APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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11/15/2022

EXHIBIT A

Project Scoping Form

This scoping form shall be submitted to the Lead Agency to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	PEN21-0325
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Cottonwood & Edgemont Warehouse
Project Address:	South of Edgemont Channel and east of Old 215 Frontage Road
Project Opening Year:	2025
Project Description:	89,667 square feet of general light industrial use and 9,963 square feet of high-cube cold storage warehouse use

	Consultant:	**Developer:** (Representative)
Name:	Urban Crossroads - Charlene So	T&B Planning - David Ornelas
Address:	1133 Camelback St, #8329	3200 El Camino Real, Suite 100
	Newport Beach, CA 92658	Irvine, CA 92602
Telephone:	949-861-0177	
Email:	cso@urbanxroads.com	dornelas@tbplanning.com

Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual (11th Edition, 2021)

The City of Moreno Valley reserves the right to use, share, and reproduce he information including, but not limited to, traffic counts, exhibits, and surveys provided in all submitted traffic studies and VMT assessments.

Current General Plan Land Use:

Business Park/Light Industrial

Proposed General Plan Land Use:

Business Park/Light Industrial

Current Zoning:

Business Park/Light Industrial

Proposed Zoning:

Business Park/Light Industrial

	Existing Trip Generation			Proposed Trip Generation (PCE)		
	In	Out	Total	In	Out	Total
AM Trips				60	9	69
PM Trips				9	52	61

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☐ Yes ☑ No (_____% Trip Discount)

Potential Screening Checks

Is your project screened from specific analyses (see Page 3 of the guidelines related to LOS assessment and Pages 22-23 for VMT screening criteria).

Is the project screened from LOS assessment? ☐ Yes ☑ No

LOS screening justification (see Page 3 of the guidelines): _____
Due to the project's description and operations, the City has requested that a traffic study be prepared to analyze the project impacts to adjacent streets and intersections.

Is the project screened from VMT assessment? ☑ Yes ☐ No

VMT screening justification (see Pages 22-23 of the guidelines): _____
Project is located within a low VMT generating area and would screen out.

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution):

North	South	East	West
%	%	%	%

See Exhibit 2 and 3.

Link level of service and data collection:

____ will be required

X___ will not be required

- Attach list of study intersections (and roadway segments if applicable)
- Attach site plan
- Other specific items to be addressed:
  - Site access
  - On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other _____
- Date of Traffic Counts October 2022
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased) See Attached letter

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used Not Applicable
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

November 10, 2022

Mr. Wei Sun
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92552

COTTONWOOD & EDGEMONT WAREHOUSE (PEN21-0325) TRAFFIC ANALYSIS SCOPING AGREEMENT

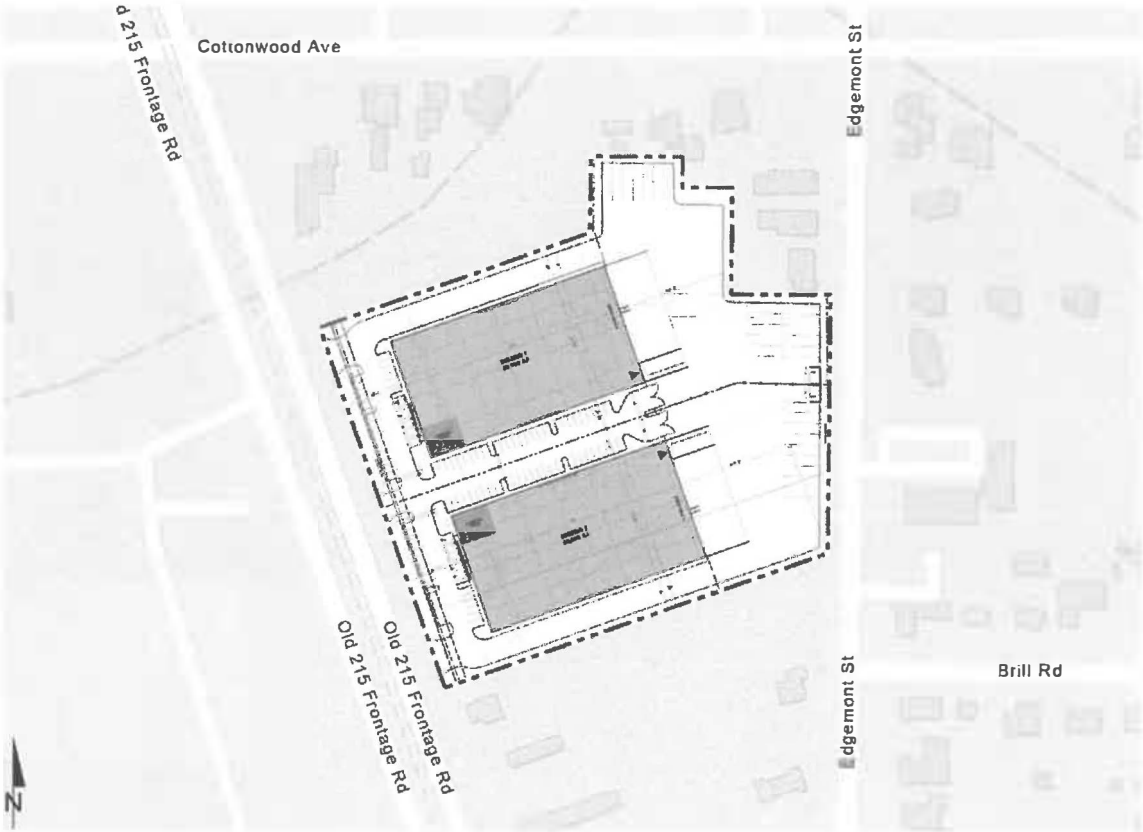
Mr. Wei Sun,

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic impact analysis for Cottonwood & Edgemont Warehouse (**Project**), which is located south of Cottonwood Avenue between Old 215 Frontage Road and Edgemont Street in the City of Moreno Valley. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations. The following scope of work is consistent with the City of Moreno Valley's Transportation Impact Analysis Preparation Guide for Vehicles Miles Traveled and Level of Service Assessment (June 2020) (**City's Guidelines**).

PROJECT DESCRIPTION

The Project is proposed to consist of two 49,815 square foot warehouse buildings for a total of 99,630 square feet (see Exhibit 1). For the purposes of this assessment, the trip generation will evaluate 9,963 square feet of high-cube cold storage warehouse use (10% of the total square footage) and 89,667 square feet of general light industrial use. Access to the Project site will be accommodated via three driveways along Old 215 Frontage Road (all of which will be restricted to right-in/right-out only due to the existing raised median). Regional access is accommodated via the I-215 Freeway via either Eucalyptus Avenue or Alessandro Boulevard. For the purposes of the traffic analysis, it is assumed that the Project would be developed in a single phase with an anticipated Opening Year of 2025 (City's Guidelines requires a minimum of 2 years).

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their latest Trip Generation Manual (11th Edition, 2021) for the following land uses (see Table 1):

- ITE land use code 110 (General Light Industrial) has been used to derive site specific trip generation estimates for up to 89,667 square feet of the proposed Project (90% of the total square footage). A light industrial facility is a free-standing facility devoted to a single use that has an emphasis on activities other than manufacturing. Typically, there is minimum office space. The vehicle mix has also been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 9,963 square feet (10 % of the total square

footage). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

TABLE 1: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
General Light Industrial[3]	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks			0.004	0.002	0.006	0.003	0.003	0.006	0.157
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
Passenger Car Equivalent (PCE) Trip Generation Rates[4]									
General Light Industrial[3]	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (PCE = 1.5)			0.002	0.001	0.003	0.002	0.001	0.003	0.063
3-Axle Trucks (PCE = 2.0)			0.002	0.002	0.004	0.002	0.002	0.004	0.104
4+-Axle Trucks (PCE = 3.0)			0.012	0.007	0.019	0.009	0.010	0.019	0.470
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE). Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[4] PCE factors: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual and passenger car equivalent (PCE) vehicles are shown on Table 2. As shown in Table 2, the proposed Project is anticipated to generate a total of 462 trip-ends per day with 67 AM peak hour trips and 59 PM peak hour trips (in actual vehicles). In comparison, the proposed Project is anticipated to generate a total of 504 PCE two-way trips per day with 68 PCE AM peak hour trips and 60 PCE PM peak hour trips.

TABLE 2: PROPOSED PROJECT TRIP GENERATION SUMMARY

		AM Peak Hour			PM Peak Hour			
Land Use	Quantity Units[1]	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:								
General Light Industrial (90%)	89.667 TSF							
Passenger Cars:		58	8	66	8	50	58	414
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	6
4+-axle Trucks:		0	0	0	0	0	0	14
Total Truck Trips (Actual Vehicles):		0	0	0	0	0	0	24
Total Trips (Actual Vehicles)[2]		58	8	66	8	50	58	438
High-Cube Cold Storage (10%)	9.963 TSF							
Passenger Cars:		1	0	1	0	1	1	14
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	2
4+-axle Trucks:		0	0	0	0	0	0	4
Total Truck Trips (Actual Vehicles):		0	0	0	0	0	0	10
Total Trips (Actual Vehicles)[2]		1	0	1	0	1	1	24
Passenger Cars		59	8	67	8	51	59	428
Trucks (Actual Vehicles)		0	0	0	0	0	0	34
Total Trips (Actual Vehicles)[2]		**59**	**8**	**67**	**8**	**51**	**59**	**462**
Passenger Car Equivalent (PCE):								
General Light Industrial (90%)	89.667 TSF							
2-axle Trucks:		0	0	0	0	0	0	6
3-axle Trucks:		0	0	0	0	0	0	10
4+-axle Trucks:		1	1	2	1	1	2	42
Total Truck Trips (PCE):		1	1	2	1	1	2	58
High-Cube Cold Storage (10%)	9.963 TSF							
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	2
4+-axle Trucks:		0	0	0	0	0	0	12
Total Truck Trips (PCE):		0	0	0	0	0	0	18
Passenger Cars		59	8	67	8	51	59	428
Trucks (PCE)		1	1	2	1	1	2	76
Total Trips (PCE)[2]		**60**	**9**	**69**	**9**	**52**	**61**	**504**

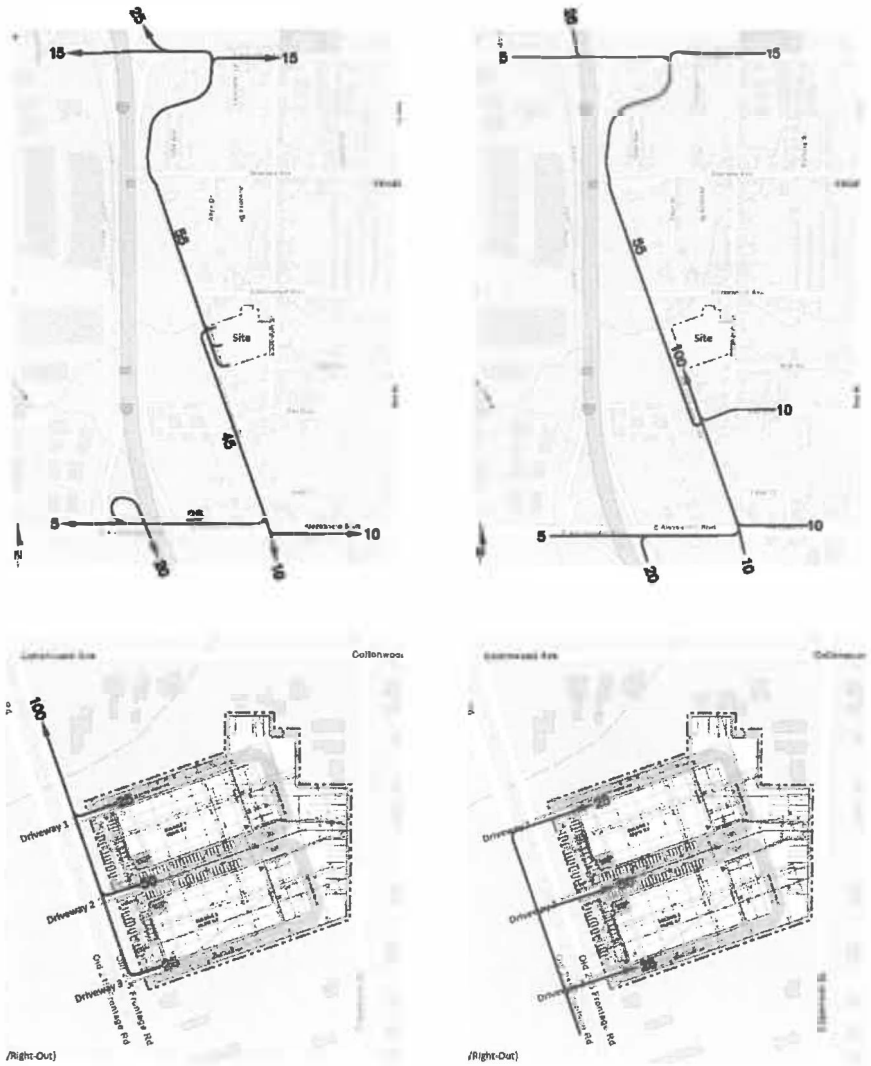
[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

TRIP DISTRIBUTION

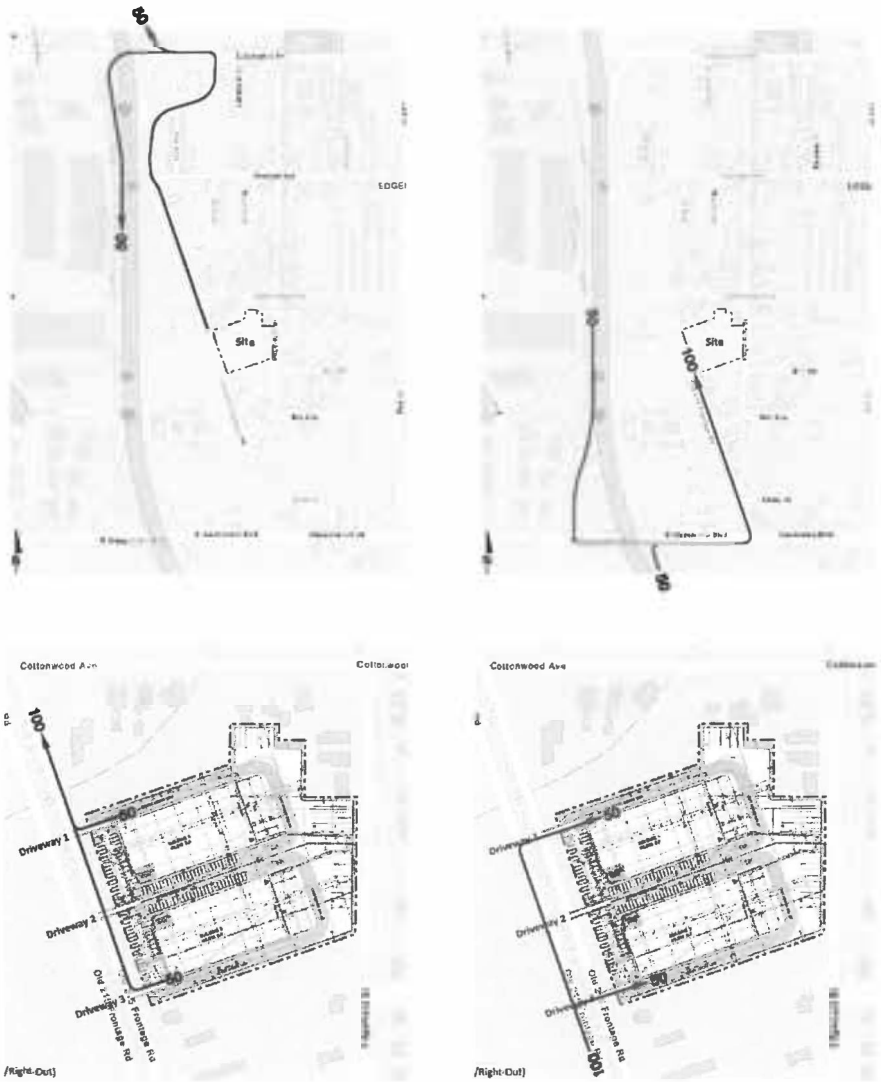
The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding land uses, and the proximity to the regional freeway system. Given these differences, separate trip distributions were generated for passenger cars and trucks. Exhibits 2 illustrates the trip distribution patterns for passenger cars and Exhibit 3 illustrates the truck trip distribution patterns.

EXHIBIT 2: PROJECT (PASSENGER CARS) TRIP DISTRIBUTION



10 = *Percent To/From Project*

EXHIBIT 3: PROJECT (TRUCK) TRIP DISTRIBUTION



10 = *Percent To/From Project*

STUDY AREA

The purpose of this traffic analysis is to evaluate the peak hour operations of study area intersections based on the proposed distribution of Project traffic. Per the City's traffic study guidelines, the study area has been developed by including locations where the Project is anticipated to contribute 50 or more peak hour trips to intersections of Collector or higher classification crossing one another within a 5-mile radius of the Project. Exhibit 4 presents the proposed study area intersection analysis locations (and listed on Table 3). The study area intersections will be evaluated using the HCM 6th Edition methodology.

EXHIBIT 4: STUDY AREA

TABLE 3: STUDY AREA INTERSECTIONS

#	Intersection
1	I-215 Ramps & Eucalyptus Av.
2	I-215 SB Ramps & Alessandro Bl.
3	I-215 NB Ramps & Alessandro Bl.
4	Old 215 Frontage Rd. & Eucalyptus Av.
5	Old 215 Frontage Rd. & Cottonwood Av.
6	Old 215 Frontage Rd. & Driveway 1
7	Old 215 Frontage Rd. & Driveway 2
8	Old 215 Frontage Rd. & Driveway 3
9	Old 215 Frontage Rd. & Bay Av.
10	Old 215 Frontage Rd. & Alessandro Bl.

ANALYSIS SCENARIOS

Peak hour operations analysis at each of the study area intersections and site access driveways will be assessed for the following analysis scenarios:

- Existing (2022)
- (Opening Year) Existing plus Ambient Growth plus Cumulative (EAC) (2024)
- (Opening Year) Existing plus Ambient Growth plus Cumulative plus Project (EAPC) (2024)

Peak hour operations and level of service (LOS) for study area intersections will be evaluated for the following time periods:

- Weekday AM peak hour (7-9 AM)
- Weekday PM peak hour (4-6 PM)

EXISTING COUNT DATA

Information for Existing (2022) conditions will be disclosed to represent the baseline traffic conditions. Traffic counts will be conducted when nearby schools are in session (with in person instruction) and operating on normal bell schedules. No adjustments are proposed to be made to the traffic counts for the purposes of establishing the baseline condition.

LEVEL OF SERVICE (LOS) CRITERIA

The definitions of an operational deficiency for each of the applicable jurisdictions are as follows:

- **City of Moreno Valley:** The Minimum LOS for the City of Moreno Valley is LOS D for intersections and roadway segments that are adjacent to freeway on/off ramps, and/or adjacent to employment generating land uses. LOS C is applicable to all other intersections and roadway segments. Boundary intersections are assumed to be LOS D.
- **City of Riverside:** Consistent with the City's TIA Guidelines, the following criteria will be applied for the traffic analysis for projects that are in conformance with the General Plan.
    - LOS C to be maintained at all street intersections.
    - LOS D is to be maintained at intersections of Collector or higher classification (see General Plan Policy CCM-2.3).

AMBIENT GROWTH

Consistent with other studies performed in the area, an ambient growth rate of 2.0% per year is proposed for the study area intersections to approximate background traffic growth not identified by nearby cumulative development projects. The rate will be compounded over a 2-year period (i.e., $1.02^{2\text{years}} = 1.0404$ or 4.04% for 2024).

CUMULATIVE PROJECTS

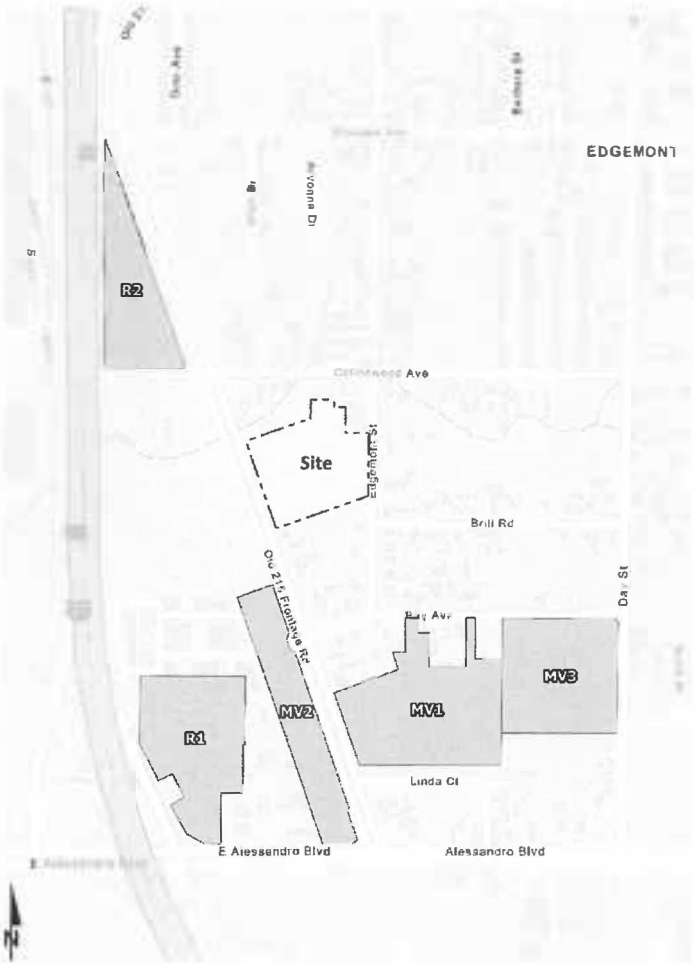
Cumulative projects to be included in the analysis are listed in Table 4 and shown on Exhibit 5. It is requested that the City provide any new cumulative projects for inclusion in the traffic study. The final list in the traffic study will include new projects obtained from the City's Planning Department. The list will also be shared with the City of Riverside to obtain a list of current projects within their jurisdiction.

TABLE 4: SUMMARY OF CUMULATIVE DEVELOPMENT PROJECTS

No.	Project Name / Case Number	Land Use	Quantity	Units[1]
MV1	Old 215 Fronta Road Business Park (PEN21-0105)	Warehousing	94.022	TSF
		General Light Industrial	102.974	TSF
MV2	Rev Wheel Industrial Park	General Light Industrial	176.000	TSF
MV3	Edgemont Commerce Center	Warehousing	142.345	TSF
R1	Alessandro Corporate Center	Manufacturing	115.526	TSF
R2	Old 215 Business Park	General Light Industrial	130	Emp

[1] TSF = Thousand Square Feet; EMP = Employees

EXHIBIT 5: CUMULATIVE DEVELOPMENT PROJECT LOCATION MAP



SPECIAL ISSUES

The following special issue will also be addressed as part of the Traffic Study:

- *Queuing Analysis:* Off-Ramp queuing analysis will be conducted for the I-215 Freeway off-ramp locations for each analysis scenario at both the Eucalyptus Avenue and Alessandro Boulevard interchanges. A site adjacent queuing evaluation will also be conducted for the opening year cumulative with project traffic conditions to determine the peak hour queues at the Project driveways. Lastly, queuing analysis will also be performed for the left turns at the study area intersections.
- *Traffic Signal Warrant Analysis;* Signal warrant analysis will be conducted for all full access, unsignalized intersections for each analysis scenario.
- *Truck Turns:* Truck turn templates will be prepared for the applicable driveways on Old 215 Frontage Road.

- *Fair Share:* include fair share calculations for a future traffic signal at the intersection of Old 215 Frontage Road and Cottonwood Avenue.

CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution, and the recommended intersection analysis locations for the Cottonwood & Edgemont Warehouse Traffic Analysis. We will continue to move forward towards completing the traffic study after receiving jurisdiction approval or comments finalizing the study area.

If you have any questions or comments, I can be reached at cso@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So, PE
Principal

REGISTERED PROFESSIONAL ENGINEER
CHARLENE HWANG SO
No. TR 2414
TRAFFIC
STATE OF CALIFORNIA

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APPENDIX 3.1: 2022 TRAFFIC COUNTS

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T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	I-215 Ramps	LOCATION #:	1
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND I-215 Ramps			SOUTHBOUND I-215 Ramps			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS					RTOR			
	LANES:	NL 2	NT X	NR 2	SL 2	ST X	SR 1	EL 1	ET 2	ER 1	WL 2	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR 0	SRR X	ERR X	WRR X
AM	7:00 AM	108	0	38	41	0	45	10	35	18	82	189	49	615	0	0	0	0	0	28	0	0	0
AM	7:15 AM	135	0	23	45	0	27	7	30	12	135	174	63	651	0	1	0	0	1	15	0	0	0
AM	7:30 AM	100	0	18	61	0	22	10	27	18	122	181	87	646	0	3	0	0	3	10	0	0	0
AM	7:45 AM	83	0	28	62	0	31	7	25	20	142	163	79	640	3	1	0	0	4	18	0	0	0
AM	8:00 AM	80	0	34	52	0	36	8	42	16	107	192	49	616	2	1	0	0	3	21	0	0	0
AM	8:15 AM	69	0	30	32	0	35	13	36	12	129	252	27	635	4	1	0	0	5	19	0	0	0
AM	8:30 AM	45	0	12	46	0	32	13	40	14	112	235	44	593	1	1	0	0	2	8	0	0	0
AM	8:45 AM	33	0	18	55	0	31	29	38	17	107	191	68	587	2	1	1	0	4	10	0	0	0
AM	VOLUMES	653	0	201	394	0	259	97	273	127	936	1,577	466	4,983	12	9	1	0	22	129	0	0	0
AM	APPROACH %	76%	0%	24%	60%	0%	40%	20%	55%	26%	31%	53%	16%										
AM	APP/DEPART	854	/	571	653	/	1,075	497	/	859	2,979	/	2,478	0									
AM	BEGIN PEAK HR		7:15 AM																				
AM	VOLUMES	398	0	103	220	0	116	32	124	66	506	710	278	2,553						64	0	0	0
AM	APPROACH %	79%	0%	21%	65%	0%	35%	14%	56%	30%	34%	48%	19%										
AM	PEAK HR FACTOR		0.793			0.903			0.841			0.958		0.980									
AM	APP/DEPART	501	/	316	336	/	577	222	/	441	1,494	/	1,219	0									
PM	4:00 PM	31	0	72	90	0	14	26	93	33	123	110	38	630	0	0	0	0	0	42	0	0	0
PM	4:15 PM	24	0	101	78	0	17	30	75	22	114	76	42	579	0	1	0	0	1	44	0	0	0
PM	4:30 PM	24	0	89	67	0	24	30	100	41	106	62	66	609	0	0	0	0	0	32	0	0	0
PM	4:45 PM	42	0	99	86	0	30	14	113	15	111	96	56	662	1	1	0	0	2	65	0	0	0
PM	5:00 PM	27	0	95	98	0	39	22	93	29	101	98	68	670	0	1	0	0	1	55	0	0	0
PM	5:15 PM	37	0	111	122	0	20	11	89	19	109	93	67	678	0	0	0	0	0	74	0	0	0
PM	5:30 PM	30	0	95	104	0	28	21	98	31	97	82	68	654	0	1	0	0	1	43	0	0	0
PM	5:45 PM	29	0	103	106	0	27	19	77	13	124	57	46	601	0	0	0	0	0	50	0	0	0
PM	VOLUMES	244	0	765	751	0	199	173	738	203	885	674	451	5,083	1	4	0	0	5	405	0	0	0
PM	APPROACH %	24%	0%	76%	79%	0%	21%	16%	66%	18%	44%	34%	22%										
PM	APP/DEPART	1,009	/	628	950	/	1,089	1,114	/	2,250	2,010	/	1,116	0									
PM	BEGIN PEAK HR		4:45 PM																				
PM	VOLUMES	136	0	400	410	0	117	68	393	94	418	369	259	2,664						237	0	0	0
PM	APPROACH %	25%	0%	75%	78%	0%	22%	12%	71%	17%	40%	35%	25%										
PM	PEAK HR FACTOR		0.905			0.928			0.925			0.972		0.982									
PM	APP/DEPART	536	/	330	527	/	513	555	/	1,200	1,046	/	621	0									

