing + Project Queue (ft)	PM Peak Existing Delay (sec)	PM Peak Existing LOS	PM Peak Existing Queue (ft)	PM Peak Existing + Project Delay (sec)	PM Peak Existing + Project LOS	PM Peak Existing + Project Queue (ft)
1 Rinaldi St & Memory Park Ave	Stop Controlled	SB	Left	-	-	-	-	-	-	137.17	F	19.00	145.74	F	27.88
			Right	17.24	C	1.02	17.90	C	5.08	25.81	D	19.00	22.70	C	27.88
		EB	Left	16.86	C	14.37	17.60	C	19.80	10.94	B	3.21	11.12	B	5.60
			Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
		WB	Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
			Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
2 Rinaldi St & Indian Hills Rd	Signalized	NB	Thru/Left/Right	40.81	D	73.95	43.15	D	76.10	28.32	C	34.44	27.69	C	34.15
		SB	SB Thru/Left	36.31	D	89.37	36.93	D	100.13	34.41	C	258.91	34.56	C	274.65
			SB Right	40.46	D	170.32	40.39	D	170.13	24.43	C	137.83	23.17	C	133.54
		EB	Left	17.48	B	107.22	17.51	B	107.41	15.48	B	40.28	16.87	B	42.48
			Through	3.88	A	97.91	3.89	A	98.23	20.23	C	541.93	22.89	C	576.72
			Right	2.65	A	4.98	2.66	A	5.00	7.39	A	3.88	8.04	A	4.10
		WB	Left	6.02	A	3.31	6.04	A	3.32	39.72	D	31.06	43.85	D	33.04
			Through	4.66	A	153.87	4.68	A	154.37	10.06	B	181.76	10.94	B	191.72
			Right	3.48	A	49.33	3.55	A	52.49	7.73	A	21.46	8.51	A	27.94
3 Indian Hills Rd & Mission Hills Rd	Stop Controlled	NB	Thru/Left	7.37	A	3.50	7.39	A	4.23	7.35	A	2.69	7.37	A	3.50
		SB	Thru/Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
		EB	Left/Right	10.05	B	7.72	10.31	B	8.69	10.21	B	17.93	10.56	B	20.49

Attachment B

Table 11: Levels of Service, Delays & Queue Lengths for Future without & with Project Conditions

	Study Intersections	Intersection Control	Approach	Movement	AM Peak						PM Peak						
					Future without Project			Future + Project			Future without Project			Future + Project		
					Delay (sec)	LOS	Queue (ft)	Delay (sec)	LOS	Queue (ft)	Delay (sec)	LOS	Queue (ft)	Delay (sec)	LOS	Queue (ft)
1	Rinaldi St & Memory Park Ave	Stop Controlled	SB	Left	-	-	-	-	-	-	192.11	F	24.35	203.08	F	38.43
				Right	18.70	C	1.14	19.52	C	5.71	37.47	E	24.35	31.84	D	38.43
			EB	Left	19.09	C	18.11	20.20	C	25.19	11.50	B	3.71	11.72	B	6.41
				Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
			WB	Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
				Through	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
2	Rinaldi St & Indian Hills Rd	Signalized	NB	Thru/Left/Right	41.90	D	80.30	45.49	D	83.84	29.46	C	37.97	29.31	C	38.14
			SB	SB Thru/Left	35.97	D	95.71	36.67	D	107.70	34.59	C	278.16	34.87	C	294.35
				SB Right	40.11	D	183.76	40.03	D	183.54	23.04	C	144.37	21.86	C	139.84
			EB	Left	25.08	C	148.69	25.14	C	148.96	18.87	B	49.19	20.43	C	51.66
				Through	4.34	A	117.81	4.35	A	118.22	33.96	C	744.25	41.96	D	818.01
				Right	2.86	A	5.66	2.87	A	5.68	8.27	A	4.56	8.94	A	4.79
			WB	Left	6.87	A	4.00	6.88	A	4.01	55.26	E	40.04	56.78	E	40.85
				Through	5.33	A	188.06	5.35	A	188.71	11.65	B	213.13	12.59	B	222.07
				Right	3.82	A	57.80	3.90	A	61.57	8.69	A	25.16	9.51	A	32.58
3	Indian Hills Rd & Mission Hills Rd	Stop Controlled	NB	Thru/Left	7.38	A	3.76	7.40	A	4.55	7.35	A	2.84	7.38	A	3.71
			SB	Thru/Right	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00	0.00	A	0.00
			EB	Left/Right	10.18	B	8.43	10.47	B	9.42	10.33	B	19.83	10.73	B	22.38