I-215 Ramps

NORTH SIDE

Eucalyptus WEST SIDE — EAST SIDE **Eucalyptus**

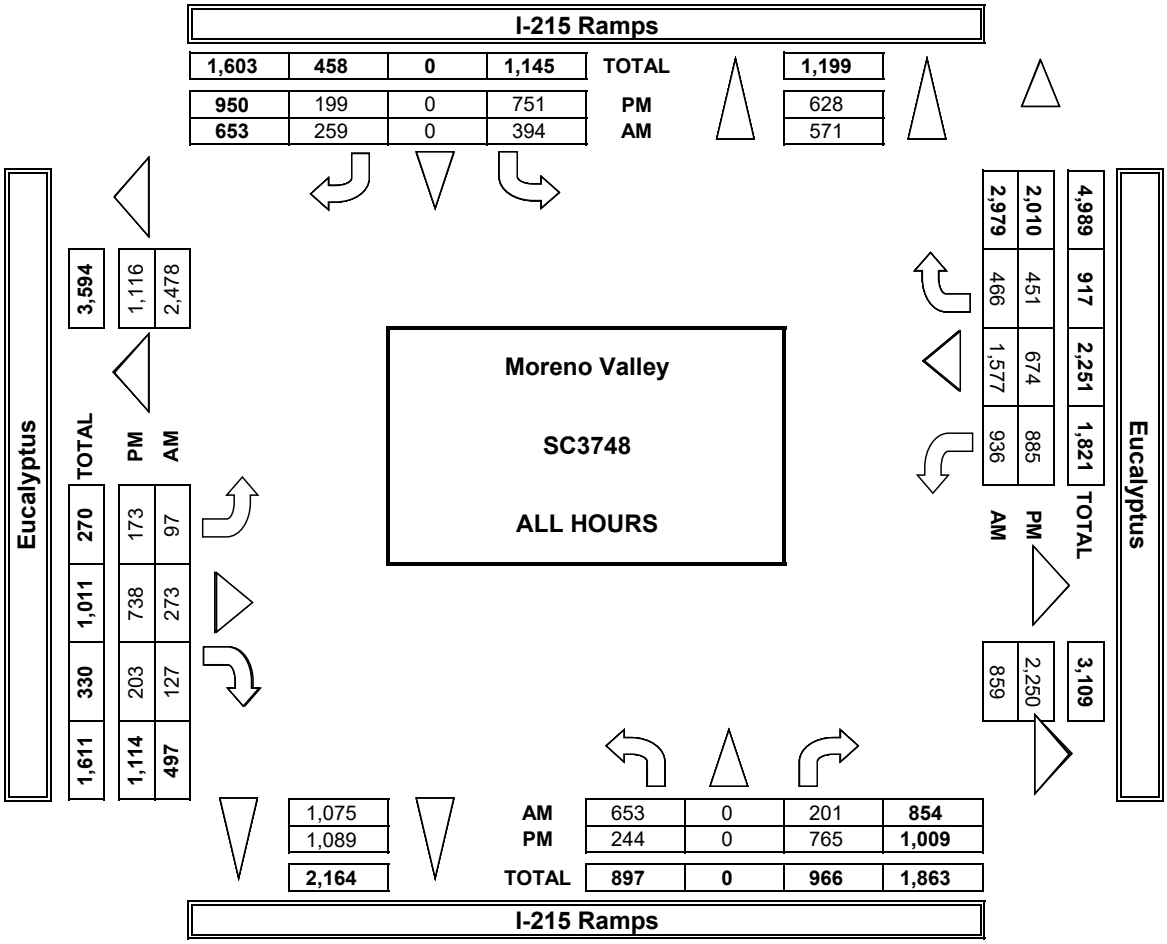
SOUTH SIDE

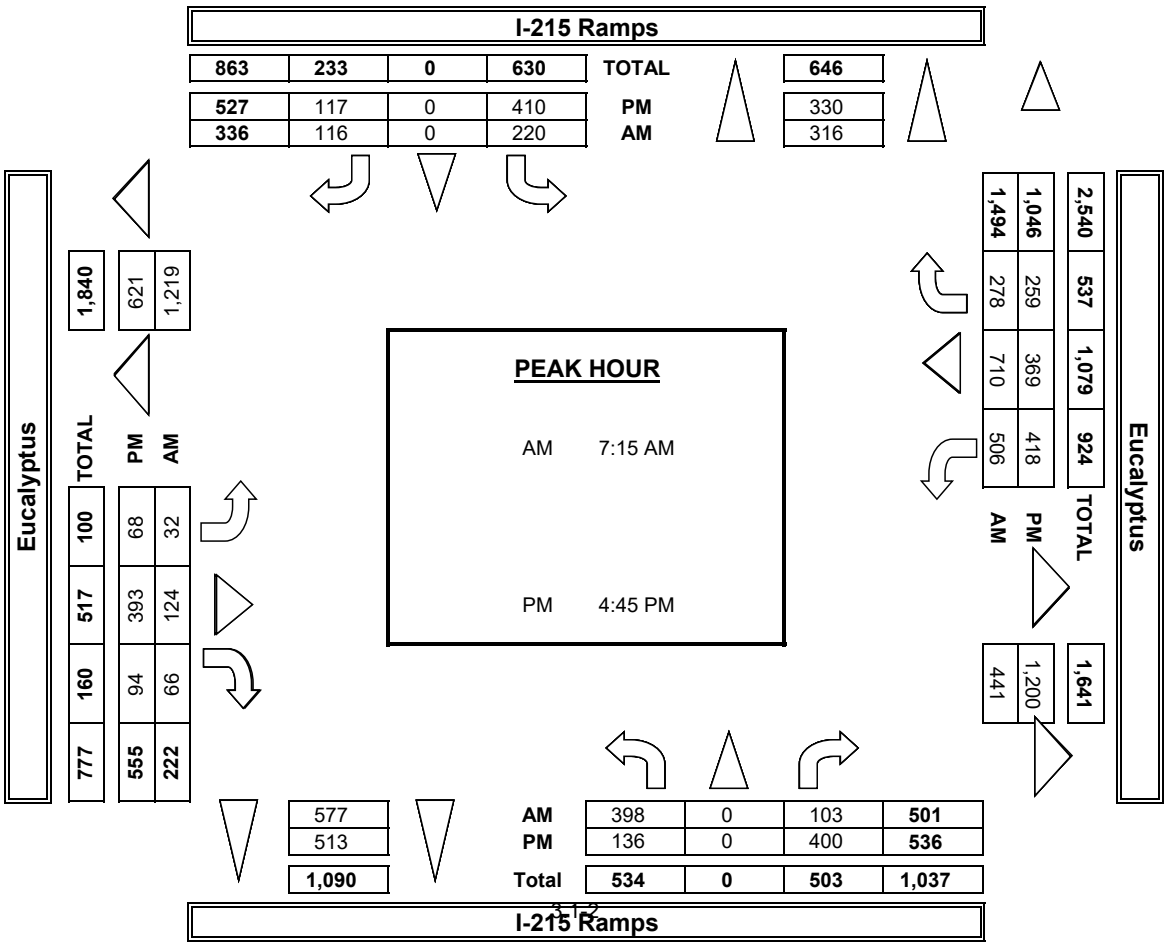
I-215 Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
AM	8:45 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
AM	TOTAL	0	0	1	2	3	0	0	0	2	2	0	0	1	0	1
PM	4:00 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	1	5	6	0	0	0	4	4	0	0	1	1	2
PM	4:45 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	TOTAL	0	0	1	11	12	0	0	0	9	9	0	0	1	2	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	I-215 Ramps	LOCATION #:	1
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	◄ W	▲ N / S ▼	E ►

		NORTHBOUND I-215 Ramps			SOUTHBOUND I-215 Ramps			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			
	LANES:	NL 2	NT X	NR 2	SL 2	ST X	SR 1	EL 1	ET 2	ER 1	WL 2	WT 2	WR 1	TOTAL
AM	7:00 AM	2	0	1	4	0	5	0	0	2	3	0	4	21
	7:15 AM	8	0	1	6	0	0	0	1	6	7	1	1	31
	7:30 AM	3	0	0	6	0	3	0	1	6	8	2	5	34
	7:45 AM	8	0	1	2	0	3	0	1	4	8	5	5	37
	8:00 AM	6	0	1	5	0	2	1	2	3	11	2	1	34
	8:15 AM	2	0	4	0	0	3	3	1	3	10	6	2	34
	8:30 AM	5	0	1	0	0	3	1	1	3	10	4	2	30
	8:45 AM	2	0	1	5	0	1	1	1	3	9	7	3	33
	VOLUMES	36	0	10	28	0	20	6	8	30	66	27	23	254
	APPROACH %	78%	0%	22%	58%	0%	42%	14%	18%	68%	57%	23%	20%	
	APP/DEPART	46	/	29	48	/	99	44	/	45	116	/	81	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	24	0	3	18	0	8	1	5	19	34	10	12	136
	APPROACH %	86%	0%	11%	67%	0%	30%	4%	20%	76%	61%	18%	21%	
	PEAK HR FACTOR		0.778			0.750			0.893			0.778		0.919
	APP/DEPART	28	/	14	27	/	54	25	/	26	56	/	42	0
PM	4:00 PM	2	0	2	3	0	4	0	2	4	2	0	2	21
	4:15 PM	3	0	2	5	0	2	2	2	1	4	0	1	22
	4:30 PM	0	0	5	4	0	4	0	1	1	2	0	1	18
	4:45 PM	2	0	3	2	0	2	0	3	4	4	2	2	24
	5:00 PM	1	0	1	2	0	6	0	2	1	1	1	2	17
	5:15 PM	1	0	3	2	0	1	0	1	3	3	0	3	17
	5:30 PM	2	0	4	3	0	1	0	0	2	1	0	1	14
	5:45 PM	1	0	1	4	0	1	1	0	1	0	0	2	11
	VOLUMES	12	0	21	25	0	21	3	11	17	17	3	14	144
	APPROACH %	36%	0%	64%	54%	0%	46%	10%	35%	55%	50%	9%	41%	
	APP/DEPART	33	/	18	46	/	34	31	/	56	34	/	36	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	6	0	11	8	0	10	0	6	10	9	3	8	72
	APPROACH %	35%	0%	65%	42%	0%	53%	0%	38%	63%	45%	15%	40%	
	PEAK HR FACTOR		0.708			0.594			0.571			0.625		0.750
	APP/DEPART	17	/	9	19	/	19	16	/	25	20	/	19	0

	U-TURNS NB	SB	EB	WB	TTL	RTOR NRR 0	SRR X	ERR X	WRR X
7:00 AM	0	0	0	0	0	1	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	1	0	0	0	0
8:00 AM	0	1	0	0	1	0	0	0	0
8:15 AM	1	0	0	0	1	3	0	0	0
8:30 AM	1	0	0	0	1	1	0	0	0
8:45 AM	0	0	1	0	1	0	0	0	0
VOLUMES	3	1	1	0	5	6	0	0	0
BEGIN PEAK HR VOLUMES						1	0	0	0
4:00 PM	0	0	0	0	0	1	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0
4:45 PM	0	0	0	0	0	2	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	1	0	0	1	6	0	0	0
BEGIN PEAK HR VOLUMES						3	0	0	0

I-215 Ramps

NORTH SIDE

Eucalyptus WEST SIDE EAST SIDE **Eucalyptus**

SOUTH SIDE

I-215 Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	I-215 Ramps	LOCATION #:	1
WEDNESDAY	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

CLASS 3:	NOTES:
3-AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

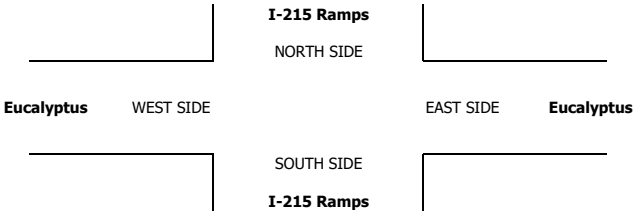
	NORTHBOUND I-215 Ramps			SOUTHBOUND I-215 Ramps			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			
LANES:	NL 2	NT X	NR 2	SL 2	ST X	SR 1	EL 1	ET 2	ER 1	WL 2	WT 2	WR 1	TOTAL
AM													
7:00 AM	0	0	0	0	0	1	1	0	2	0	0	0	4
7:15 AM	2	0	1	1	0	1	0	0	0	0	1	0	6
7:30 AM	2	0	0	0	0	1	0	0	1	0	1	1	6
7:45 AM	2	0	1	0	0	1	1	0	0	1	1	0	7
8:00 AM	0	0	0	0	0	1	1	0	3	1	1	0	7
8:15 AM	2	0	1	2	0	0	0	0	0	0	2	2	9
8:30 AM	4	0	0	1	0	2	0	0	0	1	1	1	10
8:45 AM	2	0	1	1	0	1	1	0	2	0	1	4	13
VOLUMES	14	0	4	5	0	8	4	0	8	3	8	8	62
APPROACH %	78%	0%	22%	38%	0%	62%	33%	0%	67%	16%	42%	42%	
APP/DEPART	18	/	14	13	/	11	12	/	7	19	/	30	0
BEGIN PEAK HR		7:15 AM											
VOLUMES	6	0	2	1	0	4	2	0	4	2	4	1	26
APPROACH %	75%	0%	25%	20%	0%	80%	33%	0%	67%	29%	57%	14%	
PEAK HR FACTOR		0.667			0.625			0.375			0.875		0.929
APP/DEPART	8	/	3	5	/	6	6	/	3	7	/	14	0
PM													
4:00 PM	0	0	1	0	0	1	1	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	2	3
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	1	2
4:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	2	0	1	0	0	1	0	4
5:15 PM	0	0	0	0	0	2	0	2	1	0	0	1	6
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	2	0	0	0	0	0	0	1	0	3
VOLUMES	1	0	1	3	0	7	1	3	2	0	2	4	24
APPROACH %	50%	0%	50%	30%	0%	70%	17%	50%	33%	0%	33%	67%	
APP/DEPART	2	/	6	10	/	2	6	/	6	6	/	10	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	0	0	0	0	0	6	0	3	1	0	1	1	13
APPROACH %	0%	0%	0%	0%	0%	86%	0%	75%	25%	0%	50%	50%	
PEAK HR FACTOR		0.000			0.875			0.333			0.500		0.542
APP/DEPART	0	/	2	7	/	1	4	/	3	2	/	7	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1

RTOR

NRR 0	SRR X	ERR X	WRR X
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
2	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	I-215 Ramps	LOCATION #:	1
WEDNESDAY	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

CLASS 4:	NOTES:
4 OR MORE AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER — ◄ W ▲ N S ▼ E ►

		NORTHBOUND I-215 Ramps			SOUTHBOUND I-215 Ramps			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	2	X	2	2	X	1	1	2	1	2	2	1							0	X	X	X
AM	7:00 AM	1	0	0	1	0	9	4	0	1	0	0	2	18	0	0	0	0	0	0	0	0	0
	7:15 AM	5	0	0	2	0	10	2	0	3	1	1	3	27	0	0	0	0	0	0	0	0	0
	7:30 AM	4	0	1	5	0	8	7	1	5	1	3	2	37	0	1	0	0	1	1	0	0	0
	7:45 AM	3	0	0	1	0	9	5	0	7	0	1	3	29	0	0	0	0	0	0	0	0	0
	8:00 AM	6	0	0	3	0	6	3	2	4	0	8	4	36	0	0	0	0	0	0	0	0	0
	8:15 AM	12	0	3	0	0	12	6	3	2	6	4	4	52	0	0	0	0	0	3	0	0	0
	8:30 AM	11	0	1	5	0	11	6	0	3	1	8	8	54	0	0	0	0	0	0	0	0	0
	8:45 AM	10	0	0	0	0	8	7	0	3	1	2	4	35	1	0	0	0	1	0	0	0	0
	VOLUMES	52	0	5	17	0	73	40	6	28	10	27	30	288	1	1	0	0	2	4	0	0	0
	APPROACH %	91%	0%	9%	19%	0%	81%	54%	8%	38%	15%	40%	45%										
	APP/DEPART	57	/	71	90	/	39	74	/	27	67	/	151	0									
	BEGIN PEAK HR		7:15 AM																				
	VOLUMES	18	0	1	10	0	33	17	3	19	2	13	12	129						1	0	0	0
	APPROACH %	95%	0%	5%	23%	0%	75%	44%	8%	49%	7%	48%	44%										
	PEAK HR FACTOR		0.792			0.846			0.750			0.563		0.872									
	APP/DEPART	19	/	30	44	/	21	39	/	14	27	/	64	0									
PM	4:00 PM	4	0	0	0	0	5	3	0	2	1	1	1	17	0	0	0	0	0	0	0	0	0
	4:15 PM	2	0	0	1	0	3	7	1	2	0	0	2	18	0	0	0	0	0	0	0	0	0
	4:30 PM	1	0	0	0	0	11	7	1	2	0	0	2	24	0	0	0	0	0	0	0	0	0
	4:45 PM	3	0	0	3	0	5	6	0	0	0	0	2	19	0	1	0	0	1	0	0	0	0
	5:00 PM	2	0	0	1	0	10	5	0	3	0	2	4	27	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	1	0	0	5	3	0	2	0	0	1	12	0	0	0	0	0	0	0	0	0
	5:30 PM	1	0	0	2	0	11	2	0	1	0	1	1	19	0	0	0	0	0	0	0	0	0
	5:45 PM	3	0	0	4	0	6	5	0	1	0	0	2	21	0	0	0	0	0	0	0	0	0
	VOLUMES	16	0	1	11	0	56	38	2	13	1	4	15	157	0	1	0	0	1	0	0	0	0
	APPROACH %	94%	0%	6%	16%	0%	84%	72%	4%	25%	5%	20%	75%										
	APP/DEPART	17	/	54	67	/	14	53	/	13	20	/	76	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	6	0	1	5	0	31	16	0	6	0	3	8	77						0	0	0	0
	APPROACH %	86%	0%	14%	14%	0%	84%	73%	0%	27%	0%	27%	73%										
	PEAK HR FACTOR		0.583			0.712			0.688			0.458		0.713									
	APP/DEPART	7	/	25	37	/	6	22	/	6	11	/	40	0									

I-215 Ramps

NORTH SIDE

Eucalyptus WEST SIDE EAST SIDE **Eucalyptus**

SOUTH SIDE

I-215 Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	2
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

NOTES:

Queue WB AM

AM / PM / MD / OTHER / OTHER

N ▲ ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro			
	LANES:	NL X	NT X	NR X	SL 1.5	ST X	SR 1.5	EL X	ET 3	ER 1	WL X	WT 3	WR 1	TOTAL
AM	7:00 AM	0	0	0	23	0	48	0	118	80	0	485	47	801
	7:15 AM	0	0	0	25	0	52	0	152	79	0	495	26	829
	7:30 AM	0	0	0	35	0	38	0	131	91	0	512	40	847
	7:45 AM	0	0	0	43	0	71	0	158	64	0	481	48	865
	8:00 AM	0	0	0	27	0	69	0	173	77	0	476	29	851
	8:15 AM	0	0	0	34	0	70	0	167	69	0	508	32	880
	8:30 AM	0	0	0	24	0	92	0	163	55	0	489	19	842
	8:45 AM	0	0	0	26	0	62	0	169	58	0	452	37	804
	VOLUMES	0	0	0	237	0	502	0	1,231	573	0	3,898	278	6,719
	APPROACH %	0%	0%	0%	32%	0%	68%	0%	68%	32%	0%	93%	7%	
	APP/DEPART	0	/	278	739	/	573	1,804	/	1,468	4,176	/	4,400	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	139	0	248	0	629	301	0	1,977	149	3,443
	APPROACH %	0%	0%	0%	36%	0%	64%	0%	68%	32%	0%	93%	7%	
	PEAK HR FACTOR		0.000			0.849			0.930			0.963		0.978
	APP/DEPART	0	/	149	387	/	301	930	/	768	2,126	/	2,225	0
PM	4:00 PM	0	0	0	36	0	67	0	300	94	0	288	16	801
	4:15 PM	0	0	0	31	0	72	0	289	94	0	308	30	824
	4:30 PM	0	0	0	45	0	59	0	307	94	0	315	23	843
	4:45 PM	0	0	0	44	0	73	0	341	91	0	311	31	891
	5:00 PM	0	0	0	38	0	86	0	335	100	0	304	25	888
	5:15 PM	0	0	0	35	0	78	0	332	78	0	326	19	868
	5:30 PM	0	0	0	41	0	83	0	362	87	0	298	26	897
	5:45 PM	0	0	0	43	0	103	0	310	86	0	230	21	793
	VOLUMES	0	0	0	313	0	621	0	2,576	724	0	2,380	191	6,805
	APPROACH %	0%	0%	0%	34%	0%	66%	0%	78%	22%	0%	93%	7%	
	APP/DEPART	0	/	191	934	/	724	3,300	/	2,889	2,571	/	3,001	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	0	0	158	0	320	0	1,370	356	0	1,239	101	3,544
	APPROACH %	0%	0%	0%	33%	0%	67%	0%	79%	21%	0%	92%	8%	
	PEAK HR FACTOR		0.000			0.964			0.961			0.971		0.988
	APP/DEPART	0	/	101	478	/	356	1,726	/	1,528	1,340	/	1,559	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	0
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR X	SRR 0	ERR X	WRR X
7:00 AM	0	18	0	0
7:15 AM	0	9	0	0
7:30 AM	0	16	0	0
7:45 AM	0	22	0	0
8:00 AM	0	13	0	0
8:15 AM	0	8	0	0
8:30 AM	0	2	0	0
8:45 AM	0	3	0	0
VOLUMES	0	91	0	0
VOLUMES	0	59	0	0
4:00 PM	0	29	0	0
4:15 PM	0	44	0	0
4:30 PM	0	24	0	0
4:45 PM	0	36	0	0
5:00 PM	0	30	0	0
5:15 PM	0	37	0	0
5:30 PM	0	38	0	0
5:45 PM	0	37	0	0
VOLUMES	0	275	0	0
VOLUMES	0	141	0	0

I-215 SB Ramps

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

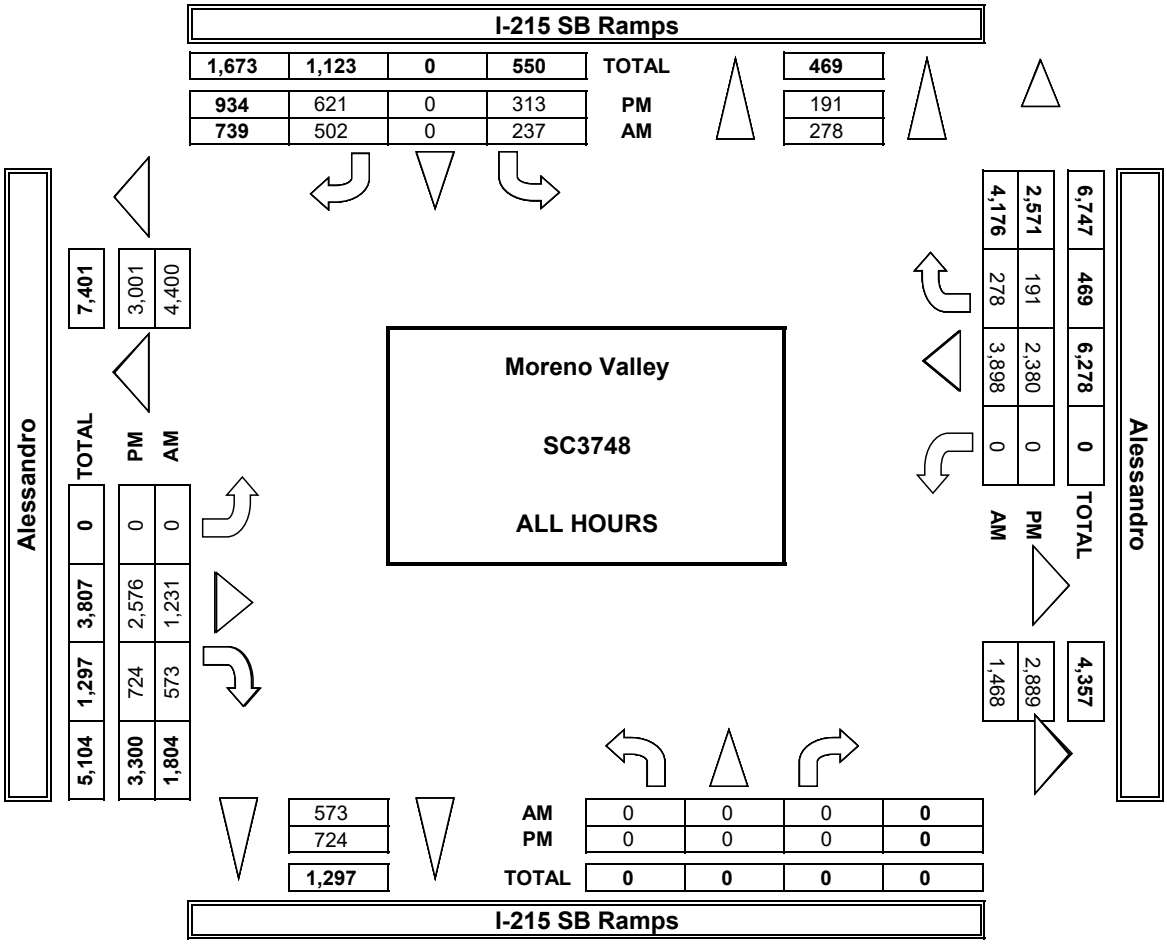
SOUTH SIDE

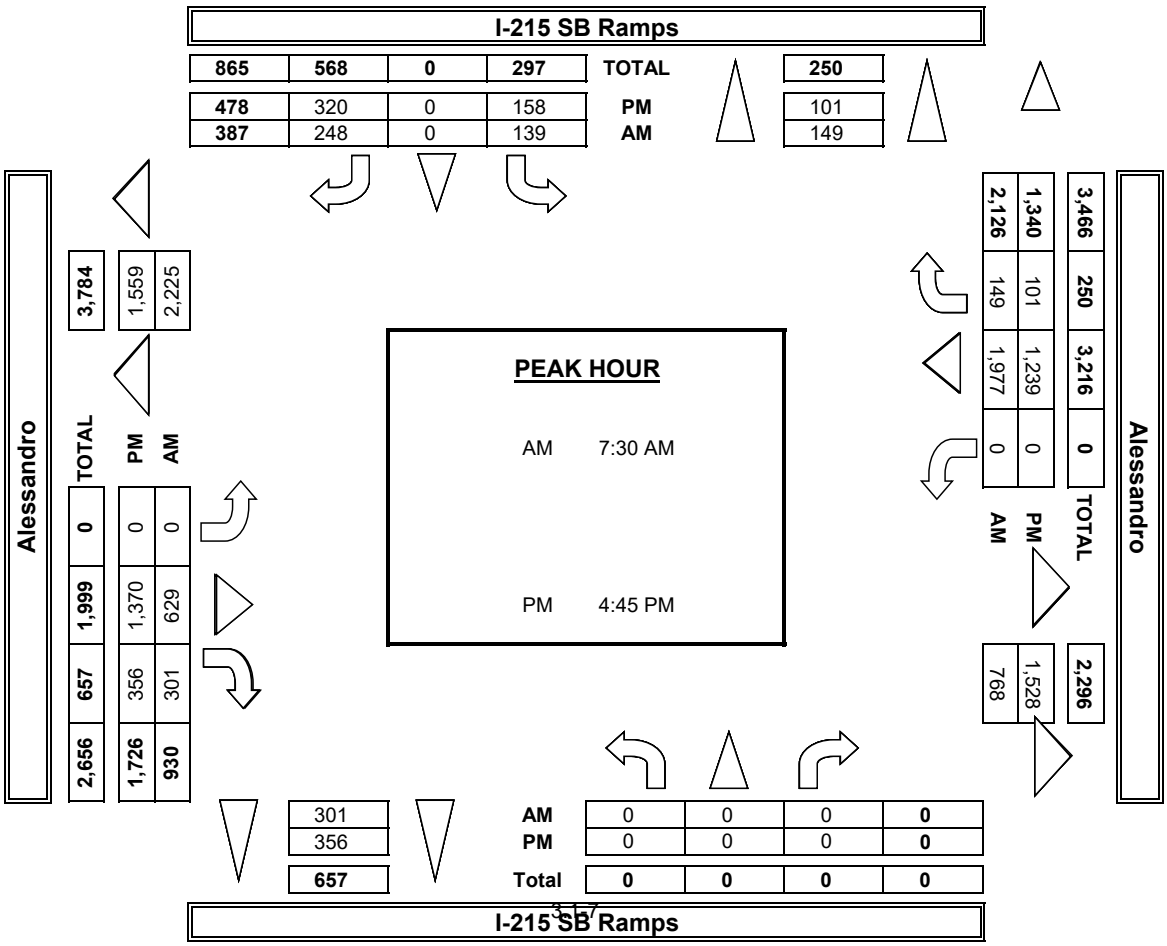
I-215 SB Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:30 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	4	4	0	0	0	3	3	0	0	0	1	1
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	2
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼

		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	X	X	X	1.5	X	1.5	X	3	1	X	3	1							X	0	X	X
AM	7:00 AM	0	0	0	3	0	4	0	8	3	0	20	3	41	0	0	0	0	0	0	1	0	0
	7:15 AM	0	0	0	4	0	3	0	7	6	0	27	1	48	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	2	0	5	0	7	7	0	16	4	41	0	0	0	0	0	0	1	0	0
	7:45 AM	0	0	0	2	0	2	0	5	1	0	19	6	35	0	0	0	0	0	0	1	0	0
	8:00 AM	0	0	0	3	0	6	0	10	1	0	26	1	47	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	2	0	8	0	6	6	0	28	2	52	0	0	0	0	0	0	2	0	0
	8:30 AM	0	0	0	1	0	5	0	9	5	0	29	3	52	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	1	0	4	0	8	3	0	31	4	51	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	18	0	37	0	60	32	0	196	24	367	0	0	0	0	0	0	5	0	0
	APPROACH %	0%	0%	0%	33%	0%	67%	0%	65%	35%	0%	89%	11%										
	APP/DEPART	0	/	24	55	/	32	92	/	78	220	/	233	0									
	BEGIN PEAK HR		7:30 AM																				
	VOLUMES	0	0	0	9	0	21	0	28	15	0	89	13	175						0	4	0	0
	APPROACH %	0%	0%	0%	30%	0%	70%	0%	65%	35%	0%	87%	13%										
	PEAK HR FACTOR		0.000			0.750			0.768			0.850		0.841									
	APP/DEPART	0	/	13	30	/	15	43	/	37	102	/	110	0									
PM	4:00 PM	0	0	0	2	0	4	0	15	7	0	18	0	46	0	0	0	0	0	0	1	0	0
	4:15 PM	0	0	0	2	0	5	0	13	5	0	12	2	39	0	0	0	0	0	0	3	0	0
	4:30 PM	0	0	0	2	0	2	0	9	4	0	16	1	34	0	0	0	0	0	0	1	0	0
	4:45 PM	0	0	0	4	0	3	0	13	4	0	8	3	35	0	0	0	0	0	0	2	0	0
	5:00 PM	0	0	0	2	0	6	0	15	4	0	7	1	35	0	0	0	0	0	0	3	0	0
	5:15 PM	0	0	0	6	0	6	0	10	6	0	10	0	38	0	0	0	0	0	0	2	0	0
	5:30 PM	0	0	0	3	0	3	0	11	2	0	7	0	26	0	0	0	0	0	0	1	0	0
	5:45 PM	0	0	0	2	0	4	0	10	2	0	8	0	26	0	0	0	0	0	0	3	0	0
	VOLUMES	0	0	0	23	0	33	0	96	34	0	86	7	279	0	0	0	0	0	0	16	0	0
	APPROACH %	0%	0%	0%	41%	0%	59%	0%	74%	26%	0%	92%	8%										
	APP/DEPART	0	/	7	56	/	34	130	/	119	93	/	119	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	0	0	15	0	18	0	49	16	0	32	4	134						0	8	0	0
	APPROACH %	0%	0%	0%	45%	0%	55%	0%	75%	25%	0%	89%	11%										
	PEAK HR FACTOR		0.000			0.688			0.855			0.818		0.882									
	APP/DEPART	0	/	4	33	/	16	65	/	64	36	/	50	0									