ARARAT HOME

EXPANSION ENTITLEMENTS APPLICATION
LA CITY PLANNING DEPARTMENT

SITE PLAN

01.17.2020

SITE PLAN

A1.00

ARARAT HOME OF LOS ANGELES INC
15170 MISSION HILLS RD, MISSION HILLS, CA 91345

Zaian Woo Architects
Architects
Culver City CA

Appendix B

Delay and Queue Length Worksheets (Modified)

Intersection Level Of Service Report
Intersection 1: Rinaldi & Indian Hills

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Indian Hills			Indian Hills			Rinaldi			Rinaldi		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Hills			Indian Hills			Rinaldi			Rinaldi		
Base Volume Input [veh/h]	35	12	25	87	3	161	150	907	29	9	1230	244
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	12	0	0	0	0	0	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	12	25	99	3	161	150	907	29	9	1230	260
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	7	26	1	43	40	241	8	2	327	69
Total Analysis Volume [veh/h]	37	13	27	105	3	171	160	965	31	10	1309	277
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	11			4			19			18		
v_di, Inbound Pedestrian Volume crossing major street [	19			18			11			4		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	6	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	8	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.6	0.0	0.0	4.4	0.0	0.0	4.4	0.0
All red [s]	0.0	1.0	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Split [s]	0	40	0	0	40	0	0	50	0	0	50	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	19	0	0	8	0	0	8	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			Yes			Yes	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	14	14	68	68	68	68	68	68
g / C, Green / Cycle	0.15	0.15	0.15	0.76	0.76	0.76	0.76	0.76	0.76
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.11	0.38	0.27	0.02	0.02	0.37	0.18
s, saturation flow rate [veh/h]	886	1179	1589	419	3560	1558	580	3560	1567
c, Capacity [veh/h]	112	256	238	327	2709	1186	451	2709	1192
d1, Uniform Delay [s]	36.52	35.96	36.37	12.35	3.52	2.62	5.95	4.06	3.11
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.21	1.10	4.01	5.17	0.37	0.04	0.09	0.62	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

	C	C	R	L	C	R	L	C	R
X, volume / capacity	0.69	0.42	0.72	0.49	0.36	0.03	0.02	0.48	0.23
d, Delay for Lane Group [s/veh]	43.73	37.06	40.37	17.52	3.89	2.66	6.04	4.68	3.57
Lane Group LOS	D	D	D	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.70	2.27	3.78	2.39	2.18	0.11	0.07	3.43	1.19
50th-Percentile Queue Length [ft/ln]	42.58	56.85	94.50	59.69	54.61	2.78	1.84	85.82	29.70
95th-Percentile Queue Length [veh/ln]	3.07	4.09	6.80	4.30	3.93	0.20	0.13	6.18	2.14
95th-Percentile Queue Length [ft/ln]	76.64	102.33	170.10	107.44	98.29	5.00	3.32	154.47	53.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.73	43.73	43.73	37.06	37.06	40.37	17.52	3.89	2.66	6.04	4.68	3.57
Movement LOS	D	D	D	D	D	D	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	43.73			39.09			5.74			4.50		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	9.04											
Intersection LOS	A											
Intersection V/C	0.489											

Other Modes

g_Walk,mi, Effective Walk Time [s]	26.0	26.0	11.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.76	22.76	34.67	36.45
I_p,int, Pedestrian LOS Score for Intersection	1.771	2.387	3.071	3.041
Crosswalk LOS	A	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	764	1002	1002
d_b, Bicycle Delay [s]	16.20	17.17	11.20	11.20
I_b,int, Bicycle LOS Score for Intersection	1.687	2.020	2.513	2.876
Bicycle LOS	A	B	B	C

Sequence
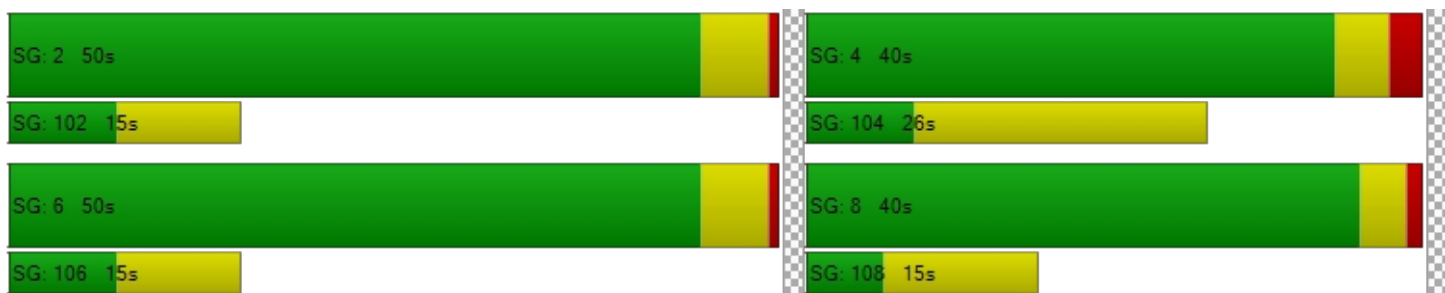
Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SG: 2 50s
SG: 102 15s
SG: 4 40s
SG: 104 26s
SG: 6 50s
SG: 106 15s
SG: 8 40s
SG: 108 15s

Intersection Level Of Service Report
Intersection 2: Rinaldi & Memory Park

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name											Rinaldi	
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name											Rinaldi	
Base Volume Input [veh/h]	0	0	0	0	0	4	54	1240	0	0	1574	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	17	21	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	21	75	1240	0	0	1574	8
Peak Hour Factor	1.0000	1.0000	1.0000	0.9170	0.9170	0.9170	0.9170	0.9170	1.0000	1.0000	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	6	20	338	0	0	429	2
Total Analysis Volume [veh/h]	0	0	0	0	0	23	82	1352	0	0	1716	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.08	0.23	0.01	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	362.03	506.48	18.08	17.82	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	F	C	C	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.25	0.25	0.25	0.86	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.22	6.22	6.22	21.41	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.08			1.02			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	0.59											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Mission Hills & Indian Hills

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian Hills		Indian Hills		Mission Hills	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⊣		⊦		⊤	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Indian Hills		Indian Hills		Mission Hills	
Base Volume Input [veh/h]	65	20	18	4	2	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	20	18	4	2	100
Peak Hour Factor	0.9170	0.9170	0.9170	0.9170	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	5	5	1	1	27
Total Analysis Volume [veh/h]	88	22	20	4	2	109
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	10.37	8.82
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.35	0.35
95th-Percentile Queue Length [ft/ln]	4.39	4.39	0.00	0.00	8.87	8.87
d_A, Approach Delay [s/veh]	5.92		0.00		8.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.66					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Rinaldi & Indian Hills