I-215 SB Ramps

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

SOUTH SIDE

I-215 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	2
WEDNESDAY	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
	LANES:	NL X	NT X	NR X	SL 1.5	ST X	SR 1.5	EL X	ET 3	ER 1	WL X	WT 3	WR 1	TOTAL	NB	SB	EB	WB	TTL	NRR X	SRR 0	ERR X	WRR X
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	2	0	1	0	3	1	0	4	0	11	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	1	0	1	0	2	0	0	5	0	9	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	2	0	1	0	2	2	0	2	0	9	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	0	4	2	7	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	2	0	3	0	0	4	2	11	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	1	0	0	0	4	0	0	1	0	6	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	3	0	3	0	3	0	0	2	0	11	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	9	0	8	0	19	3	0	24	4	67	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	53%	0%	47%	0%	86%	14%	0%	86%	14%										
	APP/DEPART	0	/	4	17	/	3	22	/	28	28	/	32	0									
	BEGIN PEAK HR		7:30 AM																				
	VOLUMES	0	0	0	3	0	4	0	8	2	0	15	4	36						0	0	0	0
	APPROACH %	0%	0%	0%	43%	0%	57%	0%	80%	20%	0%	79%	21%										
	PEAK HR FACTOR		0.000			0.583			0.625			0.792		0.818									
	APP/DEPART	0	/	4	7	/	2	10	/	11	19	/	19	0									
PM	4:00 PM	0	0	0	0	0	1	0	2	1	0	3	1	8	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	1	0	0	0	2	1	0	1	0	5	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	0	0	2	1	4	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	1	0	0	0	1	2	0	1	0	5	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	3	0	0	1	1	5	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	1	1	0	2	1	5	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	2	0	1	0	11	6	0	10	4	34	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	67%	0%	33%	0%	65%	35%	0%	71%	29%										
	APP/DEPART	0	/	4	3	/	6	17	/	13	14	/	11	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	0	0	1	0	0	0	6	4	0	4	2	17						0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	60%	40%	0%	67%	33%										
	PEAK HR FACTOR		0.000			0.250			0.833			0.500		0.850									
	APP/DEPART	0	/	2	1	/	4	10	/	7	6	/	4	0									

I-215 SB Ramps

NORTH SIDE

Alessandro WEST SIDE

EAST SIDE **Alessandro**

SOUTH SIDE

I-215 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	2
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	◄ W	▲ N / S ▼	E ►

		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	X	X	X	1.5	X	1.5	X	3	1	X	3	1							X	0	X	X
AM	7:00 AM	0	0	0	2	0	1	0	3	3	0	2	0	11	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	2	0	2	0	1	2	0	5	1	13	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	1	0	1	0	0	2	0	3	3	10	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	3	0	4	0	1	0	0	5	3	16	0	0	0	0	0	0	1	0	0
	8:00 AM	0	0	0	2	0	1	0	3	4	0	4	4	18	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	3	0	6	0	3	0	0	4	2	18	0	0	0	0	0	0	1	0	0
	8:30 AM	0	0	0	4	0	10	0	6	4	0	8	2	34	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	13	0	1	0	5	1	0	9	3	32	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	30	0	26	0	22	16	0	40	18	152	0	0	0	0	0	0	2	0	0
	APPROACH %	0%	0%	0%	54%	0%	46%	0%	58%	42%	0%	69%	31%										
	APP/DEPART	0	/	18	56	/	16	38	/	52	58	/	66	0									
	BEGIN PEAK HR		7:30 AM																				
	VOLUMES	0	0	0	9	0	12	0	7	6	0	16	12	62						0	2	0	0
	APPROACH %	0%	0%	0%	43%	0%	57%	0%	54%	46%	0%	57%	43%										
	PEAK HR FACTOR		0.000			0.583			0.464			0.875		0.861									
	APP/DEPART	0	/	12	21	/	6	13	/	16	28	/	28	0									
PM	4:00 PM	0	0	0	1	0	1	0	3	2	0	4	0	11	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	2	0	1	0	2	1	0	2	1	9	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	9	0	1	0	1	0	0	1	0	12	0	0	0	0	0	0	1	0	0
	4:45 PM	0	0	0	3	0	1	0	4	1	0	2	0	11	0	0	0	0	0	0	1	0	0
	5:00 PM	0	0	0	3	0	5	0	2	0	0	1	0	11	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	2	0	1	0	1	1	0	2	0	7	0	0	0	0	0	0	1	0	0
	5:30 PM	0	0	0	2	0	2	0	3	1	0	2	1	11	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	2	0	4	0	0	0	0	1	0	7	0	0	0	0	0	0	2	0	0
	VOLUMES	0	0	0	24	0	16	0	16	6	0	15	2	79	0	0	0	0	0	0	5	0	0
	APPROACH %	0%	0%	0%	60%	0%	40%	0%	73%	27%	0%	88%	12%										
	APP/DEPART	0	/	2	40	/	6	22	/	40	17	/	31	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	0	0	10	0	9	0	10	3	0	7	1	40						0	2	0	0
	APPROACH %	0%	0%	0%	53%	0%	47%	0%	77%	23%	0%	88%	13%										
	PEAK HR FACTOR		0.000			0.594			0.650			0.667		0.909									
	APP/DEPART	0	/	1	19	/	3	13	/	20	8	/	16	0									

I-215 SB Ramps

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

SOUTH SIDE

I-215 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	I-215 NB Ramps	LOCATION #:	3
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

NOTES:

Queue WB AM

AM / PM / MD / OTHER / OTHER

N ▲ / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
	LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 1	ET 3	ER X	WL X	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR 0	SRR X	ERR X	WRR 0
AM	7:00 AM	210	0	14	0	0	0	13	122	0	0	332	24	715	0	0	0	0	0	11	0	0	6
	7:15 AM	202	1	10	0	0	0	13	171	0	0	319	17	733	0	0	0	0	0	9	0	0	6
	7:30 AM	205	0	19	0	0	0	1	156	0	0	355	23	759	0	0	0	0	0	10	0	0	9
	7:45 AM	184	0	21	0	0	0	5	200	0	0	342	15	767	0	0	0	0	0	14	0	0	1
	8:00 AM	221	0	20	0	0	0	7	194	0	0	281	14	737	0	0	0	0	0	13	0	0	3
	8:15 AM	192	0	34	0	0	0	12	189	0	0	350	8	785	0	0	0	0	0	13	0	0	2
	8:30 AM	153	0	57	0	0	0	10	178	0	0	355	8	761	0	0	0	0	0	35	0	0	2
	8:45 AM	152	0	87	0	0	0	10	186	0	0	329	15	779	0	0	0	0	0	40	0	0	5
	VOLUMES	1,519	1	262	0	0	0	71	1,396	0	0	2,663	124	6,036	0	0	0	0	0	145	0	0	34
	APPROACH %	85%	0%	15%	0%	0%	0%	5%	95%	0%	0%	96%	4%										
	APP/DEPART	1,782	/	196	0	/	0	1,467	/	1,658	2,787	/	4,182	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	718	0	198	0	0	0	39	747	0	0	1,315	45	3,062						101	0	0	12
	APPROACH %	78%	0%	22%	0%	0%	0%	5%	95%	0%	0%	97%	3%										
	PEAK HR FACTOR		0.950			0.000			0.978			0.937		0.975									
	APP/DEPART	916	/	84	0	/	0	786	/	945	1,360	/	2,033	0									
PM	4:00 PM	143	1	23	0	0	0	20	316	0	0	158	18	679	0	0	0	0	0	15	0	0	6
	4:15 PM	134	0	37	0	0	0	27	292	0	0	215	23	728	0	0	0	0	0	26	0	0	5
	4:30 PM	150	0	37	0	0	0	40	310	0	0	189	29	755	0	0	0	0	0	19	0	0	10
	4:45 PM	120	1	24	0	0	0	35	345	0	0	218	33	776	0	0	0	0	0	13	0	0	8
	5:00 PM	125	1	35	0	0	0	42	327	0	0	202	42	774	0	0	0	0	0	14	0	0	11
	5:15 PM	138	1	36	0	0	0	33	330	0	0	216	34	788	0	0	0	0	0	19	0	0	12
	5:30 PM	93	0	35	0	0	0	42	371	0	0	231	35	807	0	0	0	0	0	18	0	0	5
	5:45 PM	79	1	26	0	0	0	52	302	0	0	163	37	660	0	0	0	0	0	6	0	0	11
	VOLUMES	982	5	253	0	0	0	291	2,593	0	0	1,592	251	5,967	0	0	0	0	0	130	0	0	68
	APPROACH %	79%	0%	20%	0%	0%	0%	10%	90%	0%	0%	86%	14%										
	APP/DEPART	1,240	/	547	0	/	0	2,884	/	2,846	1,843	/	2,574	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	476	3	130	0	0	0	152	1,373	0	0	867	144	3,145						64	0	0	36
	APPROACH %	78%	0%	21%	0%	0%	0%	10%	90%	0%	0%	86%	14%										
	PEAK HR FACTOR		0.870			0.000			0.923			0.950		0.974									
	APP/DEPART	609	/	299	0	/	0	1,525	/	1,503	1,011	/	1,343	0									

I-215 NB Ramps

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

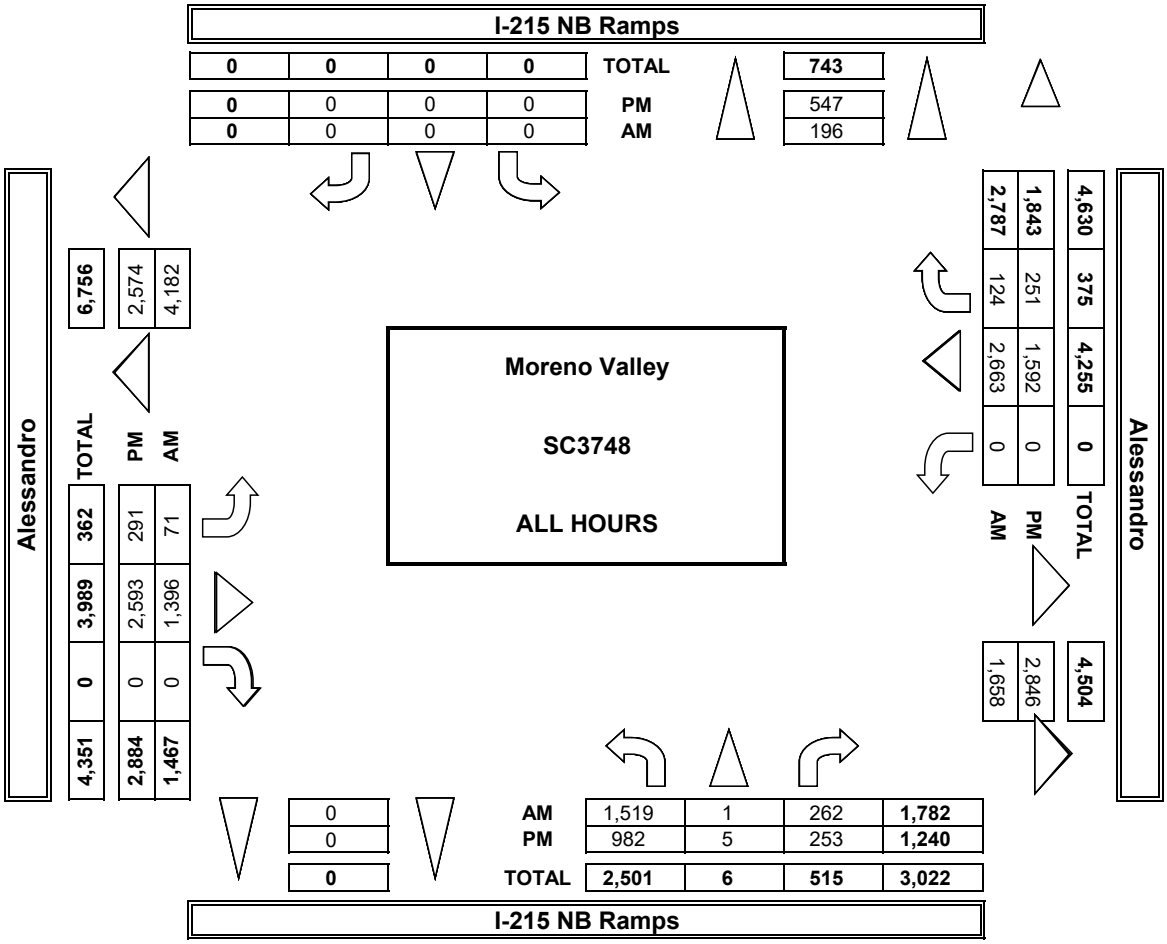
SOUTH SIDE

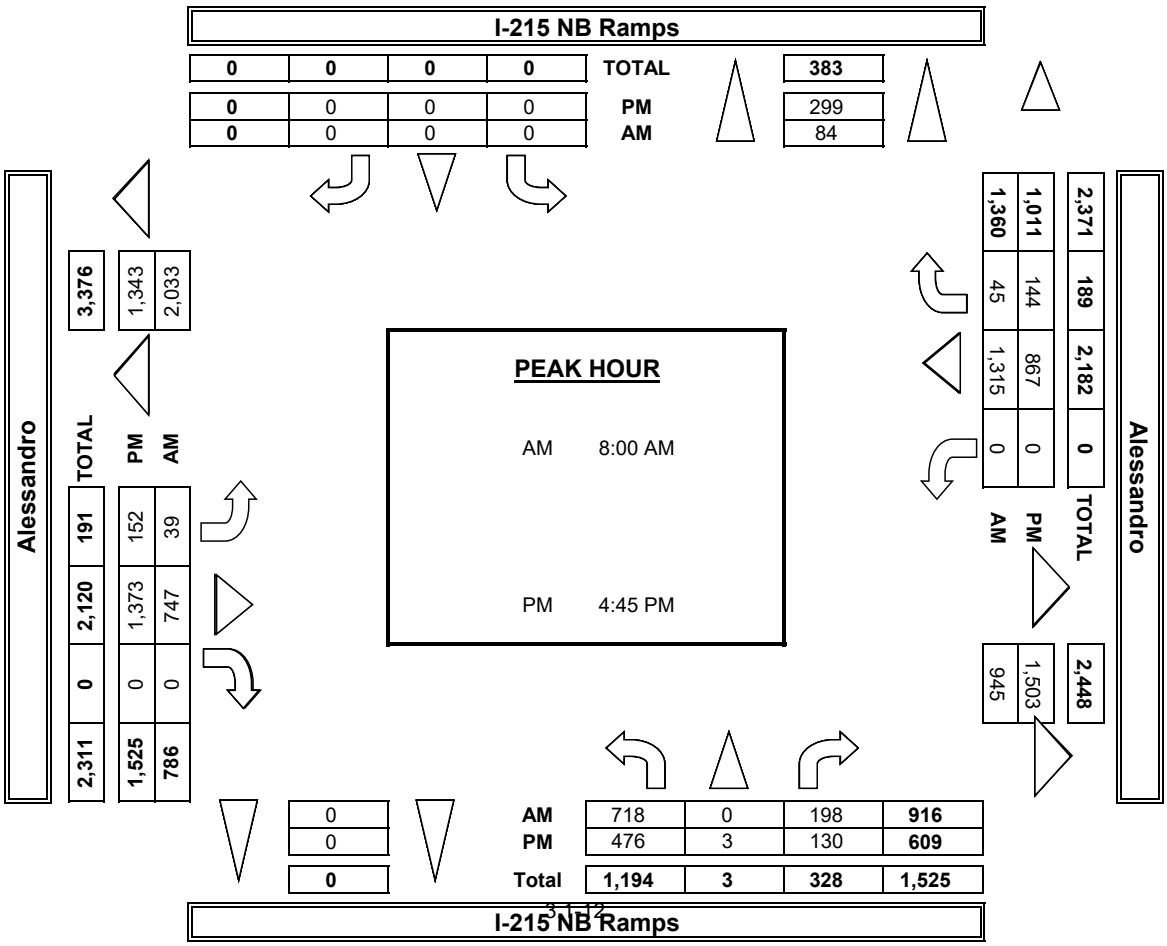
I-215 NB Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	4	4	0	0	0	2	2	0	0	0	2	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	I-215 NB Ramps	LOCATION #:	3
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	◄ W	▲ N / S ▼	E ►

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1.3	0.3	1.3	X	X	X	1	3	X	X	3	0							0	X	X	0
AM	7:00 AM	6	0	1	0	0	0	4	7	0	0	14	4	36	0	0	0	0	0	1	0	0	0
AM	7:15 AM	14	0	0	0	0	0	2	8	0	0	15	4	43	0	0	0	0	0	0	0	0	2
AM	7:30 AM	6	0	1	0	0	0	0	10	0	0	14	3	34	0	0	0	0	0	0	0	0	1
AM	7:45 AM	8	0	2	0	0	0	2	5	0	0	17	3	37	0	0	0	0	0	1	0	0	0
AM	8:00 AM	14	0	0	0	0	0	1	14	0	0	13	2	44	0	0	0	0	0	0	0	0	1
AM	8:15 AM	6	0	5	0	0	0	0	6	0	0	24	1	42	0	0	0	0	0	2	0	0	0
AM	8:30 AM	9	0	2	0	0	0	0	10	0	0	23	0	44	0	0	0	0	0	2	0	0	0
AM	8:45 AM	12	0	3	0	0	0	2	7	0	0	25	1	50	0	0	0	0	0	1	0	0	0
AM	VOLUMES	75	0	14	0	0	0	11	67	0	0	145	18	330	0	0	0	0	0	7	0	0	4
AM	APPROACH %	84%	0%	16%	0%	0%	0%	14%	86%	0%	0%	89%	11%										
AM	APP/DEPART	89	/	29	0	/	0	78	/	81	163	/	220	0									
AM	BEGIN PEAK HR		8:00 AM																				
AM	VOLUMES	41	0	10	0	0	0	3	37	0	0	85	4	180						5	0	0	1
AM	APPROACH %	80%	0%	20%	0%	0%	0%	8%	93%	0%	0%	96%	4%										
AM	PEAK HR FACTOR		0.850			0.000			0.667			0.856		0.900									
AM	APP/DEPART	51	/	7	0	/	0	40	/	47	89	/	126	0									
PM	4:00 PM	8	0	0	0	0	0	1	16	0	0	11	0	36	0	0	0	0	0	0	0	0	0
PM	4:15 PM	8	0	5	0	0	0	2	14	0	0	6	4	39	0	0	0	0	0	4	0	0	1
PM	4:30 PM	13	0	1	0	0	0	2	8	0	0	5	1	30	0	0	0	0	0	1	0	0	1
PM	4:45 PM	4	0	0	0	0	0	3	15	0	0	5	2	29	0	0	0	0	0	0	0	0	0
PM	5:00 PM	6	0	0	0	0	0	2	15	0	0	2	4	29	0	0	0	0	0	0	0	0	0
PM	5:15 PM	8	0	0	0	0	0	3	12	0	0	4	1	28	0	0	0	0	0	0	0	0	0
PM	5:30 PM	3	0	1	0	0	0	1	13	0	0	4	0	22	0	0	0	0	0	1	0	0	0
PM	5:45 PM	2	0	0	0	0	0	1	11	0	0	4	1	19	0	0	0	0	0	0	0	0	0
PM	VOLUMES	52	0	7	0	0	0	15	104	0	0	41	13	232	0	0	0	0	0	6	0	0	2
PM	APPROACH %	88%	0%	12%	0%	0%	0%	13%	87%	0%	0%	76%	24%										
PM	APP/DEPART	59	/	28	0	/	0	119	/	111	54	/	93	0									
PM	BEGIN PEAK HR		4:45 PM																				
PM	VOLUMES	21	0	1	0	0	0	9	55	0	0	15	7	108						1	0	0	0
PM	APPROACH %	95%	0%	5%	0%	0%	0%	14%	86%	0%	0%	68%	32%										
PM	PEAK HR FACTOR		0.688			0.000			0.889			0.786		0.931									
PM	APP/DEPART	22	/	16	0	/	0	64	/	56	22	/	36	0									

I-215 NB Ramps

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

SOUTH SIDE

I-215 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	I-215 NB Ramps	LOCATION #:	3
WEDNESDAY	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 3:	NOTES:
3-AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
	LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 1	ET 3	ER X	WL X	WT 3	WR 0	TOTAL	NB	SB	EB	WB	TTL	NRR 0	SRR X	ERR X	WRR 0
AM	7:00 AM	1	0	0	0	0	0	0	2	0	0	1	0	4	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	1	3	0	0	3	0	7	0	0	0	0	0	0	0	0	0
	7:30 AM	4	0	1	0	0	0	0	3	0	0	2	0	10	0	0	0	0	0	1	0	0	0
	7:45 AM	1	0	0	0	0	0	1	3	0	0	1	1	7	0	0	0	0	0	0	0	0	0
	8:00 AM	2	0	2	0	0	0	0	1	0	0	3	0	8	0	0	0	0	0	2	0	0	0
	8:15 AM	4	0	1	0	0	0	2	1	0	0	3	0	11	0	0	0	0	0	0	0	0	0
	8:30 AM	1	0	1	0	0	0	1	3	0	0	0	1	7	0	0	0	0	0	1	0	0	0
	8:45 AM	1	0	1	0	0	0	1	6	0	0	1	0	10	0	0	0	0	0	0	0	0	0
	VOLUMES	14	0	6	0	0	0	6	22	0	0	14	2	64	0	0	0	0	0	4	0	0	0
	APPROACH %	70%	0%	30%	0%	0%	0%	21%	79%	0%	0%	88%	13%										
	APP/DEPART	20	/	8	0	/	0	28	/	28	16	/	28	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	8	0	5	0	0	0	4	11	0	0	7	1	36						3	0	0	0
	APPROACH %	62%	0%	38%	0%	0%	0%	27%	73%	0%	0%	88%	13%										
	PEAK HR FACTOR		0.650			0.000			0.536			0.667		0.818									
	APP/DEPART	13	/	5	0	/	0	15	/	16	8	/	15	0									
PM	4:00 PM	2	0	1	0	0	0	0	3	0	0	1	1	8	0	0	0	0	0	0	0	0	0
	4:15 PM	1	0	0	0	0	0	1	2	0	0	1	0	5	0	0	0	0	0	0	0	0	0
	4:30 PM	2	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:00 PM	1	0	0	0	0	0	1	2	0	0	1	0	5	0	0	0	0	0	0	0	0	0
	5:15 PM	2	0	0	0	0	0	0	2	0	0	2	0	6	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	VOLUMES	8	0	1	0	0	0	2	11	0	0	6	3	31	0	0	0	0	0	0	0	0	0
	APPROACH %	89%	0%	11%	0%	0%	0%	15%	85%	0%	0%	67%	33%										
	APP/DEPART	9	/	5	0	/	0	13	/	12	9	/	14	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	3	0	0	0	0	0	1	6	0	0	3	1	14						0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	14%	86%	0%	0%	75%	25%										
	PEAK HR FACTOR		0.375			0.000			0.583			0.500		0.583									
	APP/DEPART	3	/	2	0	/	0	7	/	6	4	/	6	0									

I-215 NB Ramps

NORTH SIDE

Alessandro WEST SIDE

EAST SIDE **Alessandro**

SOUTH SIDE

I-215 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	I-215 NB Ramps	LOCATION #:	3
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1.3	0.3	1.3	X	X	X	1	3	X	X	3	0							0	X	X	0
AM	7:00 AM	1	0	3	0	0	0	0	5	0	0	0	3	12	0	0	0	0	0	3	0	0	0
	7:15 AM	4	0	0	0	0	0	1	2	0	0	3	2	12	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	0	0	0	1	0	0	4	6	12	0	0	0	0	0	0	0	0	2
	7:45 AM	1	0	0	0	0	0	0	4	0	0	7	2	14	0	0	0	0	0	0	0	0	0
	8:00 AM	3	0	1	0	0	0	1	3	0	0	5	2	15	0	0	0	0	0	1	0	0	0
	8:15 AM	1	0	0	0	0	0	5	2	0	0	2	2	12	0	0	0	0	0	0	0	0	0
	8:30 AM	6	0	1	0	0	0	8	2	0	0	7	3	27	0	0	0	0	0	1	0	0	0
	8:45 AM	6	0	2	0	0	0	3	15	0	0	7	3	36	0	0	0	0	0	1	0	0	0
	VOLUMES	23	0	7	0	0	0	18	34	0	0	35	23	140	0	0	0	0	0	6	0	0	2
	APPROACH %	77%	0%	23%	0%	0%	0%	35%	65%	0%	0%	60%	40%										
	APP/DEPART	30	/	41	0	/	0	52	/	41	58	/	58	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	16	0	4	0	0	0	17	22	0	0	21	10	90						3	0	0	0
	APPROACH %	80%	0%	20%	0%	0%	0%	44%	56%	0%	0%	68%	32%										
	PEAK HR FACTOR		0.625			0.000			0.542			0.775		0.625									
	APP/DEPART	20	/	27	0	/	0	39	/	26	31	/	37	0									
PM	4:00 PM	4	0	0	0	0	0	2	2	0	0	0	4	12	0	0	0	0	0	0	0	0	0
	4:15 PM	2	0	0	0	0	0	4	2	0	0	2	2	12	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	1	0	0	0	1	7	0	0	0	1	10	0	0	0	0	0	0	0	0	0
	4:45 PM	1	1	1	0	0	0	1	7	0	0	1	2	14	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	2	3	0	0	1	2	8	0	0	0	0	0	0	0	0	0
	5:15 PM	2	0	0	0	0	0	0	2	0	0	0	4	8	0	0	0	0	0	0	0	0	3
	5:30 PM	2	0	0	0	0	0	1	4	0	0	1	2	10	0	0	0	0	0	0	0	0	0
	5:45 PM	1	0	0	0	0	0	0	2	0	0	0	4	7	0	0	0	0	0	0	0	0	0
	VOLUMES	12	1	2	0	0	0	11	29	0	0	5	21	81	0	0	0	0	0	0	0	0	3
	APPROACH %	80%	7%	13%	0%	0%	0%	28%	73%	0%	0%	19%	81%										
	APP/DEPART	15	/	33	0	/	0	40	/	31	26	/	17	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	5	1	1	0	0	0	4	16	0	0	3	10	40						0	0	0	3
	APPROACH %	71%	14%	14%	0%	0%	0%	20%	80%	0%	0%	23%	77%										
	PEAK HR FACTOR		0.583			0.000			0.625			0.813		0.714									
	APP/DEPART	7	/	15	0	/	0	20	/	17	13	/	8	0									

I-215 NB Ramps

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

SOUTH SIDE

I-215 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	4
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

N ▲ ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS					RTOR			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 2	EL 2	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR 0	SRR 0	ERR 0	WRR 0
AM	7:00 AM	59	26	8	3	14	57	31	67	16	5	199	2	487	0	0	0	0	0	5	39	5	0
	7:15 AM	90	31	16	3	8	75	37	50	9	8	211	7	545	0	0	0	0	0	13	45	3	3
	7:30 AM	88	47	17	5	10	94	35	52	15	7	211	5	586	0	0	0	0	0	8	47	6	2
	7:45 AM	89	68	13	1	16	93	45	53	11	4	193	11	597	0	0	0	0	0	6	50	6	6
	8:00 AM	75	74	23	6	12	79	68	52	13	8	198	16	624	0	0	0	0	0	9	40	5	3
	8:15 AM	52	71	19	5	19	134	37	50	8	10	232	6	643	0	0	0	0	0	9	54	3	1
	8:30 AM	72	72	21	5	22	113	45	40	13	17	206	7	633	0	1	0	0	1	3	43	4	2
	8:45 AM	85	90	18	10	23	99	53	50	8	6	178	24	644	0	0	1	0	1	14	50	1	4
	VOLUMES	610	479	135	38	124	744	351	414	93	65	1,628	78	4,759	0	1	1	0	2	67	368	33	21
	APPROACH %	50%	39%	11%	4%	14%	82%	41%	48%	11%	4%	92%	4%										
	APP/DEPART	1,224	/	908	906	/	282	858	/	586	1,771	/	2,983	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	284	307	81	26	76	425	203	192	42	41	814	53	2,544						35	187	13	10
	APPROACH %	42%	46%	12%	5%	14%	81%	46%	44%	10%	5%	90%	6%										
	PEAK HR FACTOR		0.870			0.834			0.821			0.915		0.988									
	APP/DEPART	672	/	563	527	/	159	437	/	298	908	/	1,524	0									
PM	4:00 PM	27	53	16	13	35	150	86	149	30	6	92	8	665	0	0	1	0	1	10	95	15	2
	4:15 PM	19	72	19	11	47	125	88	130	26	12	84	11	644	0	0	0	0	0	9	73	14	4
	4:30 PM	31	56	18	8	28	115	85	152	24	2	87	17	623	0	0	0	1	1	12	76	13	7
	4:45 PM	30	60	18	10	42	147	91	170	36	6	90	13	713	0	0	0	0	0	10	86	16	3
	5:00 PM	20	51	12	11	63	139	79	163	42	12	105	19	716	0	1	0	0	1	4	62	18	5
	5:15 PM	17	52	17	13	60	148	106	185	31	11	108	7	755	0	0	0	0	0	3	87	20	0
	5:30 PM	20	57	21	15	55	144	93	166	37	6	81	19	714	0	1	1	0	2	9	78	10	7
	5:45 PM	15	54	11	16	67	132	75	168	35	1	87	16	677	0	0	0	0	0	3	71	9	7
	VOLUMES	179	455	132	97	397	1,100	703	1,283	261	56	734	110	5,507	0	2	2	1	5	60	628	115	35
	APPROACH %	23%	59%	17%	6%	25%	69%	31%	57%	12%	6%	82%	12%										
	APP/DEPART	766	/	1,268	1,594	/	713	2,247	/	1,511	900	/	2,015	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	87	220	68	49	220	578	369	684	146	35	384	58	2,898						26	313	64	15
	APPROACH %	23%	59%	18%	6%	26%	68%	31%	57%	12%	7%	81%	12%										
	PEAK HR FACTOR		0.868			0.958			0.931			0.877		0.960									
	APP/DEPART	375	/	648	847	/	401	1,199	/	799	477	/	1,050	0									