Control Type:	Signalized	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	Indian Hills			Indian Hills			Rinaldi			Rinaldi		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Hills			Indian Hills			Rinaldi			Rinaldi		
Base Volume Input [veh/h]	35	12	25	87	3	161	150	907	29	9	1230	244
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800
In-Process Volume [veh/h]	0	0	0	0	0	0	0	6	0	0	6	0
Site-Generated Trips [veh/h]	0	0	0	12	0	0	0	0	0	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	13	27	106	3	174	162	986	31	10	1334	280
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	3	7	28	1	46	43	262	8	3	355	74
Total Analysis Volume [veh/h]	40	14	29	113	3	185	172	1049	33	11	1419	298
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	11			4			19			18		
v_di, Inbound Pedestrian Volume crossing major street [	19			18			11			4		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	6	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	8	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.6	0.0	0.0	4.4	0.0	0.0	4.4	0.0
All red [s]	0.0	1.0	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Split [s]	0	40	0	0	40	0	0	50	0	0	50	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	19	0	0	8	0	0	8	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			Yes			Yes	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	14	14	68	68	68	68	68	68
g / C, Green / Cycle	0.16	0.16	0.16	0.75	0.75	0.75	0.75	0.75	0.75
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.12	0.46	0.29	0.02	0.02	0.40	0.19
s, saturation flow rate [veh/h]	833	1145	1589	378	3560	1558	536	3560	1566
c, Capacity [veh/h]	110	261	253	289	2677	1171	410	2677	1178
d1, Uniform Delay [s]	36.46	35.62	35.96	16.44	3.92	2.82	6.77	4.60	3.40
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.85	1.18	4.06	8.71	0.43	0.04	0.12	0.76	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

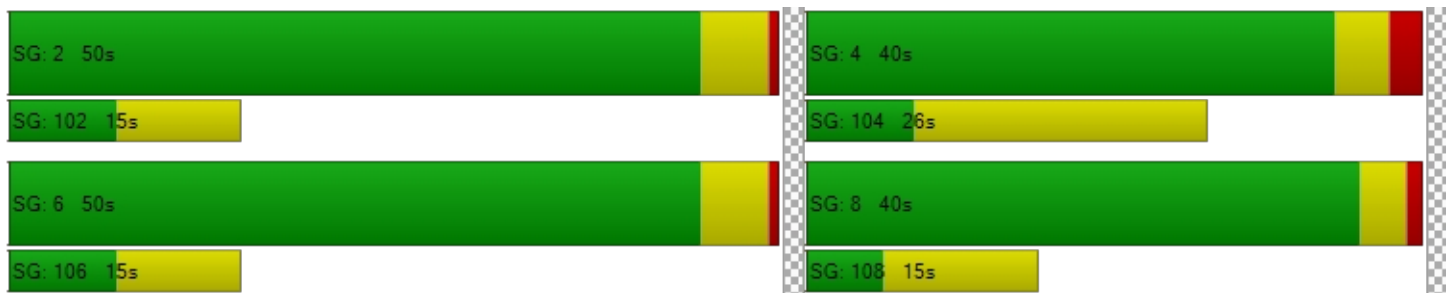|									
X, volume / capacity	0.75	0.44	0.73	0.59	0.39	0.03	0.03	0.53	0.25
d, Delay for Lane Group [s/veh]	46.31	36.81	40.02	25.15	4.35	2.87	6.89	5.35	3.92
Lane Group LOS	D	D	D	C	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	2.44	4.08	3.31	2.63	0.13	0.09	4.20	1.39
50th-Percentile Queue Length [ft/ln]	47.03	61.07	101.94	82.79	65.72	3.16	2.23	104.90	34.66
95th-Percentile Queue Length [veh/ln]	3.39	4.40	7.34	5.96	4.73	0.23	0.16	7.55	2.50
95th-Percentile Queue Length [ft/ln]	84.66	109.93	183.49	149.02	118.29	5.69	4.01	188.83	62.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.31	46.31	46.31	36.81	36.81	40.02	25.15	4.35	2.87	6.89	5.35	3.92
Movement LOS	D	D	D	D	D	D	C	A	A	A	A	A
d_A, Approach Delay [s/veh]	46.31			38.78			7.17			5.12		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	9.91											
Intersection LOS	A											
Intersection V/C	0.572											

Other Modes

g_Walk,mi, Effective Walk Time [s]	26.0	26.0	11.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.76	22.76	34.67	36.45
I_p,int, Pedestrian LOS Score for Intersection	1.776	2.423	3.110	3.089
Crosswalk LOS	A	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	764	1002	1002
d_b, Bicycle Delay [s]	16.20	17.17	11.20	11.20
I_b,int, Bicycle LOS Score for Intersection	1.697	2.056	2.594	2.985
Bicycle LOS	A	B	B	C

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SG: 2 50s
SG: 102 15s
SG: 6 50s
SG: 106 15s
SG: 4 40s
SG: 104 26s
SG: 8 40s
SG: 108 15s

Intersection Level Of Service Report
Intersection 2: Rinaldi & Memory Park

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.270

Intersection Setup

Name											Rinaldi	
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name											Rinaldi	
Base Volume Input [veh/h]	0	0	0	0	0	4	54	1240	0	0	1574	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800
In-Process Volume [veh/h]	0	0	0	0	0	0	0	6	0	0	6	0
Site-Generated Trips [veh/h]	0	0	0	0	0	17	21	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	21	79	1345	0	0	1706	9
Peak Hour Factor	1.0000	1.0000	1.0000	0.9170	0.9170	0.9170	0.9170	0.9170	1.0000	1.0000	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	6	22	367	0	0	465	2
Total Analysis Volume [veh/h]	0	0	0	0	0	23	86	1467	0	0	1860	10
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.09	0.27	0.01	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	556.99	809.02	19.76	20.46	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	F	C	C	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.28	0.28	0.28	1.07	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	7.01	7.01	7.01	26.80	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			19.76			1.13			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	0.64											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Mission Hills & Indian Hills

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian Hills		Indian Hills		Mission Hills	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⊣		⊢		⊤	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Indian Hills		Indian Hills		Mission Hills	
Base Volume Input [veh/h]	65	20	18	4	2	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	22	19	4	2	107
Peak Hour Factor	0.9170	0.9170	0.9170	0.9170	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	6	5	1	1	29
Total Analysis Volume [veh/h]	94	24	21	4	2	117
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	0.00	10.53	8.86
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.00	0.00	0.38	0.38
95th-Percentile Queue Length [ft/ln]	4.71	4.71	0.00	0.00	9.60	9.60
d_A, Approach Delay [s/veh]	5.90		0.00		8.89	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.69					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Rinaldi & Indian Hills

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	Indian Hills			Indian Hills			Rinaldi			Rinaldi		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Hills			Indian Hills			Rinaldi			Rinaldi		
Base Volume Input [veh/h]	25	1	19	278	1	180	65	1781	11	26	799	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	22	0	0	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	1	19	300	1	180	65	1781	11	26	799	72
Peak Hour Factor	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	5	78	0	47	17	460	3	7	207	19
Total Analysis Volume [veh/h]	26	1	20	310	1	186	67	1842	11	27	826	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	28			19			35			29		
v_di, Inbound Pedestrian Volume crossing major street [	35			29			28			19		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	6	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	44	0	0	44	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	4.4	0.0	0.0	4.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Split [s]	0	40	0	0	40	0	0	50	0	0	50	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	19	0	0	19	0	0	8	0	0	8	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			Yes			Yes	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	30	52	52	52	52	52	52
g / C, Green / Cycle	0.34	0.34	0.34	0.58	0.58	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.23	0.30	0.12	0.10	0.52	0.01	0.11	0.23	0.05
s, saturation flow rate [veh/h]	201	1042	1589	656	3560	1503	251	3560	1523
c, Capacity [veh/h]	130	429	533	365	2051	865	109	2051	877
d1, Uniform Delay [s]	24.93	28.40	22.52	16.06	16.76	8.15	39.41	10.54	8.49
k, delay calibration	0.17	0.29	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	6.20	0.39	1.11	6.75	0.03	5.34	0.59	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