Old 215 Frontage

NORTH SIDE

Eucalyptus WEST SIDE EAST SIDE **Eucalyptus**

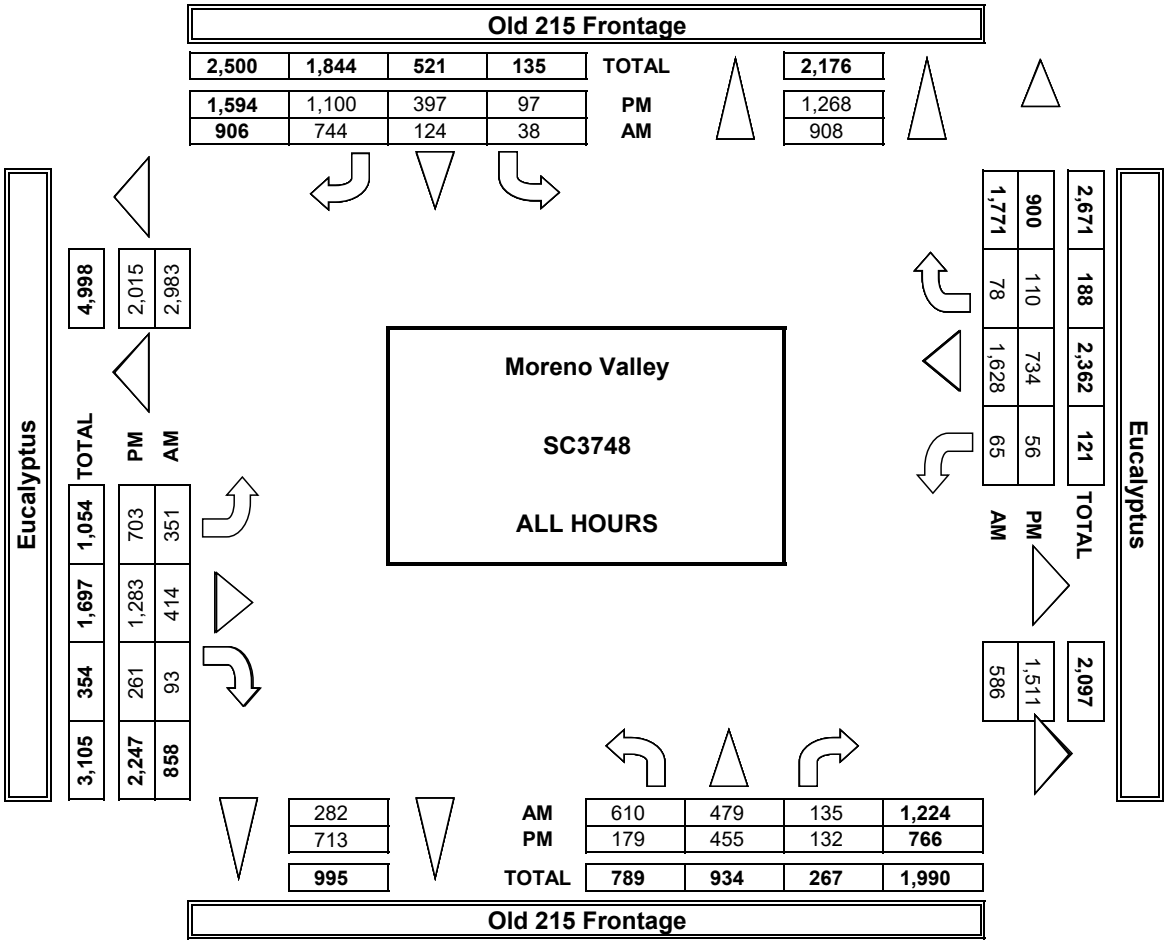
SOUTH SIDE

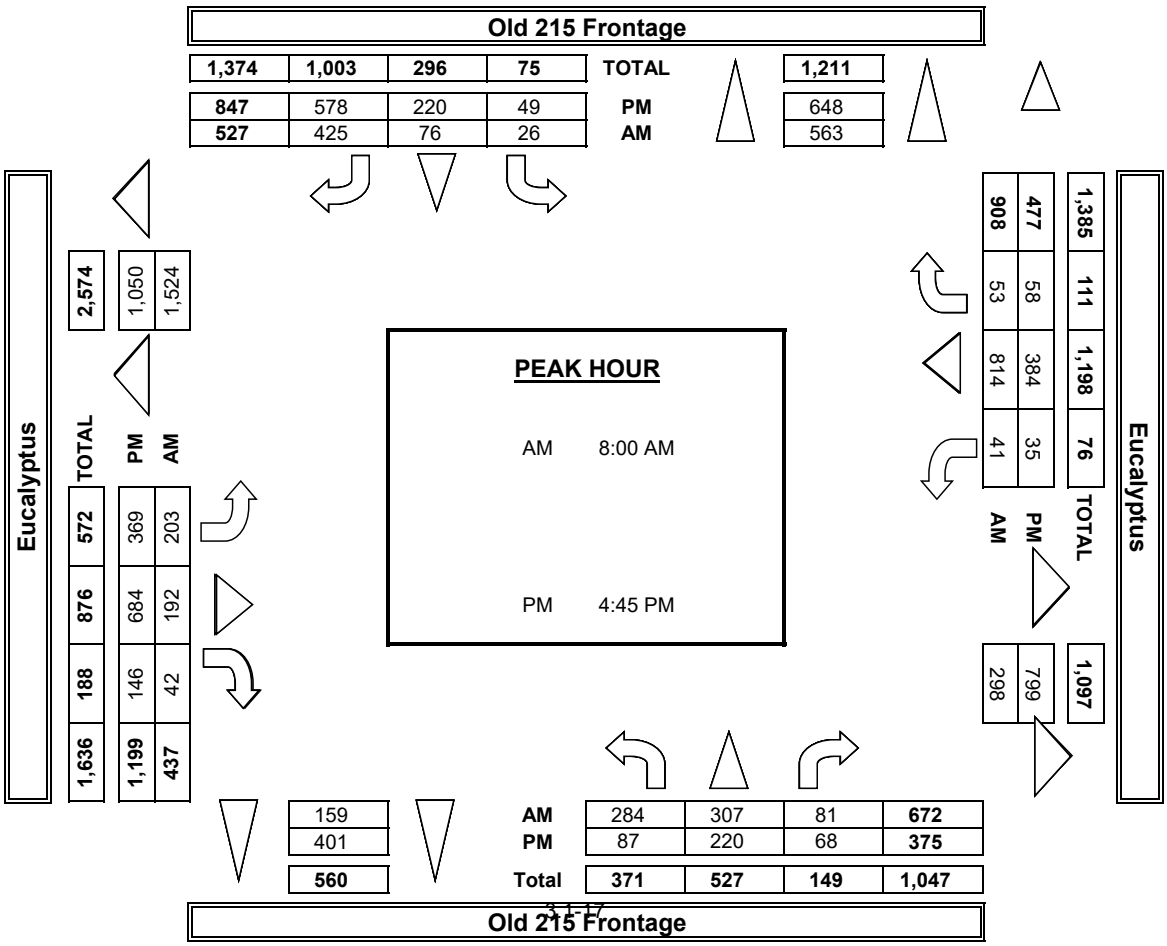
Old 215 Frontage

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	0	2	1	4	0	0	0	0	2	0	0	0	0	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	3	0	1	0	4	3	0	1	0	4	0	0	0	0	0
	4:30 PM	3	0	1	3	7	2	0	0	3	5	1	0	1	0	2
	4:45 PM	2	0	0	1	3	2	0	0	1	3	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	3	0	0	2	5	3	0	0	1	4	0	0	0	1	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	TOTAL	11	0	2	7	20	5	0	0	2	17	0	0	0	1	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	4
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	◄ W	▲ N / S ▼	E ►

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	1	2	2	2	1	1	2	1							0	0	0	0
AM	7:00 AM	4	0	0	0	2	0	1	0	0	1	2	0	10	0	0	0	0	0	0	0	0	0
AM	7:15 AM	6	0	1	0	1	1	3	5	5	1	3	0	26	0	0	0	0	0	1	1	0	0
AM	7:30 AM	2	0	0	0	0	2	1	1	3	0	9	0	18	0	0	0	0	0	0	1	1	0
AM	7:45 AM	4	2	1	0	0	4	0	3	1	0	12	0	27	0	0	0	0	0	0	2	0	0
AM	8:00 AM	4	1	1	0	0	5	2	4	2	0	5	0	24	0	0	0	0	0	1	2	2	0
AM	8:15 AM	3	2	0	0	1	2	0	3	2	1	14	0	28	0	0	0	0	0	0	1	0	0
AM	8:30 AM	6	2	1	0	1	1	1	1	0	0	8	1	22	0	0	0	0	0	0	1	0	0
AM	8:45 AM	5	2	2	1	0	5	2	3	2	0	9	0	31	0	0	0	0	0	2	1	0	0
AM	VOLUMES	34	9	6	1	5	20	10	20	15	3	62	1	186	0	0	0	0	0	4	9	3	0
AM	APPROACH %	69%	18%	12%	4%	19%	77%	22%	44%	33%	5%	94%	2%										
AM	APP/DEPART	49	/	20	26	/	23	45	/	27	66	/	116	0									
AM	BEGIN PEAK HR		8:00 AM																				
AM	VOLUMES	18	7	4	1	2	13	5	11	6	1	36	1	105						3	5	2	0
AM	APPROACH %	62%	24%	14%	6%	13%	81%	23%	50%	27%	3%	95%	3%										
AM	PEAK HR FACTOR		0.806			0.667			0.688			0.633		0.847									
AM	APP/DEPART	29	/	13	16	/	9	22	/	16	38	/	67	0									
PM	4:00 PM	1	0	0	0	2	2	0	5	2	0	0	0	12	0	0	0	0	0	0	2	1	0
PM	4:15 PM	1	2	1	0	0	3	2	6	1	0	2	0	18	0	0	0	0	0	1	2	0	0
PM	4:30 PM	1	0	0	0	0	0	2	6	2	0	3	0	14	0	0	0	0	0	0	0	2	0
PM	4:45 PM	1	0	0	0	1	4	1	6	1	0	4	0	18	0	0	0	0	0	0	2	1	0
PM	5:00 PM	1	0	1	0	0	1	0	5	1	0	3	0	12	0	0	0	0	0	1	0	0	0
PM	5:15 PM	2	0	0	1	1	2	0	4	2	0	0	0	12	0	0	0	0	0	0	0	0	0
PM	5:30 PM	1	0	0	0	0	0	0	3	2	0	1	0	7	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	1	0	1	0	1	3	1	0	1	0	8	0	0	0	0	0	1	0	0	0
PM	VOLUMES	8	2	3	1	5	12	6	38	12	0	14	0	101	0	0	0	0	0	3	6	4	0
PM	APPROACH %	62%	15%	23%	6%	28%	67%	11%	68%	21%	0%	100%	0%										
PM	APP/DEPART	13	/	8	18	/	17	56	/	42	14	/	34	0									
PM	BEGIN PEAK HR		4:45 PM																				
PM	VOLUMES	5	0	1	1	2	7	1	18	6	0	8	0	49						1	2	1	0
PM	APPROACH %	83%	0%	17%	10%	20%	70%	4%	72%	24%	0%	100%	0%										
PM	PEAK HR FACTOR		0.750			0.500			0.781			0.500		0.681									
PM	APP/DEPART	6	/	1	10	/	8	25	/	20	8	/	20	0									

Old 215 Frontage

NORTH SIDE

Eucalyptus WEST SIDE EAST SIDE **Eucalyptus**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
11/16/22	LOCATION:	Moreno Valley	PROJECT #:	SC3748
WEDNESDAY	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	4
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	2	2	2	1	1	2	1	
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	0	0	1	1	0	0	0	0	3
7:30 AM	1	0	0	0	0	0	0	0	0	0	1	0	2
7:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	2
8:00 AM	0	0	0	1	0	1	0	0	0	0	1	0	3
8:15 AM	2	0	0	0	0	0	0	2	1	0	2	0	7
8:30 AM	1	0	0	0	0	1	0	0	0	0	1	0	3
8:45 AM	5	0	0	0	0	0	0	2	0	0	0	0	7
VOLUMES	11	0	0	1	0	3	1	5	1	0	5	0	27
APPROACH %	100%	0%	0%	25%	0%	75%	14%	71%	14%	0%	100%	0%	
APP/DEPART	11	/	1	4	/	1	7	/	6	5	/	19	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	8	0	0	1	0	2	0	4	1	0	4	0	20
APPROACH %	100%	0%	0%	33%	0%	67%	0%	80%	20%	0%	100%	0%	
PEAK HR FACTOR		0.400			0.375			0.417			0.500		0.714
APP/DEPART	8	/	0	3	/	1	5	/	5	4	/	14	0
PM 4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	2	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	1	1	0	0	1	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	2	0	0	0	3
VOLUMES	4	0	0	0	0	0	1	3	2	0	2	0	12
APPROACH %	100%	0%	0%	0%	0%	0%	17%	50%	33%	0%	100%	0%	
APP/DEPART	4	/	1	0	/	2	6	/	3	2	/	6	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	1	0	0	0	0	0	1	2	0	0	1	0	5
APPROACH %	100%	0%	0%	0%	0%	0%	33%	67%	0%	0%	100%	0%	
PEAK HR FACTOR		0.250			0.000			0.375			0.250		0.417
APP/DEPART	1	/	1	0	/	0	3	/	2	1	/	2	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES:	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	1	0	0
8:00 AM	0	1	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	2	0	0
PEAK HR VOLUMES	0	1	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	1	0
VOLUMES	0	0	1	0
PEAK HR VOLUMES	0	0	0	0

Old 215 Frontage

NORTH SIDE

Eucalyptus WEST SIDE

EAST SIDE **Eucalyptus**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

◄ W ▲ N S ▼ E ►

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	1	2	2	2	1	1	2	1							0	0	0	0
AM	7:00 AM	1	2	0	0	1	1	0	0	1	0	0	0	6	0	0	0	0	0	0	1	0	0
	7:15 AM	3	0	1	0	0	0	0	1	1	0	2	0	8	0	0	0	0	0	1	0	0	0
	7:30 AM	3	0	0	0	0	1	2	4	0	0	2	0	12	0	0	0	0	0	0	0	0	0
	7:45 AM	4	1	1	0	1	0	1	0	0	0	0	0	8	0	0	0	0	0	1	0	0	0
	8:00 AM	7	1	0	1	0	1	2	2	1	0	4	0	19	0	0	0	0	0	0	0	0	0
	8:15 AM	4	0	0	0	0	6	2	4	0	0	3	0	19	0	0	0	0	0	0	4	0	0
	8:30 AM	9	0	2	0	0	5	2	0	3	0	5	0	26	0	0	0	0	0	0	3	1	0
	8:45 AM	5	2	0	0	0	1	0	0	1	0	0	0	9	0	0	0	0	0	0	0	0	0
	VOLUMES	36	6	4	1	2	15	9	11	7	0	16	0	107	0	0	0	0	0	2	8	1	0
	APPROACH %	78%	13%	9%	6%	11%	83%	33%	41%	26%	0%	100%	0%										
	APP/DEPART	46	/	15	18	/	9	27	/	16	16	/	67	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	25	3	2	1	0	13	6	6	5	0	12	0	73						0	7	1	0
	APPROACH %	83%	10%	7%	7%	0%	93%	35%	35%	29%	0%	100%	0%										
	PEAK HR FACTOR		0.682			0.583			0.708			0.600		0.702									
	APP/DEPART	30	/	9	14	/	5	17	/	9	12	/	50	0									
PM	4:00 PM	2	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0
	4:15 PM	2	0	0	0	0	0	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
	4:45 PM	2	0	0	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	5:00 PM	1	0	0	0	0	3	1	0	1	0	2	0	8	0	0	0	0	0	0	0	1	0
	5:15 PM	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:30 PM	1	0	0	0	0	1	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:45 PM	1	0	0	0	0	0	2	2	1	0	1	0	7	0	0	0	0	0	0	0	0	0
	VOLUMES	11	0	0	0	0	4	6	4	3	0	5	0	33	0	0	0	0	0	0	0	1	0
	APPROACH %	100%	0%	0%	0%	0%	100%	46%	31%	23%	0%	100%	0%										
	APP/DEPART	11	/	6	4	/	3	13	/	4	5	/	20	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	5	0	0	0	0	4	3	2	1	0	2	0	17						0	0	1	0
	APPROACH %	100%	0%	0%	0%	0%	100%	50%	33%	17%	0%	100%	0%										
	PEAK HR FACTOR		0.625			0.333			0.750			0.250		0.531									
	APP/DEPART	5	/	3	4	/	1	6	/	2	2	/	11	0									

Old 215 Frontage

NORTH SIDE

Eucalyptus WEST SIDE

EAST SIDE **Eucalyptus**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	5
	EAST & WEST:	Cottonwood	CONTROL:	STOP E/W

NOTES:

AM / PM / MD / OTHER / OTHER

N ▲ ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Cottonwood			WESTBOUND Cottonwood				U-TURNS					RTOR			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR X	SRR X	ERR X	WRR X
AM	7:00 AM	0	80	1	5	30	2	0	0	0	49	0	10	177	0	1	0	1	2	0	0	0	0
	7:15 AM	0	95	2	2	29	1	2	1	1	45	1	35	214	0	0	0	0	0	0	0	0	0
	7:30 AM	0	131	5	6	33	1	0	0	2	32	0	24	234	0	0	0	0	0	0	0	0	0
	7:45 AM	1	143	6	6	28	1	0	0	1	30	1	30	247	1	0	0	0	1	0	0	0	0
	8:00 AM	3	159	9	8	26	2	0	0	1	26	0	21	255	2	0	0	0	2	0	0	0	0
	8:15 AM	3	126	5	1	44	3	1	0	0	19	0	9	211	2	0	0	0	2	0	0	0	0
	8:30 AM	2	150	9	6	42	3	1	2	0	24	3	23	265	0	0	0	0	0	0	0	0	0
	8:45 AM	5	171	3	4	37	0	2	1	2	18	0	9	252	1	0	0	0	1	0	0	0	0
	VOLUMES	14	1,055	40	38	269	13	6	4	7	243	5	161	1,855	6	1	0	1	8	0	0	0	0
	APPROACH %	1%	95%	4%	12%	84%	4%	35%	24%	41%	59%	1%	39%										
	APP/DEPART	1,109	/	1,223	320	/	524	17	/	82	409	/	26	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	13	606	26	19	149	8	4	3	3	87	3	62	983						0	0	0	0
	APPROACH %	2%	94%	4%	11%	85%	5%	40%	30%	30%	57%	2%	41%										
	PEAK HR FACTOR		0.901			0.863			0.500			0.760		0.927									
	APP/DEPART	645	/	672	176	/	244	10	/	48	152	/	19	0									
PM	4:00 PM	1	103	12	10	71	2	0	0	0	14	0	7	220	1	0	0	0	1	0	0	0	0
	4:15 PM	1	99	15	12	67	1	1	1	3	15	1	12	228	1	1	0	1	3	0	0	0	0
	4:30 PM	1	94	19	10	47	1	4	3	4	16	0	12	211	1	1	0	0	2	0	0	0	0
	4:45 PM	2	109	12	15	60	0	1	0	1	10	0	12	222	1	1	0	0	2	0	0	0	0
	5:00 PM	2	80	9	16	105	0	1	0	1	16	0	16	246	1	0	0	0	1	0	0	0	0
	5:15 PM	3	73	20	20	82	1	1	1	1	9	0	6	217	2	1	0	0	3	0	0	0	0
	5:30 PM	3	94	15	19	84	0	2	0	8	17	0	8	250	3	1	0	0	4	0	0	0	0
	5:45 PM	3	64	6	16	81	1	3	1	2	16	0	7	200	2	0	0	1	3	0	0	0	0
	VOLUMES	16	716	108	118	597	6	13	6	20	113	1	80	1,794	12	5	0	2	19	0	0	0	0
	APPROACH %	2%	85%	13%	16%	83%	1%	33%	15%	51%	58%	1%	41%										
	APP/DEPART	840	/	814	721	/	740	39	/	229	194	/	11	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	10	356	56	70	331	1	5	1	11	52	0	42	935						0	0	0	0
	APPROACH %	2%	84%	13%	17%	82%	0%	29%	6%	65%	55%	0%	45%										
	PEAK HR FACTOR		0.858			0.831			0.425			0.734		0.935									
	APP/DEPART	422	/	406	402	/	401	17	/	124	94	/	4	0									

Old 215 Frontage

NORTH SIDE

Cottonwood WEST SIDE EAST SIDE **Cottonwood**

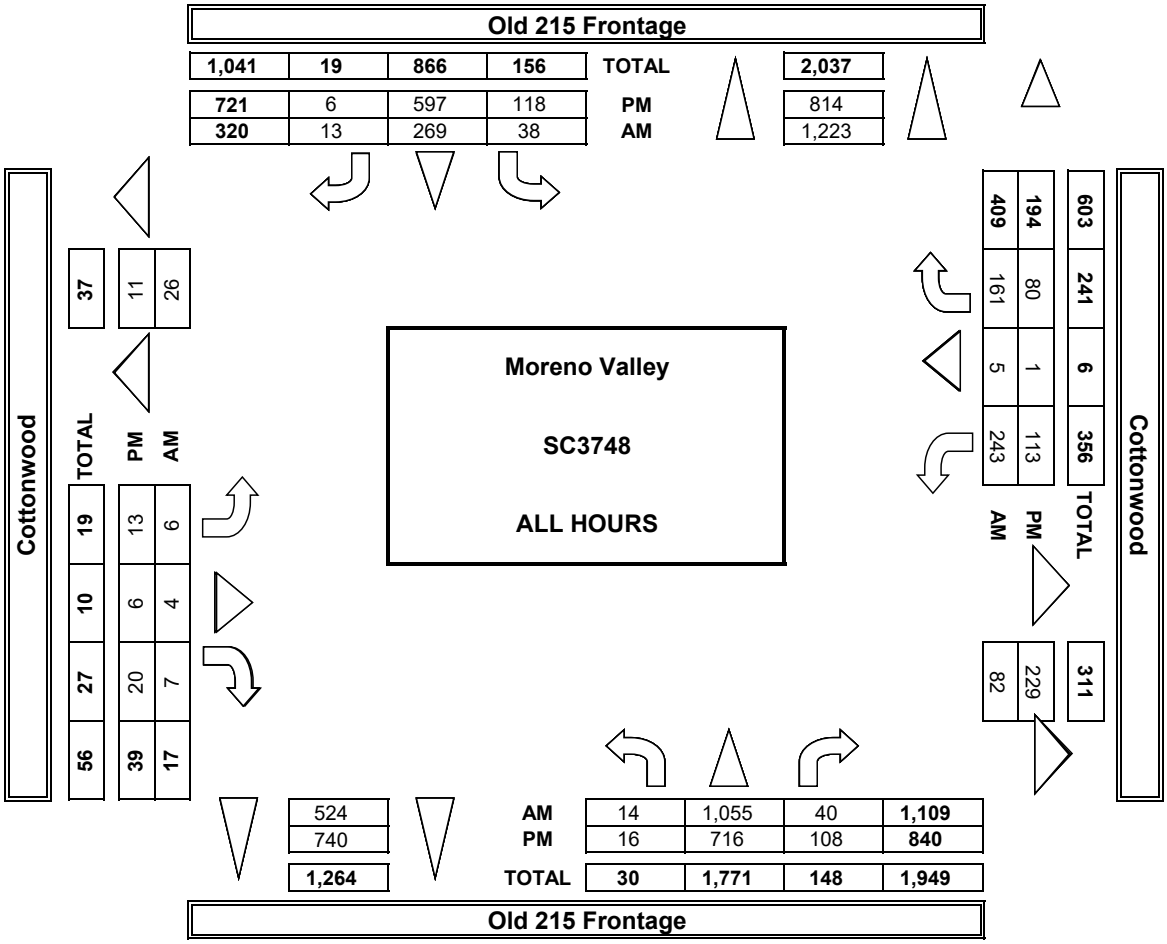
SOUTH SIDE

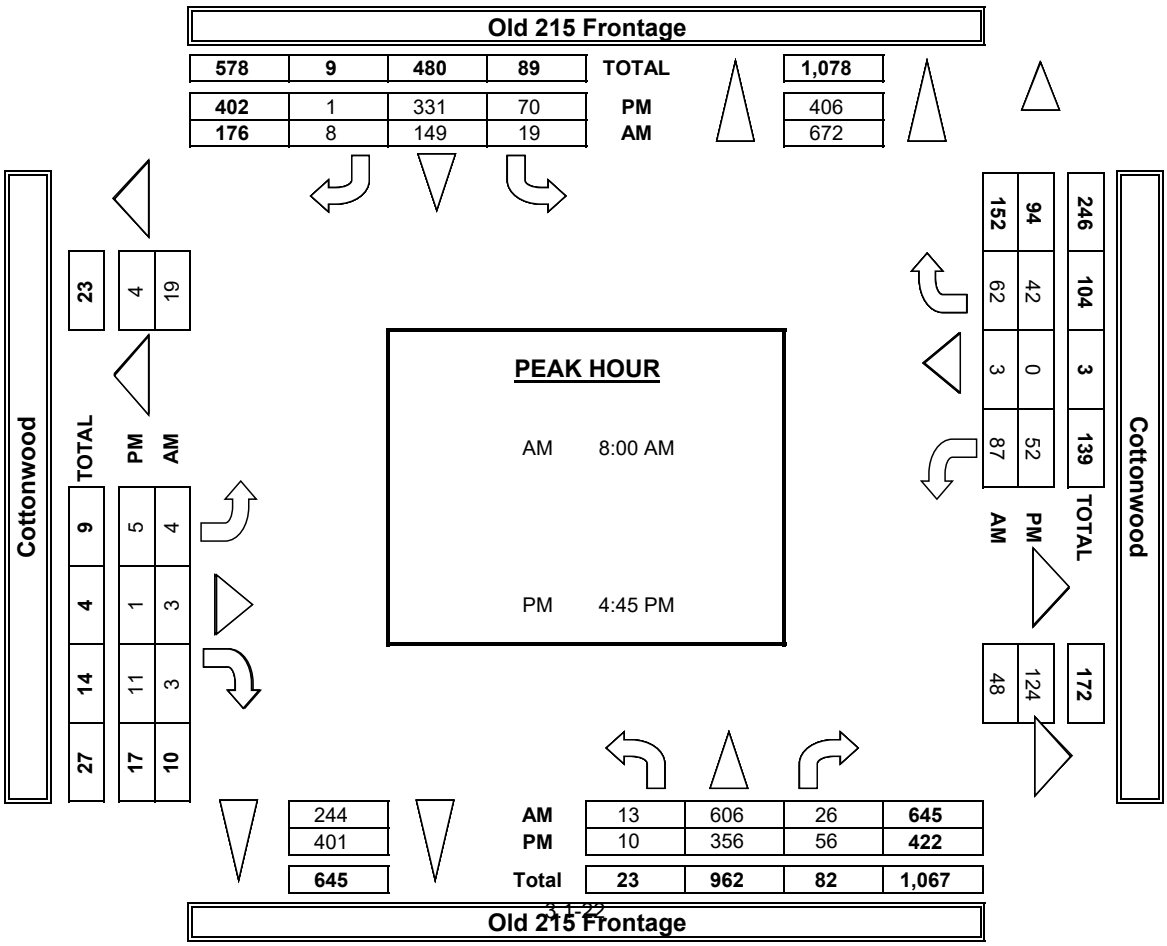
Old 215 Frontage

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	8:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	2	0	0	3	1	0	0	0	2	0	1	0	0	1
PM	4:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	4:45 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	5:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	1	0	1	0	2	0	0	0	0	0	1	0	1	0	2
	TOTAL	4	1	1	0	6	2	0	0	0	4	0	0	0	0	2

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	5
	EAST & WEST:	Cottonwood	CONTROL:	STOP E/W

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Cottonwood			WESTBOUND Cottonwood				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	0	2	0	0	1	1	0	0	0	2	0	0	6	0	0	0	1	1	0	0	0	0
	7:15 AM	0	4	0	0	4	1	0	1	0	2	0	3	15	0	0	0	0	0	0	0	0	0
	7:30 AM	0	5	0	1	4	0	0	0	1	2	0	1	14	0	0	0	0	0	0	0	0	0
	7:45 AM	0	4	0	0	1	1	0	0	1	0	1	1	9	0	0	0	0	0	0	0	0	0
	8:00 AM	1	3	1	1	2	1	0	0	1	0	0	2	12	1	0	0	0	1	0	0	0	0
	8:15 AM	0	5	0	1	5	0	1	0	0	2	0	0	14	0	0	0	0	0	0	0	0	0
	8:30 AM	0	5	1	0	1	0	1	0	0	1	0	2	11	0	0	0	0	0	0	0	0	0
	8:45 AM	0	8	0	1	1	0	1	0	1	1	0	0	13	0	0	0	0	0	0	0	0	0
	VOLUMES	1	36	2	4	19	4	3	1	4	10	1	9	94	1	0	0	1	2	0	0	0	0
	APPROACH %	3%	92%	5%	15%	70%	15%	38%	13%	50%	50%	5%	45%										
	APP/DEPART	39	/	48	27	/	33	8	/	8	20	/	5	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	0	21	2	3	9	1	3	0	2	4	0	4	50						0	0	0	0
	APPROACH %	0%	88%	8%	23%	69%	8%	60%	0%	40%	50%	0%	50%										
	PEAK HR FACTOR		0.750			0.542			0.625			0.667		0.893									
	APP/DEPART	24	/	28	13	/	16	5	/	5	8	/	1	0									
PM	4:00 PM	1	2	1	0	3	0	0	0	0	1	0	1	9	1	0	0	0	1	0	0	0	0
	4:15 PM	0	2	0	0	1	1	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0
	4:30 PM	0	1	1	1	0	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:45 PM	0	1	0	1	1	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0
	5:00 PM	0	2	0	0	2	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	5:15 PM	0	2	0	1	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0
	5:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:45 PM	1	0	0	0	0	0	2	0	0	0	0	0	3	1	0	0	0	1	0	0	0	0
	VOLUMES	2	11	3	3	8	2	3	0	1	2	0	2	37	2	0	0	0	2	0	0	0	0
	APPROACH %	13%	69%	19%	23%	62%	15%	75%	0%	25%	50%	0%	50%										
	APP/DEPART	16	/	16	13	/	13	4	/	6	4	/	2	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	6	1	2	4	0	1	0	0	1	0	1	16						0	0	0	0
	APPROACH %	0%	86%	14%	33%	67%	0%	100%	0%	0%	50%	0%	50%										
	PEAK HR FACTOR		0.875			0.750			0.250			0.500		0.800									
	APP/DEPART	7	/	8	6	/	5	1	/	3	2	/	0	0									

Old 215 Frontage

NORTH SIDE

Cottonwood WEST SIDE EAST SIDE **Cottonwood**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Cottonwood	CONTROL:	STOP E/W

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Cottonwood			WESTBOUND Cottonwood			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM 7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	0	0	2	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	3	1	0	0	0	0	0	0	1	0	0	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	0	0	0	1	0	0	3
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	1	4	0	0	0	0	0	0	0	0	0	1	6
VOLUMES	1	9	1	0	3	0	0	0	0	4	0	1	19
APPROACH %	9%	82%	9%	0%	100%	0%	0%	0%	0%	80%	0%	20%	
APP/DEPART	11	/	10	3	/	7	0	/	1	5	/	1	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	1	6	0	0	1	0	0	0	0	1	0	1	10
APPROACH %	14%	86%	0%	0%	100%	0%	0%	0%	0%	50%	0%	50%	
PEAK HR FACTOR		0.350			0.250			0.000			0.500		0.417
APP/DEPART	7	/	7	1	/	2	0	/	0	2	/	1	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	2	0	0	0	0	0	0	0	0	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	2	2	0	0	0	0	0	0	0	0	1	5
APPROACH %	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	100%	
APP/DEPART	4	/	3	0	/	0	0	/	2	1	/	0	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	0	0	2	0	0	0	0	0	0	0	0	0	2
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
APP/DEPART	2	/	0	0	/	0	0	/	2	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
AM VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
PM VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM VOLUMES	0	0	0	0
AM PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Old 215 Frontage

NORTH SIDE

Cottonwood WEST SIDE

EAST SIDE **Cottonwood**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Cottonwood	CONTROL:	STOP E/W

CLASS 4:	NOTES:
4 OR MORE AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Cottonwood			WESTBOUND Cottonwood				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	0	3	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	7:15 AM	0	5	0	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	8:00 AM	0	8	0	0	1	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
	8:15 AM	1	4	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	1	0	0	0	0
	8:30 AM	0	10	0	0	3	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0
	8:45 AM	0	8	0	0	1	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
	VOLUMES	1	41	0	0	7	0	0	0	0	0	0	0	49	1	0	0	0	1	0	0	0	0
	APPROACH %	2%	98%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	42	/	41	7	/	8	0	/	0	0	/	0	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	0	30	0	0	5	0	0	0	0	0	0	0	36						0	0	0	0
	APPROACH %	0%	97%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.775			0.417			0.000			0.000		0.692									
	APP/DEPART	31	/	30	5	/	6	0	/	0	0	/	0	0									
PM	4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	VOLUMES	0	11	0	0	3	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	11	/	11	3	/	3	0	/	0	0	/	0	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	6	0	0	1	0	0	0	0	0	0	0	7						0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.500			0.250			0.000			0.000		0.583									
	APP/DEPART	6	/	6	1	/	1	0	/	0	0	/	0	0									

Old 215 Frontage

NORTH SIDE

Cottonwood WEST SIDE EAST SIDE **Cottonwood**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	6
	EAST & WEST:	Bay	CONTROL:	STOP E/W

NOTES:

AM / PM / MD / OTHER / OTHER

◄ W E ► ▲ N S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Bay			WESTBOUND Bay				U-TURNS					RTOR			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR X	SRR X	ERR X	WRR X
AM	7:00 AM	6	63	2	2	68	5	0	0	1	6	1	16	170	0	0	0	0	0	0	0	0	0
	7:15 AM	11	94	0	5	62	8	2	0	2	12	0	9	205	1	0	0	0	1	0	0	0	0
	7:30 AM	6	119	3	2	54	9	2	0	1	8	0	12	216	0	0	0	0	0	0	0	0	0
	7:45 AM	2	141	1	2	59	2	2	0	1	16	1	13	240	0	0	0	0	0	0	0	0	0
	8:00 AM	5	162	2	3	50	1	1	0	1	9	1	11	246	0	1	0	0	1	0	0	0	0
	8:15 AM	5	134	3	2	61	4	1	1	1	8	1	6	227	0	1	0	0	1	0	0	0	0
	8:30 AM	3	148	5	3	61	3	1	0	3	9	0	5	241	2	1	0	0	3	0	0	0	0
	8:45 AM	8	181	3	1	53	2	2	0	1	9	1	4	265	4	0	0	0	4	0	0	0	0
	VOLUMES	46	1,042	19	20	468	34	11	1	11	77	5	76	1,810	7	3	0	0	10	0	0	0	0
	APPROACH %	4%	94%	2%	4%	90%	7%	48%	4%	48%	49%	3%	48%										
	APP/DEPART	1,107	/	1,132	522	/	563	23	/	37	158	/	78	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	21	625	13	9	225	10	5	1	6	35	3	26	979						0	0	0	0
	APPROACH %	3%	95%	2%	4%	92%	4%	42%	8%	50%	55%	5%	41%										
	PEAK HR FACTOR		0.858			0.910			0.750			0.762		0.924									
	APP/DEPART	659	/	659	244	/	272	12	/	20	64	/	28	0									
PM	4:00 PM	6	97	5	11	67	2	6	0	5	6	0	2	207	3	2	0	0	5	0	0	0	0
	4:15 PM	3	106	7	13	76	1	3	0	2	1	0	4	216	2	0	0	0	2	0	0	0	0
	4:30 PM	4	88	6	10	59	1	13	1	10	4	0	8	204	2	2	0	0	4	0	0	0	0
	4:45 PM	4	115	7	12	60	1	4	0	5	3	0	7	218	2	2	0	0	4	0	0	0	0
	5:00 PM	5	77	4	13	103	0	4	0	1	4	0	5	216	3	2	0	0	5	0	0	0	0
	5:15 PM	1	82	2	5	93	2	4	0	6	3	0	3	201	0	1	0	0	1	0	0	0	0
	5:30 PM	2	106	4	10	102	0	0	0	3	4	0	7	238	2	0	0	0	2	0	0	0	0
	5:45 PM	3	66	5	10	89	2	2	0	1	5	0	5	188	2	0	0	0	2	0	0	0	0
	VOLUMES	28	737	40	84	649	9	36	1	33	30	0	41	1,688	16	9	0	0	25	0	0	0	0
	APPROACH %	3%	92%	5%	11%	87%	1%	51%	1%	47%	42%	0%	58%										
	APP/DEPART	805	/	823	742	/	728	70	/	116	71	/	21	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	12	380	17	40	358	3	12	0	15	14	0	22	873						0	0	0	0
	APPROACH %	3%	93%	4%	10%	89%	1%	44%	0%	56%	39%	0%	61%										
	PEAK HR FACTOR		0.812			0.864			0.675			0.818		0.917									
	APP/DEPART	409	/	419	401	/	394	27	/	52	36	/	8	0									

Old 215 Frontage

NORTH SIDE

Bay WEST SIDE EAST SIDE **Bay**

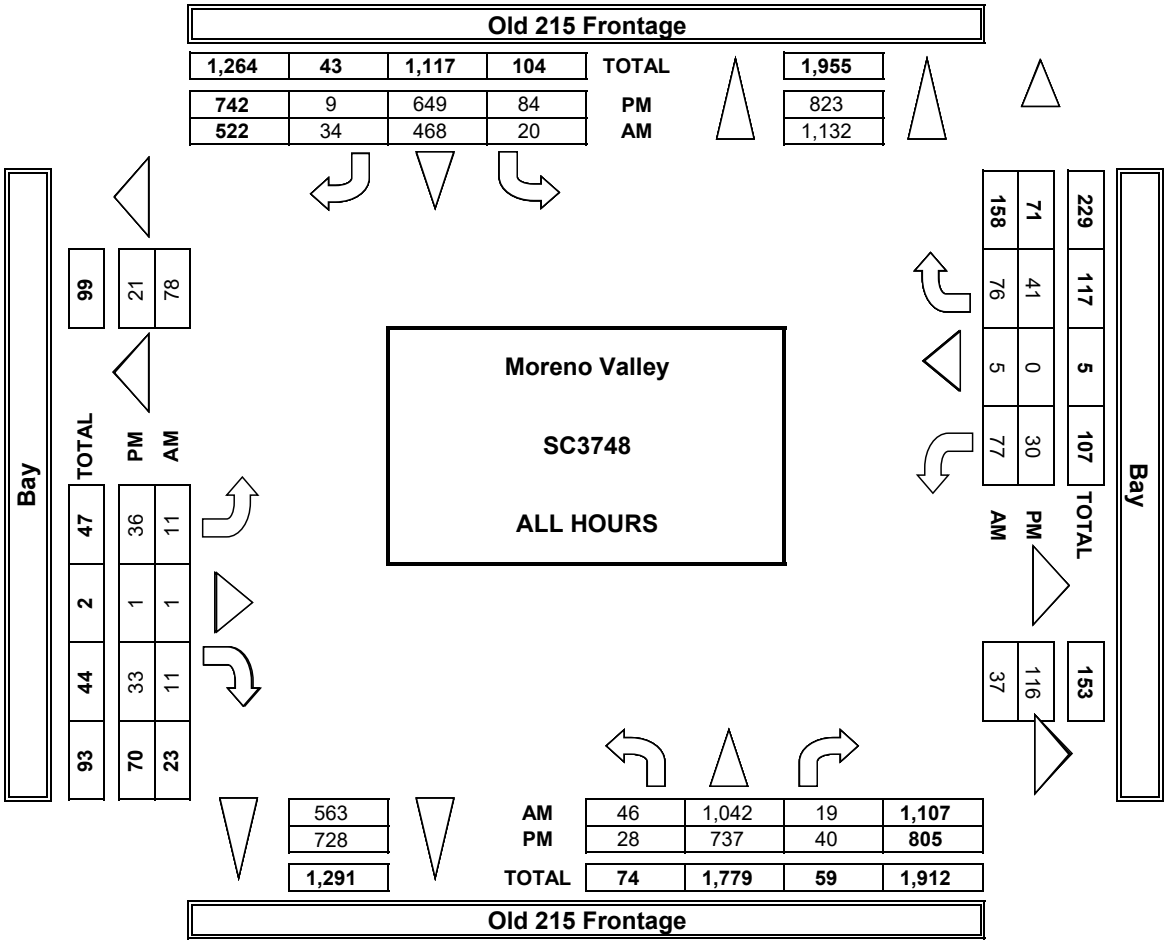
SOUTH SIDE

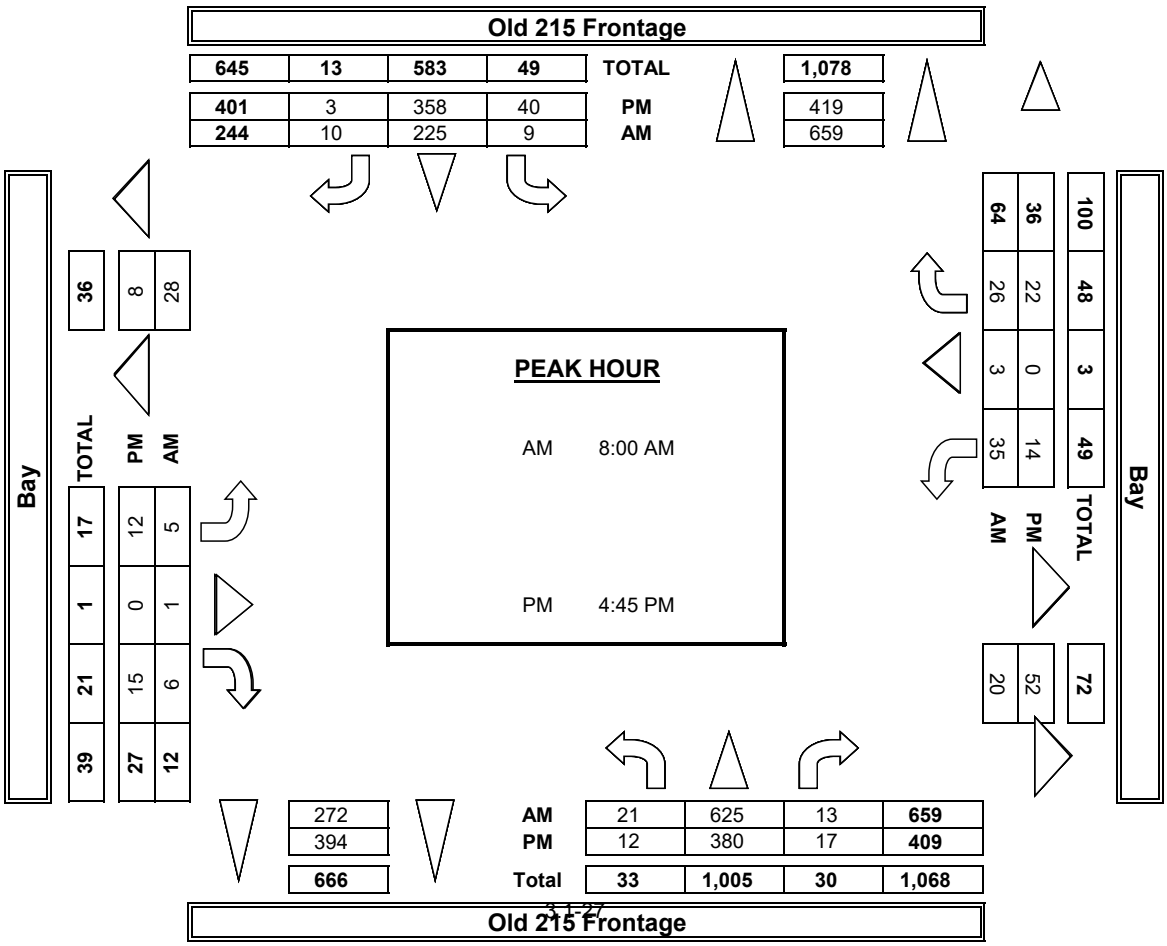
Old 215 Frontage

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	7:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	1	1	1	0	3	1	0	0	0	1	0	1	1	0	2
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	3	2	1	0	6	2	0	0	0	4	0	1	1	0	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	TOTAL	1	1	1	0	3	1	0	0	0	1	0	0	1	0	2

AimTD LLC

TURNING MOVEMENT COUNTS





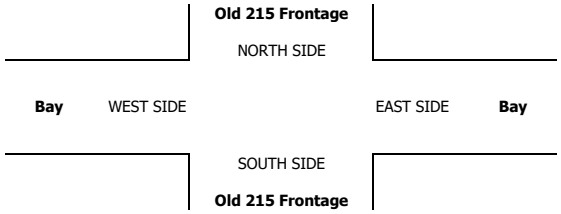
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	6
	EAST & WEST:	Bay	CONTROL:	STOP E/W

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Bay			WESTBOUND Bay				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	2	2	0	0	1	2	0	0	0	0	1	0	8	0	0	0	0	0	0	0	0	0
	7:15 AM	3	3	0	1	2	4	1	0	1	0	0	0	15	0	0	0	0	0	0	0	0	0
	7:30 AM	2	3	0	0	2	5	0	0	1	2	0	0	15	0	0	0	0	0	0	0	0	0
	7:45 AM	0	5	0	0	1	0	1	0	1	0	0	0	8	0	0	0	0	0	0	0	0	0
	8:00 AM	1	5	0	0	4	0	0	0	1	1	0	0	12	0	0	0	0	0	0	0	0	0
	8:15 AM	2	3	0	1	7	0	1	0	0	2	0	0	16	0	0	0	0	0	0	0	0	0
	8:30 AM	0	6	0	0	2	0	0	0	1	0	0	1	10	0	0	0	0	0	0	0	0	0
	8:45 AM	1	5	0	0	1	1	2	0	1	0	0	0	11	1	0	0	0	1	0	0	0	0
	VOLUMES	11	32	0	2	20	12	5	0	6	5	1	1	95	1	0	0	0	1	0	0	0	0
	APPROACH %	26%	74%	0%	6%	59%	35%	45%	0%	55%	71%	14%	14%										
	APP/DEPART	43	/	38	34	/	32	11	/	2	7	/	23	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	3	19	0	1	14	1	3	0	3	3	0	1	49						0	0	0	0
	APPROACH %	13%	83%	0%	6%	88%	6%	50%	0%	50%	75%	0%	25%										
	PEAK HR FACTOR		0.958			0.500			0.500			0.500		0.766									
	APP/DEPART	23	/	23	16	/	21	6	/	1	4	/	4	0									
PM	4:00 PM	0	2	0	1	3	1	2	0	0	1	0	0	10	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	1	1	1	1	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0
	4:30 PM	0	1	1	0	0	0	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:45 PM	0	1	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:00 PM	0	2	1	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	5:15 PM	0	1	1	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	VOLUMES	0	11	5	5	6	2	4	0	1	2	0	0	36	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	69%	31%	38%	46%	15%	80%	0%	20%	100%	0%	0%										
	APP/DEPART	16	/	15	13	/	9	5	/	10	2	/	2	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	6	3	3	2	0	1	0	0	0	0	0	15						0	0	0	0
	APPROACH %	0%	67%	33%	60%	40%	0%	100%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.750			0.625			0.250			0.000		0.750									
	APP/DEPART	9	/	7	5	/	2	1	/	6	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	6
WEDNESDAY	EAST & WEST:	Bay	CONTROL:	STOP E/W

CLASS 3:	NOTES:
3-AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Bay			WESTBOUND Bay				U-TURNS					RTOR			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL	NRR X	SRR X	ERR X	WRR X
AM	7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	2	0	0	1	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	8:45 AM	0	2	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0
	VOLUMES	0	6	0	0	4	1	0	0	0	2	0	0	13	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	80%	20%	0%	0%	0%	100%	0%	0%										
	APP/DEPART	6	/	6	5	/	6	0	/	0	2	/	1	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	0	4	0	0	0	1	0	0	0	1	0	0	6						0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%										
	PEAK HR FACTOR		0.500			0.250			0.000			0.250		0.500									
	APP/DEPART	4	/	4	1	/	1	0	/	0	1	/	1	0									
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	VOLUMES	0	2	0	1	1	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	100%	0%	50%	50%	0%	100%	0%	0%	0%	0%	0%										
	APP/DEPART	2	/	3	2	/	1	1	/	1	0	/	0	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	2	0	0	1	0	0	0	0	0	0	0	3						0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.250			0.250			0.000			0.000		0.375									
	APP/DEPART	2	/	2	1	/	1	0	/	0	0	/	0	0									

Old 215 Frontage

NORTH SIDE

Bay WEST SIDE

EAST SIDE **Bay**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	6
WEDNESDAY	EAST & WEST:	Bay	CONTROL:	STOP E/W

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Bay			WESTBOUND Bay				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	0	3	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	7:15 AM	0	5	0	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	3	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0
	8:00 AM	0	9	0	0	1	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
	8:15 AM	0	6	0	0	1	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
	8:30 AM	0	8	0	1	1	1	0	0	0	0	0	0	11	0	1	0	0	1	0	0	0	0
	8:45 AM	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
	VOLUMES	0	43	0	1	5	1	0	0	0	0	0	1	51	0	1	0	0	1	0	0	0	0
	APPROACH %	0%	100%	0%	14%	71%	14%	0%	0%	0%	0%	0%	100%										
	APP/DEPART	43	/	45	7	/	5	0	/	0	1	/	1	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	0	32	0	0	3	1	0	0	0	0	0	0	37						0	0	0	0
	APPROACH %	0%	100%	0%	0%	60%	20%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.889			0.417			0.000			0.000		0.841									
	APP/DEPART	32	/	33	5	/	3	0	/	0	0	/	1	0									
PM	4:00 PM	1	3	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	3	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0
	4:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	VOLUMES	2	12	0	0	5	0	0	0	0	0	0	0	19	1	0	0	0	1	0	0	0	0
	APPROACH %	14%	86%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	14	/	12	5	/	6	0	/	0	0	/	1	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	0	7	0	0	1	0	0	0	0	0	0	0	8						0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.583			0.250			0.000			0.000		0.667									
	APP/DEPART	7	/	7	1	/	1	0	/	0	0	/	0	0									

Old 215 Frontage

NORTH SIDE

Bay WEST SIDE

EAST SIDE **Bay**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
Wed, Nov 16, 22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	7
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

N ▲ ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
	LANES:	NL 2	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 3	ER 1	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR 0	SRR X	ERR 0	WRR X
AM	7:00 AM	11	43	1	5	6	62	18	104	5	1	271	11	538	0	0	1	0	1	1	0	4	0
	7:15 AM	11	57	1	8	4	67	27	143	4	0	268	26	616	0	1	0	0	1	0	0	1	0
	7:30 AM	11	43	1	3	5	53	40	122	3	0	334	38	653	0	0	0	0	0	0	0	1	0
	7:45 AM	8	69	3	3	5	65	48	165	4	2	269	28	669	0	0	0	0	0	0	0	0	0
	8:00 AM	15	81	2	5	2	50	58	145	5	2	231	29	625	0	0	1	0	1	0	0	2	0
	8:15 AM	32	67	5	4	6	56	61	152	3	5	299	19	709	0	0	1	1	2	1	0	1	0
	8:30 AM	30	51	1	7	8	68	70	156	2	4	274	26	697	0	0	0	0	0	0	0	2	0
	8:45 AM	9	81	2	5	9	52	79	180	5	5	259	24	710	0	0	0	0	0	0	0	2	0
	VOLUMES	127	492	16	40	45	473	401	1,167	31	19	2,205	201	5,217	0	1	3	1	5	2	0	13	0
	APPROACH %	20%	77%	3%	7%	8%	85%	25%	73%	2%	1%	91%	8%										
	APP/DEPART	635	/	1,092	558	/	94	1,599	/	1,223	2,425	/	2,808	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	86	280	10	21	25	226	268	633	15	16	1,063	98	2,741						1	0	7	0
	APPROACH %	23%	74%	3%	8%	9%	83%	29%	69%	2%	1%	90%	8%										
	PEAK HR FACTOR		0.904			0.819			0.867			0.911		0.965									
	APP/DEPART	376	/	644	272	/	55	916	/	665	1,177	/	1,377	0									
PM	4:00 PM	9	30	3	17	16	53	60	282	3	2	150	21	646	0	1	0	1	2	1	0	1	0
	4:15 PM	8	29	1	18	22	44	74	224	2	5	146	18	591	0	0	1	1	2	0	0	0	0
	4:30 PM	2	23	3	12	19	45	53	284	6	8	172	25	652	0	1	1	5	7	1	0	2	0
	4:45 PM	3	26	3	17	18	37	74	308	8	1	188	24	707	0	1	0	0	1	1	0	1	0
	5:00 PM	2	16	0	17	31	60	42	296	9	3	202	28	706	0	0	0	1	1	0	0	0	0
	5:15 PM	6	26	3	22	37	48	61	306	5	0	179	12	705	0	1	2	0	3	0	0	3	0
	5:30 PM	4	17	2	18	29	61	67	307	8	3	183	23	722	0	0	0	2	2	0	0	2	0
	5:45 PM	3	17	0	19	27	50	50	300	3	0	146	9	624	0	0	1	0	1	0	0	0	0
	VOLUMES	37	184	15	140	199	398	481	2,307	44	22	1,366	160	5,353	0	4	5	10	19	3	0	9	0
	APPROACH %	16%	78%	6%	19%	27%	54%	17%	81%	2%	1%	88%	10%										
	APP/DEPART	236	/	824	737	/	255	2,832	/	2,468	1,548	/	1,806	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	15	85	8	74	115	206	244	1,217	30	7	752	87	2,840						1	0	6	0
	APPROACH %	14%	79%	7%	19%	29%	52%	16%	82%	2%	1%	89%	10%										
	PEAK HR FACTOR		0.771			0.914			0.956			0.908		0.983									
	APP/DEPART	108	/	416	395	/	149	1,491	/	1,300	846	/	975	0									

Old 215 Frontage

NORTH SIDE

Alessandro WEST SIDE EAST SIDE **Alessandro**

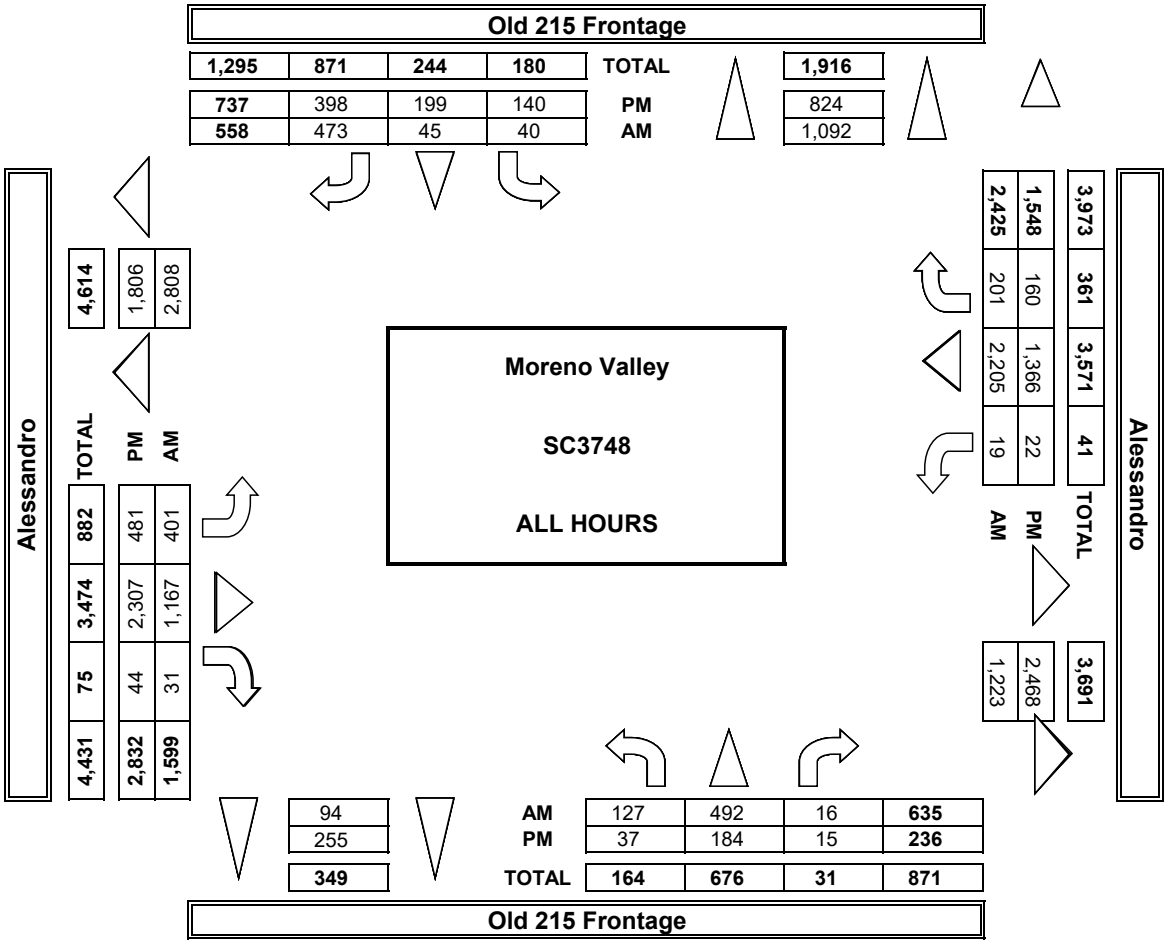
SOUTH SIDE

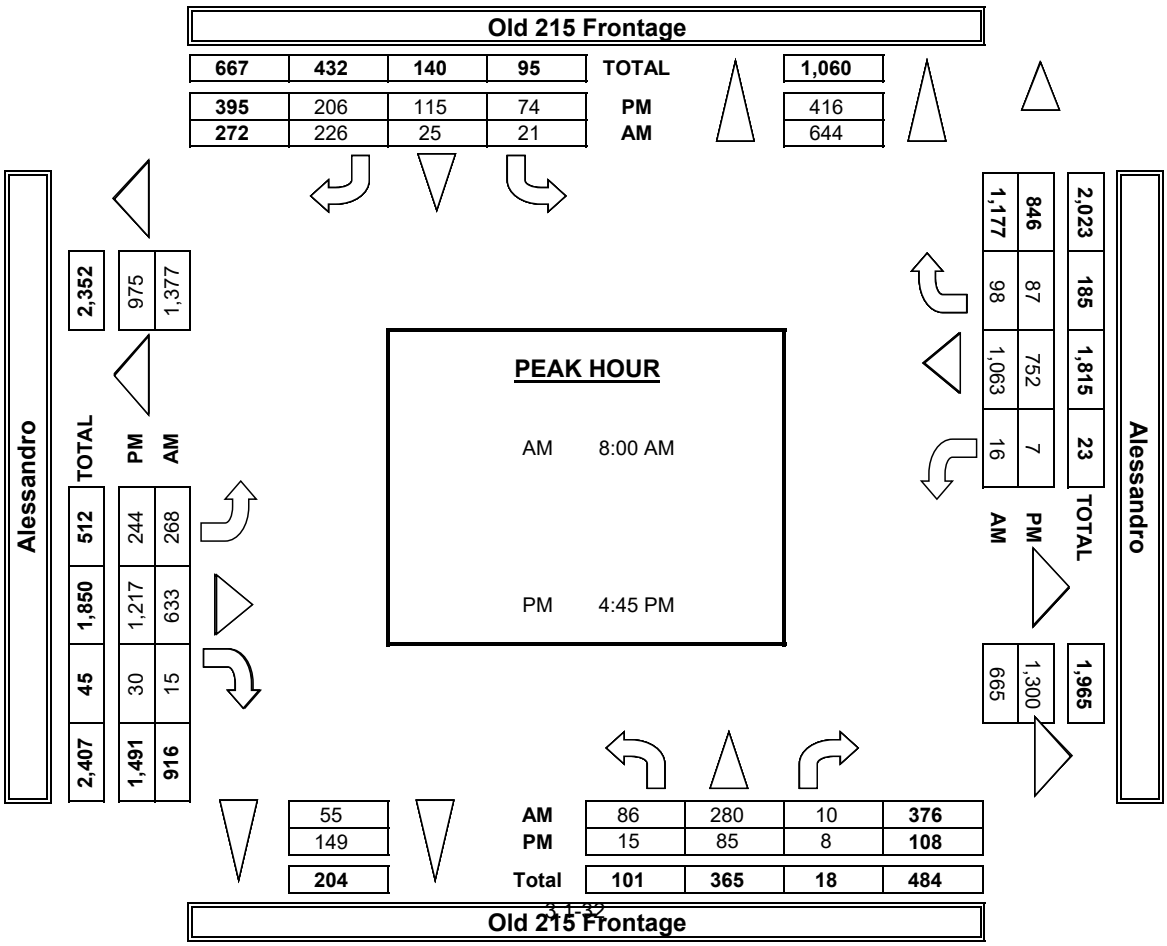
Old 215 Frontage

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
PM	4:00 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	1	4	5	0	0	0	1	3	0	0	1	1	2