|									
X, volume / capacity	0.36	0.72	0.35	0.18	0.90	0.01	0.25	0.40	0.08
d, Delay for Lane Group [s/veh]	27.58	34.61	22.92	17.17	23.52	8.17	44.75	11.13	8.68
Lane Group LOS	C	C	C	B	C	A	D	B	A
Critical Lane Group	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.76	6.83	2.95	0.95	16.68	0.09	0.74	4.33	0.65
50th-Percentile Queue Length [ft/ln]	18.95	170.83	73.70	23.85	417.00	2.30	18.59	108.17	16.16
95th-Percentile Queue Length [veh/ln]	1.36	11.12	5.31	1.72	23.38	0.17	1.34	7.74	1.16
95th-Percentile Queue Length [ft/ln]	34.11	278.00	132.65	42.94	584.45	4.14	33.47	193.45	29.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.58	27.58	27.58	34.61	34.61	22.92	17.17	23.52	8.17	44.75	11.13	8.68
Movement LOS	C	C	C	C	C	C	B	C	A	D	B	A
d_A, Approach Delay [s/veh]	27.58			30.23			23.21			11.91		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	21.21											
Intersection LOS	C											
Intersection V/C	0.816											

Other Modes

g_Walk,mi, Effective Walk Time [s]	26.0	26.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	430.39	507.95	0.00	0.00
d_p, Pedestrian Delay [s]	22.76	22.76	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	1.778	2.226	3.042	3.397
Crosswalk LOS	A	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	764	764	1002	1002
d_b, Bicycle Delay [s]	17.17	17.17	11.20	11.20
I_b,int, Bicycle LOS Score for Intersection	1.637	2.380	3.144	2.324
Bicycle LOS	A	B	C	B

Sequence
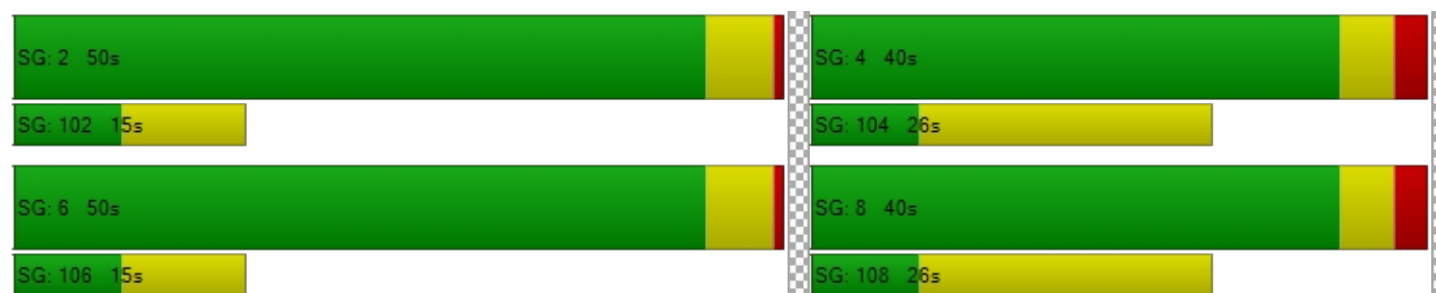
Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Rinaldi & Memory Park

Control Type:	Two-way stop	Delay (sec / veh):	148.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.222

Intersection Setup

Name										Rinaldi		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name										Rinaldi		
Base Volume Input [veh/h]	0	0	0	6	0	10	25	1772	0	0	1037	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	30	21	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	6	0	40	46	1772	0	0	1037	16
Peak Hour Factor	1.0000	1.0000	1.0000	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	10	12	461	0	0	270	4
Total Analysis Volume [veh/h]	0	0	0	6	0	42	48	1846	0	0	1080	17
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.22	0.00	0.09	0.08	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	148.40	320.78	22.59	11.16	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	F	C	B	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.23	1.23	1.23	0.25	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	30.81	30.81	30.81	6.14	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			38.32			0.28			0.00		
Approach LOS	A			E			A			A		
d_I, Intersection Delay [s/veh]	0.78											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Mission Hills & Indian Hills