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 11/16/22 WEDNESDAY	LOCATION:	Moreno Valley	PROJECT #:	SC3748
	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	7
	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	◄ W	▲ N / S ▼	E ►

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	2	2	1	1	2	1	2	3	1	1	2	1							0	X	0	X
AM	7:00 AM	1	3	0	1	0	1	2	5	0	0	15	1	29	0	0	0	0	0	0	0	0	0
	7:15 AM	2	2	0	0	1	3	2	8	0	0	9	2	29	0	0	0	0	0	0	0	0	0
	7:30 AM	1	4	0	0	0	4	1	10	0	0	7	0	27	0	0	0	0	0	0	0	0	0
	7:45 AM	1	3	0	0	0	3	2	4	0	0	10	2	25	0	0	0	0	0	0	0	0	0
	8:00 AM	2	3	0	0	0	4	2	9	0	0	6	0	26	0	0	0	0	0	0	0	0	0
	8:15 AM	2	2	0	2	0	6	3	6	0	0	18	1	40	0	0	0	0	0	0	0	0	0
	8:30 AM	0	2	0	0	1	5	2	13	0	0	17	3	43	0	0	0	0	0	0	0	0	0
	8:45 AM	1	0	0	0	1	3	4	6	1	0	22	2	40	0	0	0	0	0	0	0	1	0
	VOLUMES	10	19	0	3	3	29	18	61	1	0	104	11	259	0	0	0	0	0	0	0	1	0
	APPROACH %	34%	66%	0%	9%	9%	83%	23%	76%	1%	0%	90%	10%										
	APP/DEPART	29	/	48	35	/	4	80	/	64	115	/	143	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	5	7	0	2	2	18	11	34	1	0	63	6	149						0	0	1	0
	APPROACH %	42%	58%	0%	9%	9%	82%	24%	74%	2%	0%	91%	9%										
	PEAK HR FACTOR		0.600			0.688			0.767			0.719		0.866									
	APP/DEPART	12	/	24	22	/	3	46	/	36	69	/	86	0									
PM	4:00 PM	0	0	1	0	1	4	2	14	0	0	4	1	27	0	0	0	0	0	0	0	0	0
	4:15 PM	0	2	0	2	0	0	1	16	0	0	5	1	27	0	0	0	0	0	0	0	0	0
	4:30 PM	1	1	0	0	1	0	0	13	0	0	7	0	23	0	0	0	0	0	0	0	0	0
	4:45 PM	0	2	1	1	0	0	1	12	0	0	7	0	24	0	0	0	0	0	0	0	0	0
	5:00 PM	0	1	0	1	1	0	2	11	1	0	5	0	22	0	0	0	0	0	0	0	0	0
	5:15 PM	1	2	0	0	1	1	2	13	0	0	1	0	21	0	0	1	0	1	0	0	0	0
	5:30 PM	0	0	0	0	0	2	2	11	1	1	3	0	20	0	0	0	1	1	0	0	0	0
	5:45 PM	0	0	0	1	0	0	1	12	0	0	4	0	18	0	0	0	0	0	0	0	0	0
	VOLUMES	2	8	2	5	4	7	11	102	2	1	36	2	182	0	0	1	1	2	0	0	0	0
	APPROACH %	17%	67%	17%	31%	25%	44%	10%	89%	2%	3%	92%	5%										
	APP/DEPART	12	/	20	16	/	6	115	/	110	39	/	46	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	1	5	1	2	2	3	6	47	2	0	16	0	87						0	0	0	0
	APPROACH %	14%	71%	14%	29%	29%	43%	11%	84%	4%	0%	94%	0%										
	PEAK HR FACTOR		0.583			0.875			0.933			0.607		0.906									
	APP/DEPART	7	/	11	7	/	4	56	/	51	17	/	21	0									

Old 215 Frontage

NORTH SIDE

Alessandro WEST SIDE

EAST SIDE **Alessandro**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	7
WEDNESDAY	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
	LANES:	NL 2	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 3	ER 1	WL 1	WT 2	WR 1	TOTAL	NB	SB	EB	WB	TTL	NRR 0	SRR X	ERR 0	WRR X
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	1	0	0	1	0	3	0	0	1	1	7	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	3	1	0	2	1	7	0	0	0	0	0	0	0	0	0
	7:45 AM	0	2	0	0	0	0	0	0	1	0	2	0	5	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	2	0	0	1	0	3	0	0	0	0	0	0	0	0	0
	8:15 AM	1	1	0	0	0	0	0	2	0	1	3	0	8	0	0	0	0	0	0	0	0	0
	8:30 AM	0	1	0	0	0	0	1	2	0	0	2	0	6	0	0	0	0	0	0	0	0	0
	8:45 AM	0	2	0	0	0	1	1	4	1	1	0	0	10	0	0	0	0	0	0	0	0	0
	VOLUMES	1	6	1	0	0	2	2	17	3	2	13	2	49	0	0	0	0	0	0	0	0	0
	APPROACH %	13%	75%	13%	0%	0%	100%	9%	77%	14%	12%	76%	12%										
	APP/DEPART	8	/	10	2	/	5	22	/	18	17	/	16	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	1	4	0	0	0	1	2	10	1	2	6	0	27						0	0	0	0
	APPROACH %	20%	80%	0%	0%	0%	100%	15%	77%	8%	25%	75%	0%										
	PEAK HR FACTOR		0.625			0.250			0.542			0.500		0.675									
	APP/DEPART	5	/	6	1	/	3	13	/	10	8	/	8	0									
PM	4:00 PM	1	0	0	0	0	0	0	4	0	0	1	0	6	0	0	0	0	0	0	0	0	0
	4:15 PM	1	0	0	0	0	0	0	1	0	0	1	0	3	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	0	0	1	0	0	1	1	0	0	0	4	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	1	2	0	0	1	1	5	0	0	0	0	0	0	0	0	0
	5:15 PM	0	1	0	0	0	0	1	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
	VOLUMES	3	1	0	0	1	0	2	9	1	0	7	1	25	0	0	0	0	0	0	0	0	0
	APPROACH %	75%	25%	0%	0%	100%	0%	17%	75%	8%	0%	88%	13%										
	APP/DEPART	4	/	4	1	/	2	12	/	9	8	/	10	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	1	1	0	0	1	0	2	3	1	0	3	1	13						0	0	0	0
	APPROACH %	50%	50%	0%	0%	100%	0%	33%	50%	17%	0%	75%	25%										
	PEAK HR FACTOR		0.500			0.250			0.500			0.500		0.650									
	APP/DEPART	2	/	4	1	/	2	6	/	3	4	/	4	0									

Old 215 Frontage

NORTH SIDE

Alessandro WEST SIDE

EAST SIDE **Alessandro**

SOUTH SIDE

Old 215 Frontage

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3748
11/16/22	NORTH & SOUTH:	Old 215 Frontage	LOCATION #:	7
WEDNESDAY	EAST & WEST:	Alessandro	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

◄ W ▲ N S ▼ E ►

		NORTHBOUND Old 215 Frontage			SOUTHBOUND Old 215 Frontage			EASTBOUND Alessandro			WESTBOUND Alessandro				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	2	2	1	1	2	1	2	3	1	1	2	1							0	X	0	X
AM	7:00 AM	1	3	0	0	1	0	0	6	1	0	1	0	13	0	0	0	0	0	0	0	1	0
	7:15 AM	1	5	0	1	0	0	0	0	2	0	4	0	13	0	0	0	0	0	0	0	0	0
	7:30 AM	2	0	0	0	0	0	0	0	1	0	8	0	11	0	0	0	0	0	0	0	1	0
	7:45 AM	2	2	0	0	0	1	0	4	1	1	7	1	19	0	0	0	0	0	0	0	0	0
	8:00 AM	2	7	1	1	0	0	1	3	0	1	3	1	20	0	0	0	0	0	0	0	0	0
	8:15 AM	1	7	1	0	0	1	0	2	0	1	5	0	18	0	0	0	0	0	0	0	0	0
	8:30 AM	4	5	1	0	0	1	1	3	0	2	4	1	22	0	0	0	0	0	0	0	0	0
	8:45 AM	1	6	0	0	0	0	1	15	2	3	8	2	38	0	0	0	0	0	0	0	1	0
	VOLUMES	14	35	3	2	1	3	3	33	7	8	40	5	154	0	0	0	0	0	0	0	3	0
	APPROACH %	27%	67%	6%	33%	17%	50%	7%	77%	16%	15%	75%	9%										
	APP/DEPART	52	/	43	6	/	16	43	/	38	53	/	57	0									
	BEGIN PEAK HR		8:00 AM																				
	VOLUMES	8	25	3	1	0	2	3	23	2	7	20	4	98						0	0	1	0
	APPROACH %	22%	69%	8%	33%	0%	67%	11%	82%	7%	23%	65%	13%										
	PEAK HR FACTOR		0.900			0.750			0.389			0.596		0.645									
	APP/DEPART	36	/	32	3	/	9	28	/	27	31	/	30	0									
PM	4:00 PM	1	3	0	0	0	0	1	2	1	0	3	0	11	0	0	0	0	0	0	0	1	0
	4:15 PM	1	0	0	0	2	1	0	1	1	0	1	1	8	0	0	0	0	0	0	0	0	0
	4:30 PM	0	2	0	0	1	1	0	6	2	1	2	0	15	0	0	0	0	0	0	0	1	0
	4:45 PM	0	3	0	0	0	0	0	4	3	0	2	0	12	0	0	0	0	0	0	0	0	0
	5:00 PM	0	1	0	0	0	0	1	1	2	0	3	0	8	0	0	0	0	0	0	0	0	0
	5:15 PM	3	0	0	1	0	0	0	2	1	0	2	0	9	0	0	0	0	0	0	0	0	0
	5:30 PM	0	2	0	0	0	0	0	2	1	0	2	1	8	0	0	0	0	0	0	0	0	0
	5:45 PM	2	0	0	0	1	0	0	2	0	0	1	0	6	0	0	0	0	0	0	0	0	0
	VOLUMES	7	11	0	1	4	2	2	20	11	1	16	2	77	0	0	0	0	0	0	0	2	0
	APPROACH %	39%	61%	0%	14%	57%	29%	6%	61%	33%	5%	84%	11%										
	APP/DEPART	18	/	15	7	/	16	33	/	21	19	/	25	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	3	6	0	1	0	0	1	9	7	0	9	1	37						0	0	0	0
	APPROACH %	33%	67%	0%	100%	0%	0%	6%	53%	41%	0%	90%	10%										
	PEAK HR FACTOR		0.750			0.250			0.607			0.833		0.771									
	APP/DEPART	9	/	8	1	/	7	17	/	10	10	/	12	0									

Old 215 Frontage

NORTH SIDE

Alessandro WEST SIDE

EAST SIDE **Alessandro**

SOUTH SIDE

Old 215 Frontage

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, November 16, 2022 **CITY:** Moreno Valley

JOB #: SC3748 **LOCATION:** Eucalyptus east of Old 215 Frontage

AM TIME	1	2	3	4	5	6	TOTAL	PM Time	1	2	3	4	5	6	TOTAL
0:00	18	1	0	0	0	0	19	12:00	123	3	0	0	0	0	126
0:15	14	0	0	0	0	0	14	12:15	108	0	0	2	0	0	110
0:30	24	0	0	0	0	0	24	12:30	145	2	0	1	0	1	149
0:45	8	0	0	0	0	0	8	12:45	136	4	0	1	0	0	141
1:00	10	0	0	1	0	0	11	13:00	130	3	0	0	0	0	133
1:15	16	0	0	0	0	0	16	13:15	119	3	0	0	0	0	122
1:30	13	0	0	0	0	0	13	13:30	152	3	0	2	0	0	157
1:45	7	0	0	1	0	0	8	13:45	122	5	0	0	0	1	128
2:00	7	0	0	0	0	0	7	14:00	130	4	0	3	0	0	137
2:15	10	0	0	1	0	0	11	14:15	147	3	0	1	0	2	153
2:30	10	0	0	1	0	0	11	14:30	135	3	0	1	0	0	139
2:45	9	1	0	0	0	0	10	14:45	155	2	0	0	0	0	157
3:00	7	0	0	0	0	0	7	15:00	129	2	0	1	0	0	132
3:15	14	0	0	0	0	0	14	15:15	131	3	0	0	0	0	134
3:30	12	0	0	0	0	0	12	15:30	174	1	0	4	0	0	179
3:45	10	0	0	0	0	0	10	15:45	149	0	0	4	0	0	153
4:00	14	0	0	1	0	0	15	16:00	172	5	1	0	0	0	178
4:15	10	0	0	1	0	0	11	16:15	153	7	0	0	0	0	160
4:30	17	0	0	0	0	0	17	16:30	173	6	0	0	0	0	179
4:45	24	0	1	0	0	0	25	16:45	192	6	0	0	0	0	198
5:00	21	1	1	4	0	0	27	17:00	178	6	1	0	0	0	185
5:15	22	0	0	2	0	0	24	17:15	208	5	1	1	0	0	215
5:30	36	1	0	0	0	0	37	17:30	197	3	0	1	0	0	201
5:45	24	0	1	0	0	1	26	17:45	188	4	0	2	0	1	195
6:00	44	2	0	1	0	0	47	18:00	199	3	0	0	0	0	202
6:15	40	5	0	2	0	0	47	18:15	173	8	0	2	0	1	184
6:30	43	4	1	1	0	0	49	18:30	157	6	0	1	0	0	164
6:45	70	0	0	0	0	1	71	18:45	145	6	0	1	0	0	152
7:00	77	0	0	0	0	1	78	19:00	132	1	0	0	0	0	133
7:15	60	6	1	2	0	0	69	19:15	96	2	0	0	0	0	98
7:30	68	1	0	4	0	1	74	19:30	94	4	0	0	0	0	98
7:45	61	4	0	1	0	1	67	19:45	78	1	0	1	0	0	80
8:00	72	5	1	3	0	0	81	20:00	83	1	0	0	0	0	84
8:15	65	3	2	4	0	0	74	20:15	62	1	0	0	0	0	63
8:30	61	2	0	2	0	0	65	20:30	64	0	0	0	0	0	64
8:45	70	6	2	0	0	0	78	20:45	48	0	0	0	0	0	48
9:00	67	0	1	4	0	0	72	21:00	64	0	0	1	0	0	65
9:15	85	4	0	1	0	0	90	21:15	57	1	0	0	0	0	58
9:30	80	4	0	3	0	0	87	21:30	47	0	0	2	0	0	49
9:45	111	3	0	1	0	0	115	21:45	39	1	0	0	0	0	40
10:00	102	5	0	0	0	0	107	22:00	54	1	0	0	0	0	55
10:15	99	6	0	0	0	0	105	22:15	41	1	0	0	0	0	42
10:30	110	2	0	0	0	1	113	22:30	46	1	0	0	0	0	47
10:45	113	4	2	3	0	0	122	22:45	31	0	0	0	0	0	31
11:00	108	6	0	1	0	1	116	23:00	31	0	0	0	0	0	31
11:15	112	2	1	3	0	0	118	23:15	37	0	1	0	0	0	38
11:30	105	3	1	1	0	0	110	23:30	23	0	0	0	0	0	23
11:45	128	4	2	2	0	0	136	23:45	20	0	0	0	0	0	20
TOTAL	2,308	85	17	51	0	7	2,468	TOTAL	5,467	121	4	32	0	6	5,630

AM PEAK HOUR	11:00 AM	AM PEAK HOUR	5:15 PM
AM PEAK VOLUME	480	AM PEAK VOLUME	813

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	7,775	206	21	83	0	13	8,098
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	96.0%	2.5%	0.3%	1.0%	0.0%	0.2%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV	TOTAL: ALL	16,425	416	50	152	0	24	17,067
CLASS 6	Buses	% OF TOTAL	96.2%	2.4%	0.3%	0.9%	0.0%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, November 16, 2022
JOB #: SC3748
CITY: Moreno Valley
LOCATION: Eucalyptus east of Old 215 Frontage

AM TIME	1	2	3	4	5	6	TOTAL	PM Time	1	2	3	4	5	6	TOTAL
0:00	9	0	0	1	0	0	10	12:00	130	3	1	2	0	0	136
0:15	9	0	0	0	0	0	9	12:15	142	1	0	2	0	0	145
0:30	12	0	0	0	0	0	12	12:30	117	0	0	1	0	0	118
0:45	11	0	0	0	0	0	11	12:45	131	3	3	0	0	0	137
1:00	7	0	0	0	0	0	7	13:00	149	0	1	0	0	0	150
1:15	9	0	0	0	0	0	9	13:15	134	2	0	3	0	0	139
1:30	6	0	0	0	0	0	6	13:30	133	5	0	0	0	0	138
1:45	4	0	0	0	0	0	4	13:45	136	4	0	0	0	0	140
2:00	8	0	0	1	0	0	9	14:00	132	1	0	3	0	0	136
2:15	10	0	0	1	0	0	11	14:15	118	3	0	2	0	0	123
2:30	11	0	0	0	0	0	11	14:30	141	3	0	1	0	1	146
2:45	13	0	0	0	0	0	13	14:45	120	3	0	1	0	0	124
3:00	19	0	0	1	0	0	20	15:00	134	3	1	1	0	0	139
3:15	30	1	0	1	0	0	32	15:15	119	0	0	0	0	0	119
3:30	28	0	0	0	0	0	28	15:30	107	3	1	0	0	0	111
3:45	44	0	0	0	0	0	44	15:45	107	4	0	1	0	0	112
4:00	29	0	0	0	0	0	29	16:00	105	0	0	1	0	0	106
4:15	46	2	0	0	0	0	48	16:15	105	2	0	0	0	0	107
4:30	56	0	0	0	0	0	56	16:30	101	3	1	1	0	0	106
4:45	70	5	1	0	0	0	76	16:45	105	4	0	0	0	0	109
5:00	72	3	1	0	0	0	76	17:00	131	3	0	2	0	0	136
5:15	62	4	0	1	0	0	67	17:15	125	0	1	0	0	0	126
5:30	89	1	2	0	0	0	92	17:30	105	1	0	0	0	0	106
5:45	94	4	2	1	0	0	101	17:45	102	1	0	1	0	0	104
6:00	84	2	0	0	0	1	87	18:00	98	3	0	1	0	0	102
6:15	106	2	0	3	0	1	112	18:15	136	4	1	1	0	0	142
6:30	141	5	1	0	0	0	147	18:30	134	6	0	1	0	0	141
6:45	181	2	0	0	0	0	183	18:45	105	3	1	1	0	1	111
7:00	203	3	0	0	0	0	206	19:00	123	0	0	2	0	0	125
7:15	219	4	0	2	0	1	226	19:15	74	1	0	0	0	0	75
7:30	211	9	1	2	0	0	223	19:30	86	0	0	0	0	0	86
7:45	195	12	0	0	0	1	208	19:45	93	2	0	0	0	0	95
8:00	211	5	1	4	0	1	222	20:00	76	0	0	0	0	0	76
8:15	228	15	2	3	0	0	248	20:15	72	0	0	0	0	0	72
8:30	215	9	1	5	0	0	230	20:30	93	1	0	1	0	0	95
8:45	199	9	0	0	0	0	208	20:45	53	1	0	1	0	0	55
9:00	118	7	0	0	0	0	125	21:00	60	0	0	0	0	0	60
9:15	97	0	0	2	0	0	99	21:15	41	0	0	0	0	0	41
9:30	85	2	0	0	0	0	87	21:30	45	0	0	1	0	0	46
9:45	90	0	0	1	0	1	92	21:45	42	1	1	0	0	1	45
10:00	87	2	0	1	0	0	90	22:00	41	1	0	2	0	0	44
10:15	113	6	1	1	0	0	121	22:15	39	0	0	0	0	0	39
10:30	90	3	1	1	0	0	95	22:30	31	0	0	0	0	0	31
10:45	100	3	0	0	0	0	103	22:45	29	1	0	0	0	1	31
11:00	101	6	0	1	0	0	108	23:00	21	0	0	0	0	0	21
11:15	106	1	1	2	0	0	110	23:15	16	0	1	1	0	0	18
11:30	133	6	0	0	0	0	139	23:30	15	0	0	0	0	0	15
11:45	130	1	1	0	0	1	133	23:45	7	0	0	0	0	0	7
TOTAL	4,191	134	16	35	0	7	4,383	TOTAL	4,459	76	13	34	0	4	4,586

AM PEAK HOUR	8:00 AM	AM PEAK HOUR	1:00 PM
AM PEAK VOLUME	908	AM PEAK VOLUME	567

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	8,650	210	29	69	0	11	8,969
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	96.4%	2.3%	0.3%	0.8%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	BUS								

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, November 16, 2022 **CITY:** Moreno Valley

JOB #: SC3748 **LOCATION:** Old 215 Frontage south of Cottonwood

AM TIME	1	2	3	4	5	6	TOTAL	PM Time	1	2	3	4	5	6	TOTAL
0:00	3	0	0	0	0	0	3	12:00	81	2	0	2	0	0	85
0:15	2	0	0	0	0	0	2	12:15	115	2	1	1	0	0	119
0:30	3	0	0	0	0	0	3	12:30	100	5	2	3	0	0	110
0:45	0	0	0	0	0	0	0	12:45	120	3	0	2	0	0	125
1:00	1	0	0	0	0	0	1	13:00	121	7	0	3	0	0	131
1:15	9	1	0	0	0	0	10	13:15	129	7	1	3	0	0	140
1:30	4	0	0	0	0	0	4	13:30	127	7	2	4	0	0	140
1:45	2	0	0	1	0	0	3	13:45	140	8	1	6	0	0	155
2:00	1	0	0	0	0	0	1	14:00	141	5	2	3	0	0	151
2:15	1	0	0	0	0	0	1	14:15	130	2	0	5	0	1	138
2:30	0	0	0	0	0	0	0	14:30	151	7	0	4	0	0	162
2:45	4	1	0	0	0	0	5	14:45	151	1	1	2	0	0	155
3:00	2	0	0	0	0	0	2	15:00	118	3	0	5	0	0	126
3:15	3	0	0	0	0	0	3	15:15	129	4	2	3	0	0	138
3:30	8	0	0	0	0	0	8	15:30	156	3	2	3	0	0	164
3:45	7	0	0	0	0	0	7	15:45	137	1	0	3	0	0	141
4:00	6	0	0	1	0	0	7	16:00	110	4	0	2	0	0	116
4:15	7	1	0	0	0	0	8	16:15	110	2	2	1	0	0	115
4:30	12	0	0	0	0	0	12	16:30	111	2	0	1	0	0	114
4:45	18	0	0	1	0	0	19	16:45	119	1	0	3	0	0	123
5:00	13	0	0	0	0	0	13	17:00	86	2	2	1	0	0	91
5:15	18	0	0	0	0	0	18	17:15	94	2	0	0	0	0	96
5:30	29	1	1	1	0	0	32	17:30	108	2	0	2	0	0	112
5:45	41	1	1	2	0	0	45	17:45	71	1	0	1	0	0	73
6:00	39	1	0	1	0	0	41	18:00	64	1	0	1	0	0	66
6:15	33	2	1	1	0	0	37	18:15	104	2	0	1	0	0	107
6:30	48	1	0	4	0	0	53	18:30	87	2	0	1	0	0	90
6:45	65	2	1	3	0	1	72	18:45	102	2	0	1	0	0	105
7:00	75	2	0	3	0	1	81	19:00	52	1	0	1	0	0	54
7:15	88	4	0	5	0	0	97	19:15	36	1	0	1	0	0	38
7:30	127	4	0	0	0	0	131	19:30	38	0	0	1	0	0	39
7:45	138	4	4	3	0	1	150	19:45	38	1	0	1	0	0	40
8:00	163	5	0	8	0	0	176	20:00	31	0	1	0	0	0	32
8:15	123	5	1	5	0	0	134	20:15	23	0	1	0	0	1	25
8:30	144	6	1	10	0	0	161	20:30	28	1	0	1	0	0	30
8:45	157	9	5	8	0	0	179	20:45	12	0	0	0	0	0	12
9:00	133	7	2	7	0	0	149	21:00	16	1	0	0	0	0	17
9:15	157	8	1	7	0	2	175	21:15	13	0	0	0	0	0	13
9:30	115	1	1	9	0	0	126	21:30	18	0	0	1	0	0	19
9:45	110	8	1	8	0	0	127	21:45	17	0	0	0	0	0	17
10:00	107	7	2	4	0	0	120	22:00	13	0	0	0	0	0	13
10:15	107	8	1	3	0	0	119	22:15	8	0	0	1	0	0	9
10:30	123	3	0	4	0	0	130	22:30	15	0	0	1	0	0	16
10:45	131	2	3	6	0	0	142	22:45	7	0	0	1	0	0	8
11:00	110	6	2	9	1	0	128	23:00	7	0	0	0	0	0	7
11:15	82	4	0	1	0	0	87	23:15	8	0	0	0	0	0	8
11:30	98	3	0	1	0	0	102	23:30	5	0	0	0	0	0	5
11:45	96	1	0	2	0	0	99	23:45	6	0	0	0	0	0	6
TOTAL	2,763	108	28	118	1	5	3,023	TOTAL	3,603	95	20	76	0	2	3,796

AM PEAK HOUR	8:30 AM	AM PEAK HOUR	2:00 PM
AM PEAK VOLUME	664	AM PEAK VOLUME	606

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	6,366	203	48	194	1	7	6,819
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	93.4%	3.0%	0.7%	2.8%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV	TOTAL: ALL	10,462	383	78	239	2	11	11,175
CLASS 6	Buses	% OF TOTAL	93.6%	3.4%	0.7%	2.1%	0.0%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, November 16, 2022 **CITY:** Moreno Valley
JOB #: SC3748 **LOCATION:** Old 215 Frontage south of Cottonwood

AM TIME	1	2	3	4	5	6	TOTAL	PM Time	1	2	3	4	5	6	TOTAL
0:00	4	0	0	0	0	0	4	12:00	62	4	1	0	0	0	67
0:15	4	0	0	0	0	0	4	12:15	71	2	1	0	0	0	74
0:30	2	0	0	1	0	0	3	12:30	69	5	1	0	0	0	75
0:45	2	0	0	0	0	0	2	12:45	81	5	0	0	0	0	86
1:00	1	0	1	1	0	0	3	13:00	59	6	1	0	0	0	66
1:15	1	1	0	0	0	0	2	13:15	72	3	0	2	0	0	77
1:30	1	0	0	0	0	0	1	13:30	68	4	1	1	0	0	74
1:45	2	0	0	1	0	0	3	13:45	70	3	1	0	0	0	74
2:00	3	0	0	0	0	0	3	14:00	89	4	0	0	0	0	93
2:15	1	1	0	0	0	0	2	14:15	78	7	1	0	0	0	86
2:30	5	0	0	0	0	0	5	14:30	97	3	1	5	0	1	107
2:45	3	1	0	0	0	0	4	14:45	79	1	0	1	0	0	81
3:00	3	0	2	0	0	0	5	15:00	91	3	0	0	0	0	94
3:15	4	0	0	1	0	0	5	15:15	84	0	0	2	0	0	86
3:30	15	0	0	0	0	0	15	15:30	67	3	0	0	0	0	70
3:45	11	1	0	0	0	0	12	15:45	83	4	0	0	0	0	87
4:00	5	0	1	0	0	0	6	16:00	79	7	0	0	0	0	86
4:15	9	0	0	0	0	0	9	16:15	82	2	0	1	0	0	85
4:30	12	0	0	0	0	0	12	16:30	68	0	0	0	0	0	68
4:45	17	1	0	0	0	0	18	16:45	70	2	0	0	0	0	72
5:00	26	2	0	0	0	0	28	17:00	121	1	0	1	0	0	123
5:15	29	0	0	0	0	0	29	17:15	94	0	0	0	0	0	94
5:30	23	1	0	0	0	0	24	17:30	112	0	0	0	0	0	112
5:45	40	2	0	0	0	0	42	17:45	98	1	0	1	0	0	100
6:00	29	4	0	0	0	0	33	18:00	84	3	0	0	0	0	87
6:15	38	2	0	0	0	0	40	18:15	67	3	0	0	0	0	70
6:30	42	6	0	0	0	0	48	18:30	73	1	1	1	0	0	76
6:45	41	5	0	0	0	0	46	18:45	52	3	0	2	0	0	57
7:00	72	2	1	1	0	2	78	19:00	46	2	1	0	0	0	49
7:15	64	6	3	1	0	1	75	19:15	50	2	0	0	0	0	52
7:30	61	7	0	0	0	0	68	19:30	46	0	0	1	0	0	47
7:45	57	2	1	0	0	0	60	19:45	35	0	0	0	0	0	35
8:00	49	4	0	1	0	0	54	20:00	32	2	0	0	0	0	34
8:15	55	7	2	1	0	0	65	20:15	37	1	0	0	0	0	38
8:30	61	2	0	3	0	0	66	20:30	26	0	0	2	0	0	28
8:45	54	3	0	1	0	0	58	20:45	26	1	0	0	0	0	27
9:00	47	4	0	0	1	0	52	21:00	15	0	0	0	0	0	15
9:15	52	1	2	1	0	0	56	21:15	17	0	0	0	0	0	17
9:30	42	0	1	0	0	0	43	21:30	24	0	0	0	0	0	24
9:45	42	5	2	1	0	0	50	21:45	11	0	0	0	0	0	11
10:00	41	2	1	1	0	0	45	22:00	10	0	0	0	0	0	10
10:15	60	3	2	0	0	0	65	22:15	13	0	0	1	0	0	14
10:30	56	6	0	1	0	0	63	22:30	13	1	0	0	0	0	14
10:45	42	1	1	1	0	0	45	22:45	9	0	0	3	0	0	12
11:00	47	2	0	1	0	0	50	23:00	6	0	0	1	0	0	7
11:15	63	2	0	2	0	0	67	23:15	8	1	0	0	0	0	9
11:30	45	3	0	0	0	0	48	23:30	4	0	0	0	0	0	4
11:45	62	1	0	0	0	0	63	23:45	3	0	0	0	0	0	3
TOTAL	1,445	90	20	20	1	3	1,579	TOTAL	2,651	90	10	25	0	1	2,777