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Indian Hills		Indian Hills		Mission Hills	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Indian Hills		Indian Hills		Mission Hills	
Base Volume Input [veh/h]	43	7	17	2	1	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	7	17	2	1	182
Peak Hour Factor	0.7880	0.7880	0.7880	0.7880	0.7880	0.7880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	2	5	1	0	58
Total Analysis Volume [veh/h]	74	9	22	3	1	231
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.22
d_M, Delay for Movement [s/veh]	7.38	0.00	0.00	0.00	10.63	9.38
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.00	0.00	0.84	0.84
95th-Percentile Queue Length [ft/ln]	3.66	3.66	0.00	0.00	21.06	21.06
d_A, Approach Delay [s/veh]	6.58		0.00		9.39	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.01					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Rinaldi & Indian Hills

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.884

Intersection Setup

Name	Indian Hills			Indian Hills						Rinaldi		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Hills			Indian Hills						Rinaldi		
Base Volume Input [veh/h]	25	1	19	278	1	180	65	1781	11	26	799	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800
In-Process Volume [veh/h]	0	0	0	0	0	0	0	8	0	0	8	0
Site-Generated Trips [veh/h]	0	0	0	22	0	0	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	1	21	322	1	194	70	1931	12	28	871	77
Peak Hour Factor	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	5	83	0	50	18	499	3	7	225	20
Total Analysis Volume [veh/h]	28	1	22	333	1	201	72	1997	12	29	901	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	28			19			35			29		
v_di, Inbound Pedestrian Volume crossing major street [	35			29			28			19		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	6	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	10	0	0	10	0
Maximum Green [s]	0	34	0	0	34	0	0	44	0	0	44	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	4.4	0.0	0.0	4.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Split [s]	0	40	0	0	40	0	0	50	0	0	50	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	19	0	0	19	0	0	8	0	0	8	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	32	50	50	50	50	50	50
g / C, Green / Cycle	0.36	0.36	0.36	0.55	0.55	0.55	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.27	0.32	0.13	0.12	0.56	0.01	0.13	0.25	0.05
s, saturation flow rate [veh/h]	187	1033	1589	618	3560	1499	216	3560	1521
c, Capacity [veh/h]	129	449	569	319	1970	829	81	1970	841
d1, Uniform Delay [s]	24.91	27.48	21.24	19.13	20.10	9.05	44.99	12.02	9.45
k, delay calibration	0.25	0.34	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.42	7.46	0.37	1.63	23.73	0.03	11.88	0.77	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

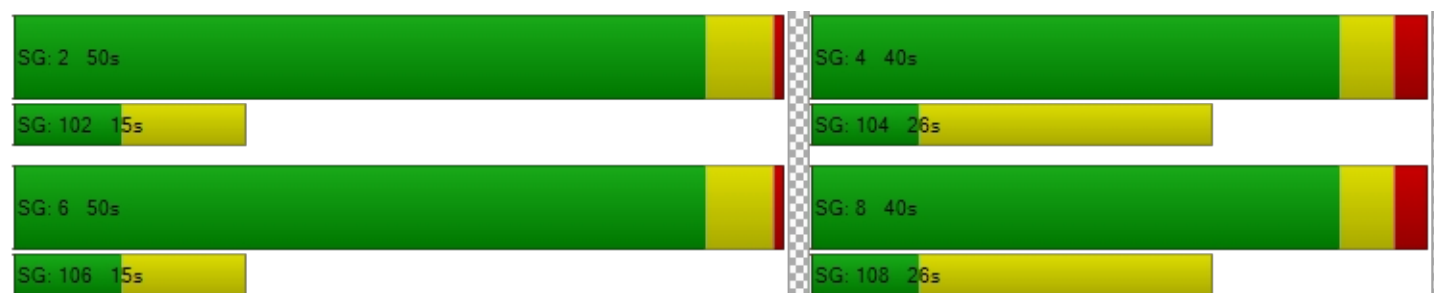|	C	C	R	L	C	R	L	C	R
X, volume / capacity	0.40	0.74	0.35	0.23	1.01	0.01	0.36	0.46	0.10
d, Delay for Lane Group [s/veh]	29.33	34.94	21.62	20.76	43.83	9.08	56.87	12.79	9.68
Lane Group LOS	C	C	C	C	F	A	E	B	A
Critical Lane Group	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.85	7.44	3.09	1.16	24.78	0.11	0.91	5.21	0.75
50th-Percentile Queue Length [ft/ln]	21.24	185.99	77.17	28.98	619.54	2.69	22.72	130.31	18.78
95th-Percentile Queue Length [veh/ln]	1.53	11.91	5.56	2.09	33.32	0.19	1.64	8.96	1.35
95th-Percentile Queue Length [ft/ln]	38.23	297.82	138.91	52.17	832.95	4.84	40.90	223.92	33.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.33	29.33	29.33	34.94	34.94	21.62	20.76	43.83	9.08	56.87	12.79	9.68
Movement LOS	C	C	C	C	C	C	C	F	A	E	B	A
d_A, Approach Delay [s/veh]	29.33			29.94			42.83			13.81		
Approach LOS	C			C			D			B		
d_I, Intersection Delay [s/veh]	32.80											
Intersection LOS	C											
Intersection V/C	0.884											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	170.97	162.42	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	1.801	2.266	3.080	3.472
Crosswalk LOS	A	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	764	764	1002	1002
d_b, Bicycle Delay [s]	17.17	17.17	11.20	11.20
I_b,int, Bicycle LOS Score for Intersection	1.644	2.442	3.276	2.393
Bicycle LOS	A	B	C	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SG: 2 50s

SG: 102 15s

SG: 4 40s

SG: 104 26s

SG: 6 50s

SG: 106 15s

SG: 8 40s

SG: 108 26s

Intersection Level Of Service Report
Intersection 2: Rinaldi & Memory Park

Control Type:	Two-way stop	Delay (sec / veh):	206.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	6	0	10	25	1772	0	0	1037	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800
In-Process Volume [veh/h]	0	0	0	0	0	0	0	8	0	0	8	0
Site-Generated Trips [veh/h]	0	0	0	0	0	30	21	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	6	0	41	48	1922	0	0	1128	17
Peak Hour Factor	1.0000	1.0000	1.0000	0.9620	0.9620	0.9620	0.9620	0.9620	1.0000	1.0000	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	11	12	499	0	0	293	4
Total Analysis Volume [veh/h]	0	0	0	6	0	43	50	1998	0	0	1173	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.31	0.00	0.10	0.09	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	206.77	476.82	31.58	11.77	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	F	D	B	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.70	1.70	1.70	0.28	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	42.44	42.44	42.44	7.02	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			53.03			0.29			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	0.97											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Mission Hills & Indian Hills

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Indian Hills		Indian Hills		Mission Hills	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⊣		⊢		⊤	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Indian Hills		Indian Hills		Mission Hills	
Base Volume Input [veh/h]	43	7	17	2	1	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0800	1.0800	1.0800	1.0800	1.0800	1.0800
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	8	18	2	1	195
Peak Hour Factor	0.7880	0.7880	0.7880	0.7880	0.7880	0.7880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	3	6	1	0	62
Total Analysis Volume [veh/h]	77	10	23	3	1	247
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.23
d_M, Delay for Movement [s/veh]	7.38	0.00	0.00	0.00	10.78	9.48
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.00	0.00	0.92	0.92
95th-Percentile Queue Length [ft/ln]	3.82	3.82	0.00	0.00	22.98	22.98
d_A, Approach Delay [s/veh]	6.53		0.00		9.48	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.09					
Intersection LOS	B					