AM PEAK HOUR	7:00 AM	AM PEAK HOUR	5:00 PM
AM PEAK VOLUME	281	AM PEAK VOLUME	429

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	4,096	180	30	45	1	4	4,356
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	94.0%	4.1%	0.7%	1.0%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	BUS								

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, November 16, 2022 **CITY:** Moreno Valley

JOB #: SC3748 **LOCATION:** Alessandro west of Old 215 Frontage

AM TIME	1	2	3	4	5	6	TOTAL	PM Time	1	2	3	4	5	6	TOTAL
0:00	34	1	0	3	0	0	38	12:00	201	7	2	6	0	0	216
0:15	24	2	0	2	0	0	28	12:15	181	10	0	5	0	1	197
0:30	30	1	0	1	0	0	32	12:30	231	10	0	6	0	0	247
0:45	13	0	0	1	0	0	14	12:45	237	8	2	2	0	0	249
1:00	23	0	2	3	0	0	28	13:00	226	14	0	7	0	1	248
1:15	39	3	0	0	0	0	42	13:15	275	17	1	8	0	0	301
1:30	17	0	0	0	0	0	17	13:30	253	12	5	7	0	0	277
1:45	19	0	0	1	0	0	20	13:45	267	13	1	7	0	0	288
2:00	19	0	0	3	0	0	22	14:00	297	12	4	4	0	0	317
2:15	10	0	1	3	0	0	14	14:15	274	30	1	9	0	2	316
2:30	11	1	0	3	0	0	15	14:30	336	22	1	3	0	0	362
2:45	10	0	1	2	0	0	13	14:45	314	5	5	3	0	0	327
3:00	17	0	0	1	0	0	18	15:00	331	17	2	7	1	0	358
3:15	16	0	1	1	0	0	18	15:15	325	23	2	5	0	0	355
3:30	22	0	0	1	0	0	23	15:30	353	23	1	4	0	2	383
3:45	19	1	0	3	0	0	23	15:45	296	10	0	7	0	0	313
4:00	27	0	0	1	0	0	28	16:00	320	16	4	4	1	0	345
4:15	27	0	0	6	0	0	33	16:15	279	17	1	2	0	1	300
4:30	46	1	1	1	0	0	49	16:30	323	11	1	8	0	0	343
4:45	46	1	0	5	0	0	52	16:45	367	14	2	7	0	0	390
5:00	47	3	1	3	0	1	55	17:00	325	15	3	4	0	0	347
5:15	61	0	0	1	0	0	62	17:15	352	16	1	3	0	0	372
5:30	71	4	2	6	0	0	83	17:30	361	15	0	3	1	2	382
5:45	94	7	0	3	0	0	104	17:45	340	11	0	2	0	0	353
6:00	74	8	0	3	0	1	86	18:00	322	12	0	3	0	1	338
6:15	78	4	1	3	0	0	86	18:15	318	6	0	4	0	0	328
6:30	106	9	1	2	0	0	118	18:30	335	6	0	5	0	1	347
6:45	138	4	4	7	0	1	154	18:45	300	7	0	2	0	1	310
7:00	112	7	1	7	0	0	127	19:00	197	4	2	3	0	0	206
7:15	158	10	3	2	0	1	174	19:15	174	5	1	4	0	2	186
7:30	148	12	4	1	0	0	165	19:30	182	2	0	4	0	0	188
7:45	204	6	1	5	0	1	217	19:45	133	1	0	6	0	0	140
8:00	190	11	2	4	0	1	208	20:00	127	3	1	0	0	0	131
8:15	202	9	2	2	0	1	216	20:15	117	3	1	2	0	2	125
8:30	206	15	3	4	0	0	228	20:30	127	5	0	4	0	0	136
8:45	230	10	6	18	0	0	264	20:45	91	2	0	2	0	0	95
9:00	185	10	0	10	0	0	205	21:00	90	2	0	0	0	0	92
9:15	233	18	3	7	0	3	264	21:15	86	4	0	5	0	1	96
9:30	210	7	0	13	0	1	231	21:30	86	3	0	3	0	0	92
9:45	198	13	2	15	0	0	228	21:45	101	0	0	4	0	0	105
10:00	186	6	4	4	0	1	201	22:00	67	0	1	2	0	0	70
10:15	239	10	3	9	0	0	261	22:15	55	0	1	4	0	1	61
10:30	249	12	2	5	0	0	268	22:30	55	1	0	2	0	0	58
10:45	249	14	1	5	0	0	269	22:45	56	1	0	4	0	0	61
11:00	218	4	1	7	1	0	231	23:00	37	0	0	3	0	0	40
11:15	187	6	1	6	0	2	202	23:15	41	0	0	3	0	0	44
11:30	212	10	3	6	0	1	232	23:30	44	0	0	3	0	0	47
11:45	157	5	1	3	0	0	166	23:45	41	1	0	1	0	0	43
TOTAL	5,111	245	58	202	1	15	5,632	TOTAL	10,246	416	46	196	3	18	10,925

AM PEAK HOUR	10:15 AM	**AM PEAK HOUR**	4:45 PM
AM PEAK VOLUME	1,029	**AM PEAK VOLUME**	1,491

CLASS 1	PASSENGER VEHICLES	**TOTAL: AM+PM**	15,357	661	104	398	4	33	16,557
CLASS 2	2-AXLE TRUCKS	**% OF TOTAL**	92.8%	4.0%	0.6%	2.4%	0.0%	0.2%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV	**TOTAL: ALL**	29,313	1,360	222	767	6	73	31,741
CLASS 6	Buses	**% OF TOTAL**	92.4%	4.3%	0.7%	2.4%	0.0%	0.2%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, November 16, 2022 **CITY:** Moreno Valley
JOB #: SC3748 **LOCATION:** Alessandro west of Old 215 Frontage

AM TIME	1	2	3	4	5	6	TOTAL	PM Time	1	2	3	4	5	6	TOTAL
0:00	19	0	0	3	0	0	22	12:00	184	15	0	3	0	1	203
0:15	26	0	0	0	0	0	26	12:15	211	8	3	8	0	0	230
0:30	4	0	0	1	0	0	5	12:30	215	17	3	4	0	0	239
0:45	14	2	0	0	0	0	16	12:45	208	17	1	6	0	1	233
1:00	10	0	0	2	0	0	12	13:00	183	8	1	4	0	0	196
1:15	7	0	1	2	0	0	10	13:15	234	9	0	4	0	1	248
1:30	18	0	0	1	0	0	19	13:30	210	10	2	6	0	0	228
1:45	17	1	0	0	0	0	18	13:45	205	14	0	3	0	0	222
2:00	9	0	0	0	0	0	9	14:00	221	24	1	4	0	4	254
2:15	14	1	0	1	0	0	16	14:15	221	12	4	6	0	0	243
2:30	23	0	0	2	0	0	25	14:30	249	10	3	11	0	1	274
2:45	32	2	0	1	0	0	35	14:45	234	12	3	7	0	3	259
3:00	37	1	0	3	0	0	41	15:00	199	20	2	3	0	0	224
3:15	39	0	0	3	0	0	42	15:15	202	15	2	3	0	0	222
3:30	56	0	1	5	0	0	62	15:30	206	10	2	5	0	0	223
3:45	92	0	1	2	0	0	95	15:45	220	12	2	0	0	0	234
4:00	66	0	0	4	0	0	70	16:00	201	8	2	6	0	1	218
4:15	75	2	0	5	0	1	83	16:15	195	5	2	3	0	0	205
4:30	107	9	0	1	0	0	117	16:30	226	8	1	3	0	0	238
4:45	115	9	1	1	0	1	127	16:45	210	7	1	1	0	0	219
5:00	133	12	0	2	0	0	147	17:00	246	5	1	2	0	1	255
5:15	151	14	2	5	0	1	173	17:15	217	4	1	4	0	0	226
5:30	168	10	1	5	0	0	184	17:30	231	5	1	2	0	0	239
5:45	155	16	1	3	0	1	176	17:45	196	4	1	4	0	1	206
6:00	175	10	1	2	0	0	188	18:00	226	1	0	5	0	0	232
6:15	222	12	0	5	0	0	239	18:15	184	4	1	5	0	0	194
6:30	251	22	3	1	0	0	277	18:30	190	7	2	1	0	0	200
6:45	229	23	3	2	0	1	258	18:45	152	6	1	4	0	1	164
7:00	322	17	2	2	0	2	345	19:00	139	5	1	3	0	1	149
7:15	325	14	2	5	0	0	346	19:15	133	1	0	2	0	0	136
7:30	373	12	2	10	0	0	397	19:30	110	1	0	2	0	1	114
7:45	314	14	2	10	0	2	342	19:45	84	1	2	3	0	0	90
8:00	278	12	1	5	0	1	297	20:00	81	6	0	5	0	1	93
8:15	351	26	4	7	0	0	388	20:15	76	1	1	4	0	0	82
8:30	339	22	2	9	0	1	373	20:30	84	1	0	3	0	0	88
8:45	283	26	1	9	0	1	320	20:45	76	4	0	4	0	1	85
9:00	180	14	4	2	1	1	202	21:00	78	2	0	4	0	0	84
9:15	178	9	1	7	0	0	195	21:15	58	0	1	3	0	0	62
9:30	183	12	2	4	0	0	201	21:30	61	1	1	3	0	0	66
9:45	149	4	2	6	0	2	163	21:45	52	2	0	4	0	1	59
10:00	120	11	1	7	0	0	139	22:00	43	2	1	3	0	0	49
10:15	166	8	3	6	0	0	183	22:15	43	1	0	1	0	0	45
10:30	189	9	3	4	0	0	205	22:30	36	0	1	2	0	0	39
10:45	136	6	4	4	0	1	151	22:45	34	4	1	3	0	0	42
11:00	132	12	1	11	0	2	158	23:00	38	1	2	6	0	0	47
11:15	178	3	3	11	1	1	197	23:15	32	0	0	1	0	0	33
11:30	147	3	4	1	0	0	155	23:30	30	2	0	4	0	0	36
11:45	162	5	5	7	0	1	180	23:45	23	2	0	3	0	0	28
TOTAL	6,769	385	64	189	2	20	7,429	TOTAL	7,187	314	54	180	0	20	7,755

AM PEAK HOUR	7:00 AM	AM PEAK HOUR	2:00 PM
AM PEAK VOLUME	1,430	AM PEAK VOLUME	1,030

CLASS 1	PASSENGER VEHICLES	**TOTAL: AM+PM**	13,956	699	118	369	2	40	15,184
CLASS 2	2-AXLE TRUCKS	**% OF TOTAL**	91.9%	4.6%	0.8%	2.4%	0.0%	0.3%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	BUS								

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APPENDIX 3.2: EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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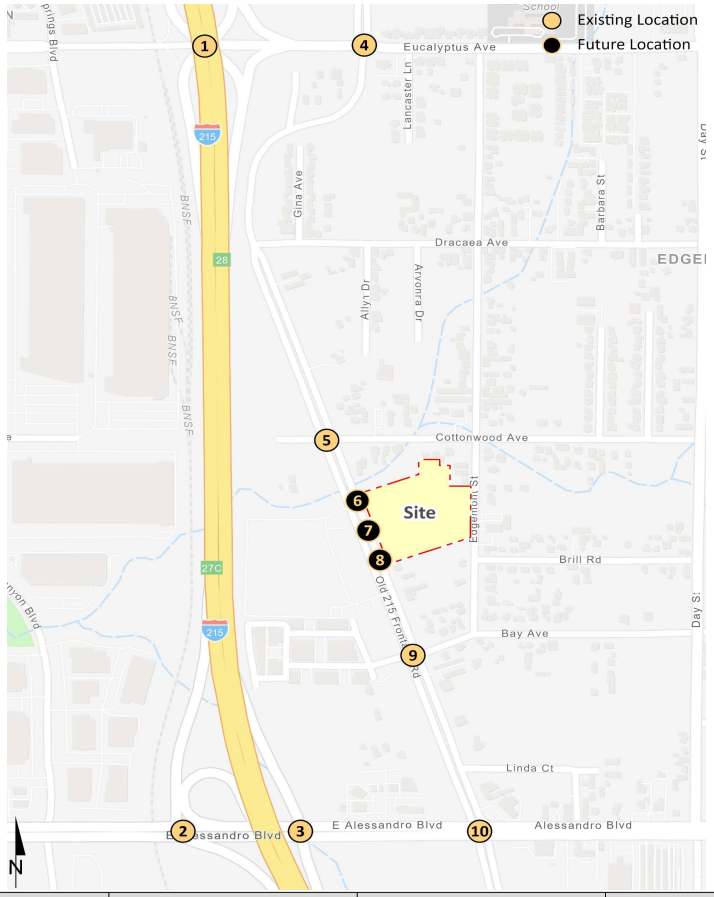


1 I-215 Ramps & Eucalpytus Av.	2 I-215 SB Ramps & Alessandro Bl.	3 I-215 NB Ramps & Alessandro Bl.	4 Old 215 Frontage Rd. & Eucalyptus Av.
11,350 / 29,950 / 15,700 / 13,950	7,700 / 38,150 / 43,700 / 4,750	3,950 / 33,450 / 38,150 / 8,100	19,850 / 17,050 / 29,950 / 10,300
190(190) ↲ / 250(424) ↳	287(347) ↲ / 196(187) ↳	↱ 68(169) / ← 1469(884)	460(590) ↲ / 77(221) ↓ / 30(50) ↳
↱ 342(280) / ← 800(381) / ↰ 529(423)	↱ 193(107) / ← 2089(1276)		↱ 54(58) / ← 860(393) / ↰ 42(35)
69(100) ↱ / 141(399) → / 118(112) ↴	704(1421) → / 323(374) ↴	79(166) ↱ / 821(1442) →	223(377) ↱ / 220(703) → / 56(151) ↴
↰ 452(151) / ↱ 109(408)		↰ 814(500) / ↑ 0(5) / ↱ 216(133)	↰ 351(101) / ↑ 317(220) / ↱ 87(69)

5 Old 215 Frontage Rd. & Cottonwood Av.	6 Old 215 Frontage Rd. & Driveway 1	7 Old 215 Frontage Rd. & Driveway 2	8 Old 215 Frontage Rd. & Driveway 3
10,700 / 2,950 / 350 / 11,200	11,200 / 11,200	11,200 / 11,200	11,200 / 11,200
9(1) ↲ / 165(335) ↓ / 21(71) ↳	259(399) ↓	259(399) ↓	259(399) ↓
↱ 65(43) / ← 3(0) / ↰ 90(53)			
6(6) ↱ / 3(1) → / 4(11) ↴	↑ 724(440)	↑ 724(440)	↑ 724(440)
↰ 14(10) / ↑ 683(371) / ↱ 27(59)			

9 Old 215 Frontage Rd. & Bay Av.	10 Old 215 Frontage Rd. & Alessandro Bl.
10,850 / 1,250 / 550 / 10,600	10,800 / 28,500 / 31,750 / 3,450
14(3) ↲ / 238(362) ↓ / 10(42) ↳	240(208) ↲ / 26(117) ↓ / 24(77) ↳
↱ 27(22) / ← 3(0) / ↰ 38(14)	↱ 109(90) / ← 1141(781) / ↰ 32(7)
7(13) ↱ / 1(0) → / 8(15) ↴	282(251) ↱ / 706(1262) → / 21(46) ↴
↰ 23(12) / ↑ 703(399) / ↱ 13(19)	↰ 106(23) / ↑ 106(23) / ↱ 16(9)

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

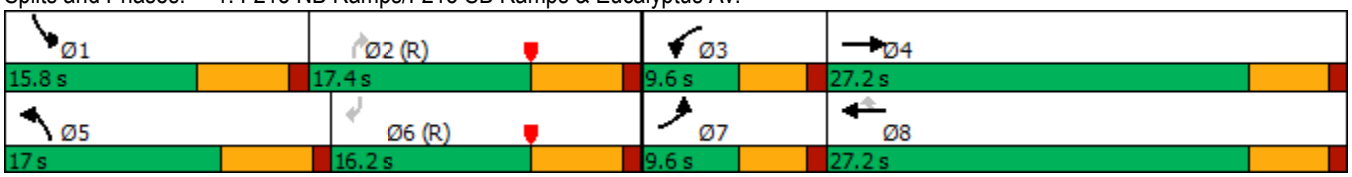
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBT	WBT	NBL	NBR	SBL	SBR	Ø3	Ø7
Lane Configurations								
Traffic Volume (vph)	141	800	452	109	250	190		
Future Volume (vph)	141	800	452	109	250	190		
Turn Type	NA	NA	Prot	Perm	Prot	Perm		
Protected Phases	4	8	5		1		3	7
Permitted Phases				2		6		
Detector Phase	4	8	5	2	1	6		
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	27.2	27.2	15.8	15.8	15.8	15.8	9.6	9.6
Total Split (s)	27.2	27.2	17.0	17.4	15.8	16.2	9.6	9.6
Total Split (%)	38.9%	38.9%	24.3%	24.9%	22.6%	23.1%	14%	14%
Yellow Time (s)	4.2	4.2	4.8	4.8	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.2	5.2	5.8	5.8	5.8	5.8		
Lead/Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Min	None	C-Min	None	None
Act Effct Green (s)	20.8	22.1	14.1	20.0	11.1	16.9		
Actuated g/C Ratio	0.30	0.32	0.20	0.29	0.16	0.24		
v/c Ratio	0.13	0.72	0.65	0.12	0.46	0.36		
Control Delay	16.5	24.6	30.2	1.1	29.4	6.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	16.5	24.6	30.2	1.1	29.4	6.7		
LOS	B	C	C	A	C	A		
Approach Delay	16.5	24.6						
Approach LOS	B	C						

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 22.8 — Intersection LOS: C
Intersection Capacity Utilization 59.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	141	0	0	800	0	452	0	109	250	0	190
Future Volume (veh/h)	0	141	0	0	800	0	452	0	109	250	0	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	0	144	0	0	816	0	461	0	0	255	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	3	991		5	991		1995	0		1995	0	
Arrive On Green	0.00	0.27	0.00	0.00	0.27	0.00	0.57	0.00	0.00	0.57	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	461		3510	255	
Grp Volume(v), veh/h	0	144	0	0	816	0	461	7.6		255	7.1	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	A		1755	A	
Q Serve(g_s), s	0.0	2.1	0.0	0.0	14.8	0.0	4.6			2.4		
Cycle Q Clear(g_c), s	0.0	2.1	0.0	0.0	14.8	0.0	4.6			2.4		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	3	991		5	991		1995			1995		
V/C Ratio(X)	0.00	0.15		0.00	0.82		0.23			0.13		
Avail Cap(c_a), veh/h	129	1135		251	1135		1995			1995		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.56	0.00	1.00			1.00		
Uniform Delay (d), s/veh	0.0	19.2	0.0	0.0	23.8	0.0	7.5			7.0		
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	2.6	0.0	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		
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.0	0.0	6.1	0.0	1.3			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.3	0.0	0.0	26.4	0.0	7.6			7.1		
LnGrp LOS	A	B		A	C		A			A		
Approach Vol, veh/h		144			816							
Approach Delay, s/veh		19.3			26.4							
Approach LOS		B			C							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	45.6		0.0	24.4	45.6		0.0	24.4
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	10.0		5.0	22.0	11.2		5.0	22.0
Max Q Clear Time (g_c+I1), s	4.4		0.0	4.1	6.6		0.0	16.8
Green Ext Time (p_c), s	0.4		0.0	0.7	0.7		0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

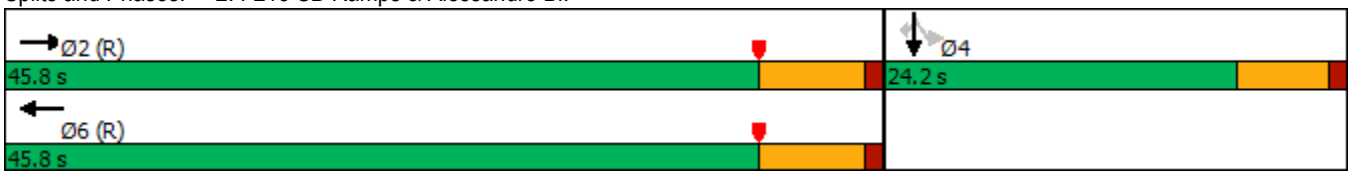
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	704	2089	196	0	287
Future Volume (vph)	704	2089	196	0	287
Turn Type	NA	NA	Perm	NA	Perm
Protected Phases	2	6		4	
Permitted Phases			4		4
Detector Phase	2	6	4	4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	28.5	23.8	23.8	23.8
Total Split (s)	45.8	45.8	24.2	24.2	24.2
Total Split (%)	65.4%	65.4%	34.6%	34.6%	34.6%
Yellow Time (s)	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	44.5	44.5	13.2	13.2	13.2
Actuated g/C Ratio	0.64	0.64	0.19	0.19	0.19
v/c Ratio	0.32	0.71	0.53	0.50	0.47
Control Delay	4.8	12.5	31.2	21.6	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	12.5	31.2	21.6	20.8
LOS	A	B	C	C	C
Approach Delay	4.8	12.5		24.7	
Approach LOS	A	B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 66.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	704	323	0	2089	193	0	0	0	196	0	287
Future Volume (veh/h)	0	704	323	0	2089	193	0	0	0	196	0	287
Initial Q (Qb), veh	0	0	0	0	50	0				0	0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	718	330	0	2132	0				278	0	150
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2377	1080	0	3535					517	0	230
Arrive On Green	0.00	0.68	0.68	0.00	0.68	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	3659	1584	0	5529	0				3619	0	1610
Grp Volume(v), veh/h	0	712	336	0	2132	0				278	0	150
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1729	0				1810	0	1610
Q Serve(g_s), s	0.0	5.8	5.9	0.0	15.6	0.0				5.0	0.0	6.2
Cycle Q Clear(g_c), s	0.0	5.8	5.9	0.0	15.6	0.0				5.0	0.0	6.2
Prop In Lane	0.00		0.98	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2357	1100	0	3535					517	0	230
V/C Ratio(X)	0.00	0.30	0.31	0.00	0.60					0.54	0.00	0.65
Avail Cap(c_a), veh/h	0	2357	1100	0	3535					951	0	423
HCM Platoon Ratio	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	0.56	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.5	4.5	0.0	6.8	0.0				27.9	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.3	0.7	0.0	0.4	0.0				0.9	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	3.6	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.1	0.0	4.8	0.0				2.0	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.8	5.2	0.0	10.8	0.0				28.7	0.0	31.5
LnGrp LOS	A	A	A	A	B					C	A	C
Approach Vol, veh/h		1048			2132						428	
Approach Delay, s/veh		4.9			10.8						29.7	
Approach LOS		A			B						C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		54.2		15.8		54.2
Change Period (Y+Rc), s		6.5		5.8		6.5
Max Green Setting (Gmax), s		39.3		18.4		39.3
Max Q Clear Time (g_c+I1), s		7.9		8.2		17.6
Green Ext Time (p_c), s		7.0		1.1		15.0

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

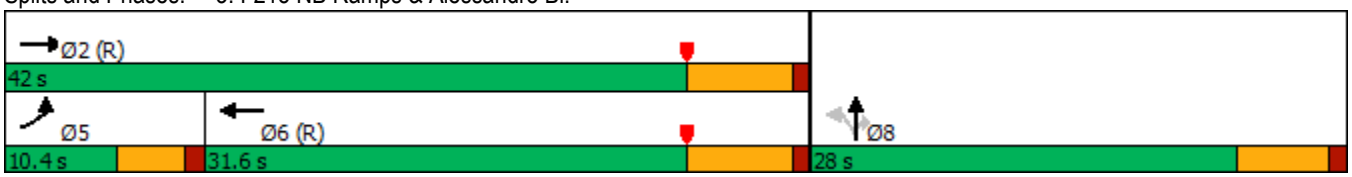
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	79	821	1469	814	0	216
Future Volume (vph)	79	821	1469	814	0	216
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				8		8
Detector Phase	5	2	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	28.5	15.8	15.8	15.8
Total Split (s)	10.4	42.0	31.6	28.0	28.0	28.0
Total Split (%)	14.9%	60.0%	45.1%	40.0%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	5.8	5.8	5.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Min	C-Min	Min	Min	Min
Act Effct Green (s)	5.8	37.0	28.6	20.7	20.7	20.7
Actuated g/C Ratio	0.08	0.53	0.41	0.30	0.30	0.30
v/c Ratio	0.55	0.31	0.74	0.84	0.75	0.37
Control Delay	43.6	11.0	21.7	39.3	24.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	11.0	21.7	39.3	24.5	9.6
LOS	D	B	C	D	C	A
Approach Delay		13.9	21.7		27.7	
Approach LOS		B	C		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 25.1 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	821	0	0	1469	68	814	0	216	0	0	0
Future Volume (veh/h)	79	821	0	0	1469	68	814	0	216	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	81	838	0	0	1499	57	867	0	78			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	105	2831	0	0	2163	82	1008	0	448			
Arrive On Green	0.02	0.18	0.00	0.00	0.42	0.42	0.28	0.00	0.28			
Sat Flow, veh/h	1810	5358	0	0	5296	195	3619	0	1610			
Grp Volume(v), veh/h	81	838	0	0	1011	545	867	0	78			
Grp Sat Flow(s),veh/h/ln	1810	1729	0	0	1729	1862	1810	0	1610			
Q Serve(g_s), s	3.1	9.8	0.0	0.0	16.7	16.7	15.9	0.0	2.6			
Cycle Q Clear(g_c), s	3.1	9.8	0.0	0.0	16.7	16.7	15.9	0.0	2.6			
Prop In Lane	1.00		0.00	0.00		0.10	1.00		1.00			
Lane Grp Cap(c), veh/h	105	2831	0	0	1459	786	1008	0	448			
V/C Ratio(X)	0.77	0.30	0.00	0.00	0.69	0.69	0.86	0.00	0.17			
Avail Cap(c_a), veh/h	150	2831	0	0	1459	786	1148	0	511			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.94	0.94	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	17.0	0.0	0.0	16.5	16.5	24.0	0.0	19.1			
Incr Delay (d2), s/veh	7.8	0.3	0.0	0.0	2.0	3.6	6.2	0.0	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			
%ile BackOfQ(50%),veh/ln	1.5	3.5	0.0	0.0	5.6	6.4	6.8	0.0	0.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	17.3	0.0	0.0	18.5	20.2	30.1	0.0	19.3			
LnGrp LOS	D	B	A	A	B	C	C	A	B			
Approach Vol, veh/h		919			1556			945				
Approach Delay, s/veh		19.4			19.1			29.2				
Approach LOS		B			B			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		44.7			8.7	36.0		25.3				
Change Period (Y+Rc), s		6.5			4.6	6.5		5.8				
Max Green Setting (Gmax), s		35.5			5.8	25.1		22.2				
Max Q Clear Time (g_c+I1), s		11.8			5.1	18.7		17.9				
Green Ext Time (p_c), s		5.2			0.0	4.3		1.6				

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

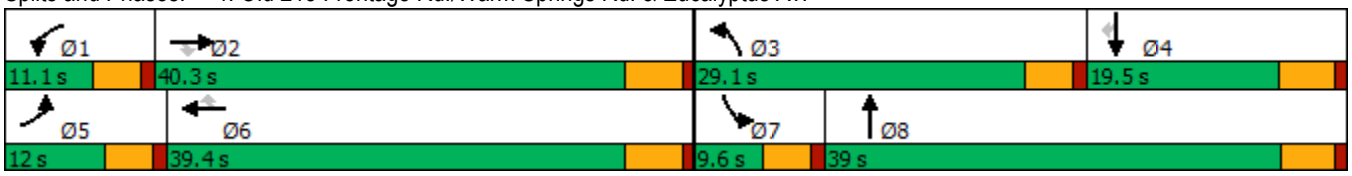
12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	223	220	56	42	860	54	351	317	30	77	460
Future Volume (vph)	223	220	56	42	860	54	351	317	30	77	460
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	15.2
Total Split (s)	12.0	40.3	40.3	11.1	39.4	39.4	29.1	39.0	9.6	19.5	19.5
Total Split (%)	12.0%	40.3%	40.3%	11.1%	39.4%	39.4%	29.1%	39.0%	9.6%	19.5%	19.5%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	7.6	33.8	33.8	6.0	27.6	27.6	20.5	32.0	5.1	11.9	11.9
Actuated g/C Ratio	0.09	0.39	0.39	0.07	0.32	0.32	0.23	0.37	0.06	0.14	0.14
v/c Ratio	0.75	0.16	0.08	0.34	0.76	0.09	0.84	0.31	0.29	0.30	0.69
Control Delay	58.3	20.3	0.2	50.8	32.3	0.3	52.0	20.4	51.5	40.7	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	20.3	0.2	50.8	32.3	0.3	52.0	20.4	51.5	40.7	17.4
LOS	E	C	A	D	C	A	D	C	D	D	B
Approach Delay		35.0			31.3			35.1		22.3	
Approach LOS		C			C			D		C	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 87.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 31.2 — Intersection LOS: C
Intersection Capacity Utilization 71.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	220	56	42	860	54	351	317	87	30	77	460
Future Volume (veh/h)	223	220	56	42	860	54	351	317	87	30	77	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	225	222	44	42	869	45	355	320	53	30	78	276
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	308	1306	583	69	1128	503	399	987	162	55	244	363
Arrive On Green	0.09	0.36	0.36	0.04	0.31	0.31	0.22	0.32	0.32	0.03	0.13	0.13
Sat Flow, veh/h	3510	3610	1610	1810	3610	1610	1810	3105	509	1810	1900	2834
Grp Volume(v), veh/h	225	222	44	42	869	45	355	185	188	30	78	276
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1610	1810	1805	1808	1810	1900	1417
Q Serve(g_s), s	4.9	3.3	1.4	1.8	17.0	1.5	14.8	6.1	6.2	1.3	2.9	7.3
Cycle Q Clear(g_c), s	4.9	3.3	1.4	1.8	17.0	1.5	14.8	6.1	6.2	1.3	2.9	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	308	1306	583	69	1128	503	399	574	575	55	244	363
V/C Ratio(X)	0.73	0.17	0.08	0.61	0.77	0.09	0.89	0.32	0.33	0.54	0.32	0.76
Avail Cap(c_a), veh/h	333	1624	724	151	1582	706	568	786	788	116	348	519
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	34.7	16.9	16.3	36.9	24.3	19.0	29.5	20.2	20.3	37.3	30.9	32.9
Incr Delay (d2), s/veh	6.1	0.1	0.1	3.2	1.5	0.1	9.5	0.3	0.3	3.0	0.8	4.0
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	2.3	1.3	0.5	0.8	7.0	0.6	7.2	2.5	2.6	0.6	1.3	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	17.0	16.4	40.1	25.8	19.1	39.0	20.5	20.6	40.3	31.7	36.9
LnGrp LOS	D	B	B	D	C	B	D	C	C	D	C	D
Approach Vol, veh/h		491			956			728			384	
Approach Delay, s/veh		27.8			26.2			29.5			36.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	33.4	21.8	15.2	11.4	29.6	7.0	30.0
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	6.5	35.1	24.5	14.3	7.4	34.2	5.0	* 34
Max Q Clear Time (g_c+I1), s	3.8	5.3	16.8	9.3	6.9	19.0	3.3	8.2
Green Ext Time (p_c), s	0.0	1.5	0.4	0.7	0.0	5.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	3	4	90	3	65	14	683	27	21	165	9
Future Vol, veh/h	6	3	4	90	3	65	14	683	27	21	165	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	3	4	97	3	70	15	734	29	23	177	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	627	1022	94	916	1013	383	187	0	0	764	0	0
Stage 1	228	228	-	780	780	-	-	-	-	-	-	-
Stage 2	399	794	-	136	233	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	372	238	951	230	241	621	1399	-	-	858	-	-
Stage 1	760	719	-	359	409	-	-	-	-	-	-	-
Stage 2	604	403	-	859	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	318	229	951	221	232	620	1399	-	-	857	-	-
Mov Cap-2 Maneuver	409	311	-	301	325	-	-	-	-	-	-	-
Stage 1	752	700	-	355	404	-	-	-	-	-	-	-
Stage 2	526	398	-	828	697	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	21.8	0.1	1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1399	-	-	456	382	857	-	-
HCM Lane V/C Ratio	0.011	-	-	0.031	0.445	0.026	-	-
HCM Control Delay (s)	7.6	-	-	13.1	21.8	9.3	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1	8	38	3	27	23	703	13	10	238	14
Future Vol, veh/h	7	1	8	38	3	27	23	703	13	10	238	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	1	9	41	3	29	25	764	14	11	259	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	723	1119	137	975	1119	391	274	0	0	780	0	0
Stage 1	289	289	-	823	823	-	-	-	-	-	-	-
Stage 2	434	830	-	152	296	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	318	209	893	209	209	614	1301	-	-	846	-	-
Stage 1	700	677	-	338	391	-	-	-	-	-	-	-
Stage 2	576	388	-	841	672	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	293	202	893	201	202	613	1301	-	-	844	-	-
Mov Cap-2 Maneuver	400	297	-	281	301	-	-	-	-	-	-	-
Stage 1	687	668	-	331	383	-	-	-	-	-	-	-
Stage 2	533	380	-	821	663	-	-	-	-	-	-	-

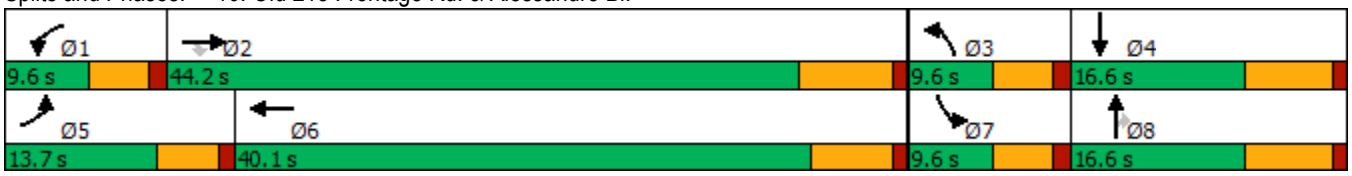
Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	17.6	0.2	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	536	359	844	-	-
HCM Lane V/C Ratio	0.019	-	-	0.032	0.206	0.013	-	-
HCM Control Delay (s)	7.8	-	-	11.9	17.6	9.3	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	706	21	32	1141	109	106	338	16	24	26	240
Future Volume (vph)	282	706	21	32	1141	109	106	338	16	24	26	240
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	43.5	43.5	9.6	15.8		9.6	16.2	16.2	9.6	16.2	
Total Split (s)	13.7	44.2	44.2	9.6	40.1		9.6	16.6	16.6	9.6	16.6	
Total Split (%)	17.1%	55.3%	55.3%	12.0%	50.1%		12.0%	20.8%	20.8%	12.0%	20.8%	
Yellow Time (s)	3.6	5.5	5.5	3.6	4.8		3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.5	6.5	4.6	5.8		4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Act Effct Green (s)	8.7	37.4	37.4	5.1	27.9	67.5	8.2	10.6	10.6	5.1	10.4	67.5
Actuated g/C Ratio	0.13	0.55	0.55	0.08	0.41	1.00	0.12	0.16	0.16	0.08	0.15	1.00
v/c Ratio	0.64	0.25	0.02	0.24	0.79	0.07	0.26	0.62	0.04	0.18	0.05	0.15
Control Delay	37.8	9.5	0.0	38.4	22.1	0.1	33.1	34.6	0.2	37.3	29.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	9.5	0.0	38.4	22.1	0.1	33.1	34.6	0.2	37.3	29.2	0.2
LOS	D	A	A	D	C	A	C	C	A	D	C	A
Approach Delay		17.2			20.6			33.1			5.9	
Approach LOS		B			C			C			A	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 67.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.0	Intersection LOS: B
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Old 215 Frontage Rd. & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	706	21	32	1141	109	106	338	16	24	26	240
Future Volume (veh/h)	282	706	21	32	1141	109	106	338	16	24	26	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	291	728	15	33	1176	0	109	348	15	25	27	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	387	2489	773	61	1457		222	519	231	50	390	
Arrive On Green	0.11	0.48	0.48	0.03	0.40	0.00	0.06	0.14	0.14	0.03	0.11	0.00
Sat Flow, veh/h	3510	5187	1610	1810	3610	1610	3510	3610	1610	1810	3610	1610
Grp Volume(v), veh/h	291	728	15	33	1176	0	109	348	15	25	27	0
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1810	1805	1610	1755	1805	1610	1810	1805	1610
Q Serve(g_s), s	5.6	5.9	0.3	1.2	20.0	0.0	2.1	6.4	0.6	0.9	0.5	0.0
Cycle Q Clear(g_c), s	5.6	5.9	0.3	1.2	20.0	0.0	2.1	6.4	0.6	0.9	0.5	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	387	2489	773	61	1457		222	519	231	50	390	
V/C Ratio(X)	0.75	0.29	0.02	0.54	0.81		0.49	0.67	0.06	0.50	0.07	
Avail Cap(c_a), veh/h	459	2812	873	130	1781		252	540	241	130	540	
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.0	10.9	9.5	33.1	18.3	0.0	31.5	28.2	25.7	33.3	27.9	0.0
Incr Delay (d2), s/veh	4.4	0.1	0.0	2.7	2.3	0.0	0.6	3.1	0.1	2.9	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	2.3	1.7	0.1	0.6	7.4	0.0	0.8	2.7	0.2	0.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	11.0	9.5	35.8	20.7	0.0	32.1	31.3	25.9	36.2	27.9	0.0
LnGrp LOS	C	B	A	D	C		C	C	C	D	C	
Approach Vol, veh/h		1034			1209			472			52	
Approach Delay, s/veh		17.6			21.1			31.3			31.9	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	39.9	9.0	13.7	12.3	34.6	6.5	16.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	* 6.5	4.6	6.2
Max Green Setting (Gmax), s	5.0	37.7	5.0	10.4	9.1	* 34	5.0	10.4
Max Q Clear Time (g_c+I1), s	3.2	7.9	4.1	2.5	7.6	22.0	2.9	8.4
Green Ext Time (p_c), s	0.0	4.7	0.0	0.0	0.1	6.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

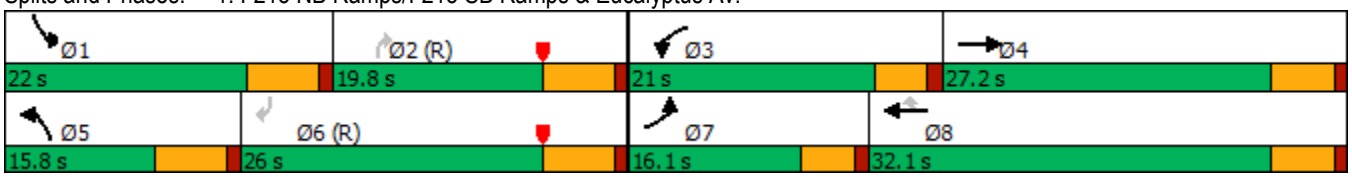
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	100	399	423	381	280	151	408	424	190
Future Volume (vph)	100	399	423	381	280	151	408	424	190
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	23.8
Total Split (s)	16.1	27.2	21.0	32.1	32.1	15.8	19.8	22.0	26.0
Total Split (%)	17.9%	30.2%	23.3%	35.7%	35.7%	17.6%	22.0%	24.4%	28.9%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	9.4	18.0	15.2	25.7	25.7	10.1	20.1	15.4	25.4
Actuated g/C Ratio	0.10	0.20	0.17	0.29	0.29	0.11	0.22	0.17	0.28
v/c Ratio	0.54	0.72	0.73	0.38	0.44	0.39	0.43	0.73	0.32
Control Delay	48.2	36.7	42.9	27.0	5.4	40.4	5.5	42.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	36.7	42.9	27.0	5.4	40.4	5.5	42.8	5.5
LOS	D	D	D	C	A	D	A	D	A
Approach Delay		38.6		27.6					
Approach LOS		D		C					

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 28.2 — Intersection LOS: C
Intersection Capacity Utilization 53.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	399	112	423	381	280	151	0	408	424	0	190
Future Volume (veh/h)	100	399	112	423	381	280	151	0	408	424	0	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	102	407	0	432	389	0	154	0	0	433	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	130	542		512	810		1862	0		1862	0	
Arrive On Green	0.07	0.15	0.00	0.15	0.22	0.00	0.53	0.00	0.00	0.53	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	154		3510	433	
Grp Volume(v), veh/h	102	407	0	432	389	0	154	10.4		433	11.4	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	5.0	9.7	0.0	10.8	8.4	0.0	1.9			5.9		
Cycle Q Clear(g_c), s	5.0	9.7	0.0	10.8	8.4	0.0	1.9			5.9		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	130	542		512	810		1862			1862		
V/C Ratio(X)	0.78	0.75		0.84	0.48		0.08			0.23		
Avail Cap(c_a), veh/h	231	882		640	1079		1862			1862		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.87	0.87	0.00	1.00			1.00		
Uniform Delay (d), s/veh	41.1	36.6	0.0	37.4	30.4	0.0	10.4			11.3		
Incr Delay (d2), s/veh	3.8	2.1	0.0	6.1	0.4	0.0	0.0			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	2.3	4.3	0.0	4.9	3.6	0.0	0.7			2.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	38.7	0.0	43.5	30.7	0.0	10.4			11.4		
LnGrp LOS	D	D		D	C		B			B		
Approach Vol, veh/h		509			821							
Approach Delay, s/veh		40.0			37.5							
Approach LOS		D			D							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	53.5		17.7	18.7	53.5		11.1	25.4
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	16.2		16.4	22.0	10.0		11.5	26.9
Max Q Clear Time (g_c+I1), s	7.9		12.8	11.7	3.9		7.0	10.4
Green Ext Time (p_c), s	1.0		0.4	1.8	0.2		0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

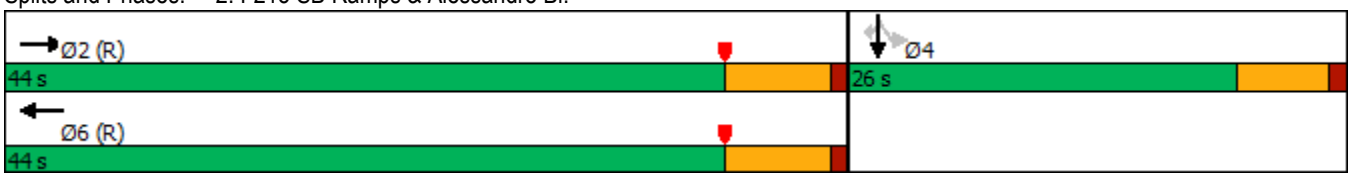
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1421	1276	187	0	347
Future Volume (vph)	1421	1276	187	0	347
Turn Type	NA	NA	Perm	NA	Perm
Protected Phases	2	6		4	
Permitted Phases			4		4
Detector Phase	2	6	4	4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	28.5	23.8	23.8	23.8
Total Split (s)	44.0	44.0	26.0	26.0	26.0
Total Split (%)	62.9%	62.9%	37.1%	37.1%	37.1%
Yellow Time (s)	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	44.4	44.4	13.3	13.3	13.3
Actuated g/C Ratio	0.63	0.63	0.19	0.19	0.19
v/c Ratio	0.56	0.43	0.52	0.57	0.54
Control Delay	7.9	6.5	30.6	24.3	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.9	6.5	30.6	24.3	23.2
LOS	A	A	C	C	C
Approach Delay	7.9	6.5		25.9	
Approach LOS	A	A		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 10.0	Intersection LOS: A
Intersection Capacity Utilization 54.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1421	374	0	1276	107	0	0	0	187	0	347
Future Volume (veh/h)	0	1421	374	0	1276	107	0	0	0	187	0	347
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1435	378	0	1289	0				257	0	136
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2789	731	0	3535					517	0	230
Arrive On Green	0.00	0.68	0.68	0.00	1.00	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	4263	1073	0	5529	0				3619	0	1610
Grp Volume(v), veh/h	0	1211	602	0	1289	0				257	0	136
Grp Sat Flow(s),veh/h/ln	0	1729	1707	0	1729	0				1810	0	1610
Q Serve(g_s), s	0.0	12.0	12.1	0.0	0.0	0.0				4.6	0.0	5.5
Cycle Q Clear(g_c), s	0.0	12.0	12.1	0.0	0.0	0.0				4.6	0.0	5.5
Prop In Lane	0.00		0.63	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2357	1163	0	3535					517	0	230
V/C Ratio(X)	0.00	0.51	0.52	0.00	0.36					0.50	0.00	0.59
Avail Cap(c_a), veh/h	0	2357	1163	0	3535					1044	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.5	5.5	0.0	0.0	0.0				27.7	0.0	28.1
Incr Delay (d2), s/veh	0.0	0.8	1.6	0.0	0.2	0.0				0.7	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
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.5	0.0	0.1	0.0				1.9	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.3	7.1	0.0	0.2	0.0				28.4	0.0	30.5
LnGrp LOS	A	A	A	A	A					C	A	C
Approach Vol, veh/h		1813			1289						393	
Approach Delay, s/veh		6.6			0.2						29.1	
Approach LOS		A			A						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		54.2		15.8		54.2						
Change Period (Y+Rc), s		6.5		5.8		6.5						
Max Green Setting (Gmax), s		37.5		20.2		37.5						
Max Q Clear Time (g_c+I1), s		14.1		7.5		2.0						
Green Ext Time (p_c), s		12.7		1.1		9.9						

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

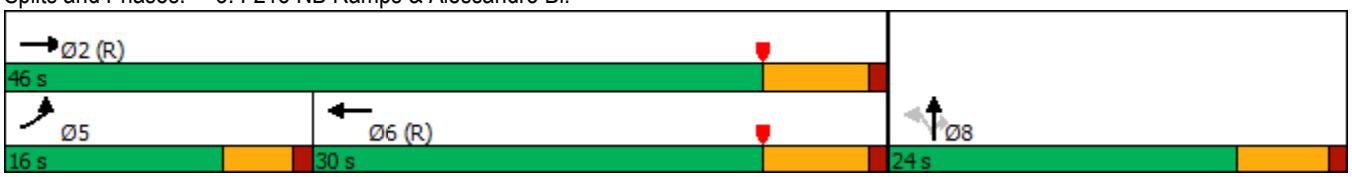
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	166	1442	884	500	5	133
Future Volume (vph)	166	1442	884	500	5	133
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				8		8
Detector Phase	5	2	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	24.5	28.5	23.8	23.8	23.8
Total Split (s)	16.0	46.0	30.0	24.0	24.0	24.0
Total Split (%)	22.9%	65.7%	42.9%	34.3%	34.3%	34.3%
Yellow Time (s)	3.6	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	5.8	5.8	5.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Min	C-Min	Min	Min	Min
Act Effct Green (s)	9.8	42.2	27.8	15.5	15.5	15.5
Actuated g/C Ratio	0.14	0.60	0.40	0.22	0.22	0.22
v/c Ratio	0.68	0.48	0.53	0.71	0.73	0.28
Control Delay	44.8	4.9	17.3	35.5	36.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	4.9	17.3	35.5	36.7	6.2
LOS	D	A	B	D	D	A
Approach Delay		9.1	17.3		30.5	
Approach LOS		A	B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 15.8	Intersection LOS: B
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1442	0	0	884	169	500	5	133	0	0	0
Future Volume (veh/h)	166	1442	0	0	884	169	500	5	133	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	171	1487	0	0	911	137	539	0	49			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	208	3301	0	0	2075	311	680	0	303			
Arrive On Green	0.23	1.00	0.00	0.00	0.46	0.46	0.19	0.00	0.19			
Sat Flow, veh/h	1810	5358	0	0	4724	682	3619	0	1610			
Grp Volume(v), veh/h	171	1487	0	0	691	357	539	0	49			
Grp Sat Flow(s),veh/h/ln	1810	1729	0	0	1729	1777	1810	0	1610			
Q Serve(g_s), s	6.3	0.0	0.0	0.0	9.5	9.6	9.9	0.0	1.8			
Cycle Q Clear(g_c), s	6.3	0.0	0.0	0.0	9.5	9.6	9.9	0.0	1.8			
Prop In Lane	1.00		0.00	0.00		0.38	1.00		1.00			
Lane Grp Cap(c), veh/h	208	3301	0	0	1576	810	680	0	303			
V/C Ratio(X)	0.82	0.45	0.00	0.00	0.44	0.44	0.79	0.00	0.16			
Avail Cap(c_a), veh/h	295	3301	0	0	1576	810	941	0	419			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00	0.00	0.84	0.84	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.3	0.0	0.0	0.0	13.0	13.0	27.1	0.0	23.8			
Incr Delay (d2), s/veh	6.8	0.4	0.0	0.0	0.7	1.5	3.2	0.0	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			
%ile BackOfQ(50%),veh/ln	2.5	0.1	0.0	0.0	3.0	3.3	4.2	0.0	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.4	0.0	0.0	13.7	14.4	30.4	0.0	24.1			
LnGrp LOS	C	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		1658			1048			588				
Approach Delay, s/veh		3.7			14.0			29.8				
Approach LOS		A			B			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		51.0			12.6	38.4		19.0				
Change Period (Y+Rc), s		6.5			4.6	6.5		5.8				
Max Green Setting (Gmax), s		39.5			11.4	23.5		18.2				
Max Q Clear Time (g_c+I1), s		2.0			8.3	11.6		11.9				
Green Ext Time (p_c), s		12.3			0.1	4.7		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

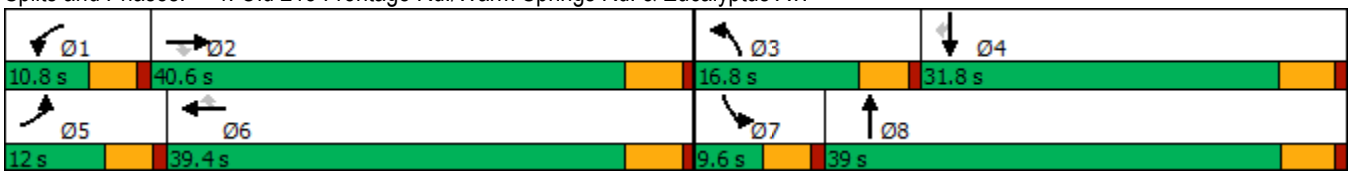
12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	377	703	151	35	393	58	101	220	50	221	590
Future Volume (vph)	377	703	151	35	393	58	101	220	50	221	590
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	15.2
Total Split (s)	12.0	40.6	40.6	10.8	39.4	39.4	16.8	39.0	9.6	31.8	31.8
Total Split (%)	12.0%	40.6%	40.6%	10.8%	39.4%	39.4%	16.8%	39.0%	9.6%	31.8%	31.8%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	8.1	27.3	27.3	6.0	19.7	19.7	8.7	23.0	5.5	17.2	17.2
Actuated g/C Ratio	0.11	0.38	0.38	0.08	0.27	0.27	0.12	0.32	0.08	0.24	0.24
v/c Ratio	1.00	0.53	0.22	0.24	0.41	0.11	0.48	0.26	0.38	0.51	0.54
Control Delay	84.6	22.3	3.7	43.1	23.5	0.4	42.8	17.6	48.9	31.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.6	22.3	3.7	43.1	23.5	0.4	42.8	17.6	48.9	31.0	4.4
LOS	F	C	A	D	C	A	D	B	D	C	A
Approach Delay		39.1			22.1			24.1		13.8	
Approach LOS		D			C			C		B	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 71.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 27.0 — Intersection LOS: C
Intersection Capacity Utilization 57.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	377	703	151	35	393	58	101	220	69	50	221	590
Future Volume (veh/h)	377	703	151	35	393	58	101	220	69	50	221	590
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	393	732	90	36	409	44	105	229	45	52	230	289
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	497	1144	510	70	774	340	137	658	127	92	368	548
Arrive On Green	0.14	0.32	0.32	0.04	0.21	0.21	0.08	0.22	0.22	0.05	0.19	0.19
Sat Flow, veh/h	3510	3610	1610	1810	3610	1585	1810	3014	582	1810	1900	2834
Grp Volume(v), veh/h	393	732	90	36	409	44	105	135	139	52	230	289
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1585	1810	1805	1791	1810	1900	1417
Q Serve(g_s), s	5.7	9.1	2.1	1.0	5.2	1.2	3.0	3.3	3.4	1.5	5.8	4.8
Cycle Q Clear(g_c), s	5.7	9.1	2.1	1.0	5.2	1.2	3.0	3.3	3.4	1.5	5.8	4.8
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	497	1144	510	70	774	340	137	394	391	92	368	548
V/C Ratio(X)	0.79	0.64	0.18	0.51	0.53	0.13	0.77	0.34	0.35	0.57	0.63	0.53
Avail Cap(c_a), veh/h	497	2446	1091	215	2363	1037	422	1174	1165	173	967	1443
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	21.7	15.3	12.9	24.6	18.2	16.6	23.7	17.3	17.3	24.2	19.3	18.9
Incr Delay (d2), s/veh	7.8	0.6	0.2	2.1	0.6	0.2	3.4	0.5	0.5	2.0	1.7	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	2.6	3.2	0.7	0.4	2.0	0.4	1.3	1.3	1.3	0.6	2.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	15.9	13.1	26.7	18.8	16.8	27.1	17.8	17.8	26.3	21.1	19.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	B
Approach Vol, veh/h		1215			489			379			571	
Approach Delay, s/veh		20.1			19.2			20.4			20.9	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	21.8	8.5	15.3	12.0	16.4	7.2	16.6
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	6.2	35.4	12.2	26.6	7.4	34.2	5.0	* 34
Max Q Clear Time (g_c+I1), s	3.0	11.1	5.0	7.8	7.7	7.2	3.5	5.4
Green Ext Time (p_c), s	0.0	5.5	0.1	2.3	0.0	2.8	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	11	53	0	43	10	371	59	71	335	1
Future Vol, veh/h	6	1	11	53	0	43	10	371	59	71	335	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	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	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	1	12	56	0	46	11	395	63	76	356	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	729	991	179	782	960	231	357	0	0	460	0	0
Stage 1	509	509	-	451	451	-	-	-	-	-	-	-
Stage 2	220	482	-	331	509	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	314	248	839	288	259	777	1213	-	-	1112	-	-
Stage 1	520	541	-	563	574	-	-	-	-	-	-	-
Stage 2	768	557	-	662	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	278	229	839	266	239	776	1213	-	-	1110	-	-
Mov Cap-2 Maneuver	384	328	-	384	349	-	-	-	-	-	-	-
Stage 1	515	504	-	557	568	-	-	-	-	-	-	-
Stage 2	716	551	-	607	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	14.1	0.2	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	566	496	1110	-	-
HCM Lane V/C Ratio	0.009	-	-	0.034	0.206	0.068	-	-
HCM Control Delay (s)	8	-	-	11.6	14.1	8.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	15	14	0	22	12	399	19	42	362	3
Future Vol, veh/h	13	0	15	14	0	22	12	399	19	42	362	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	14	0	16	15	0	24	13	434	21	46	393	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	730	969	198	761	960	229	396	0	0	456	0	0
Stage 1	487	487	-	472	472	-	-	-	-	-	-	-
Stage 2	243	482	-	289	488	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	314	256	816	298	259	780	1174	-	-	1115	-	-
Stage 1	536	554	-	547	562	-	-	-	-	-	-	-
Stage 2	745	557	-	700	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	292	243	816	280	246	779	1174	-	-	1114	-	-
Mov Cap-2 Maneuver	400	347	-	394	356	-	-	-	-	-	-	-
Stage 1	530	531	-	540	555	-	-	-	-	-	-	-
Stage 2	714	550	-	658	530	-	-	-	-	-	-	-

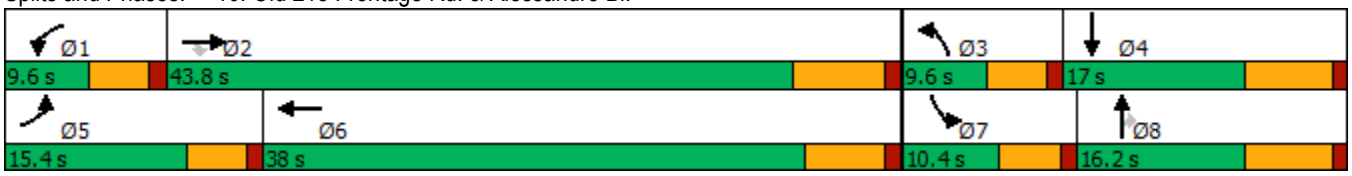
Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	11.9	0.2	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1174	-	-	550	564	1114	-	-
HCM Lane V/C Ratio	0.011	-	-	0.055	0.069	0.041	-	-
HCM Control Delay (s)	8.1	-	-	11.9	11.9	8.4	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	1262	46	7	781	90	23	101	9	77	117	208
Future Volume (vph)	251	1262	46	7	781	90	23	101	9	77	117	208
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	43.5	43.5	9.6	15.8		9.6	16.2	16.2	9.6	16.2	
Total Split (s)	15.4	43.8	43.8	9.6	38.0		9.6	16.2	16.2	10.4	17.0	
Total Split (%)	19.3%	54.8%	54.8%	12.0%	47.5%		12.0%	20.3%	20.3%	13.0%	21.3%	
Yellow Time (s)	3.6	5.5	5.5	3.6	4.8		3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.5	6.5	4.6	5.8		4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Act Effct Green (s)	9.3	36.8	36.8	5.9	21.3	61.6	5.9	11.8	11.8	6.5	16.0	61.6
Actuated g/C Ratio	0.15	0.60	0.60	0.10	0.35	1.00	0.10	0.19	0.19	0.11	0.26	1.00
v/c Ratio	0.48	0.42	0.05	0.04	0.64	0.06	0.07	0.15	0.02	0.42	0.13	0.13
Control Delay	31.5	11.2	0.1	33.9	21.1	0.1	33.3	28.7	0.1	41.1	25.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	11.2	0.1	33.9	21.1	0.1	33.3	28.7	0.1	41.1	25.3	0.2
LOS	C	B	A	C	C	A	C	C	A	D	C	A
Approach Delay		14.1			19.1			27.6			15.4	
Approach LOS		B			B			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 61.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Old 215 Frontage Rd. & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	1262	46	7	781	90	23	101	9	77	117	208
Future Volume (veh/h)	251	1262	46	7	781	90	23	101	9	77	117	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	256	1288	41	7	797	0	23	103	8	79	119	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	373	2124	651	17	1128		94	517	231	112	644	
Arrive On Green	0.11	0.41	0.41	0.01	0.31	0.00	0.03	0.14	0.14	0.06	0.18	0.00
Sat Flow, veh/h	3510	5187	1590	1810	3610	1610	3510	3610	1610	1810	3610	1610
Grp Volume(v), veh/h	256	1288	41	7	797	0	23	103	8	79	119	0
Grp Sat Flow(s),veh/h/ln	1755	1729	1590	1810	1805	1610	1755	1805	1610	1810	1805	1610
Q Serve(g_s), s	4.1	11.4	0.9	0.2	11.3	0.0	0.4	1.5	0.2	2.5	1.6	0.0
Cycle Q Clear(g_c), s	4.1	11.4	0.9	0.2	11.3	0.0	0.4	1.5	0.2	2.5	1.6	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	373	2124	651	17	1128		94	517	231	112	644	
V/C Ratio(X)	0.69	0.61	0.06	0.42	0.71		0.25	0.20	0.03	0.70	0.18	
Avail Cap(c_a), veh/h	651	3322	1018	155	1996		301	620	277	180	670	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.1	13.5	10.4	28.7	17.7	0.0	27.8	22.0	21.5	26.8	20.3	0.0
Incr Delay (d2), s/veh	0.8	0.3	0.0	6.2	0.8	0.0	0.5	0.2	0.1	3.0	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	1.5	3.2	0.2	0.1	4.0	0.0	0.1	0.5	0.1	1.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	13.8	10.5	34.9	18.5	0.0	28.3	22.2	21.5	29.8	20.5	0.0
LnGrp LOS	C	B	B	C	B		C	C	C	C	C	
Approach Vol, veh/h		1585			804			134			198	
Approach Delay, s/veh		15.7			18.6			23.2			24.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	30.4	6.2	16.6	10.8	24.7	8.2	14.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	* 6.5	4.6	6.2
Max Green Setting (Gmax), s	5.0	37.3	5.0	10.8	10.8	* 32	5.8	10.0
Max Q Clear Time (g_c+I1), s	2.2	13.4	2.4	3.6	6.1	13.3	4.5	3.5
Green Ext Time (p_c), s	0.0	8.9	0.0	0.3	0.2	4.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

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APPENDIX 3.3: EXISTING (2022) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

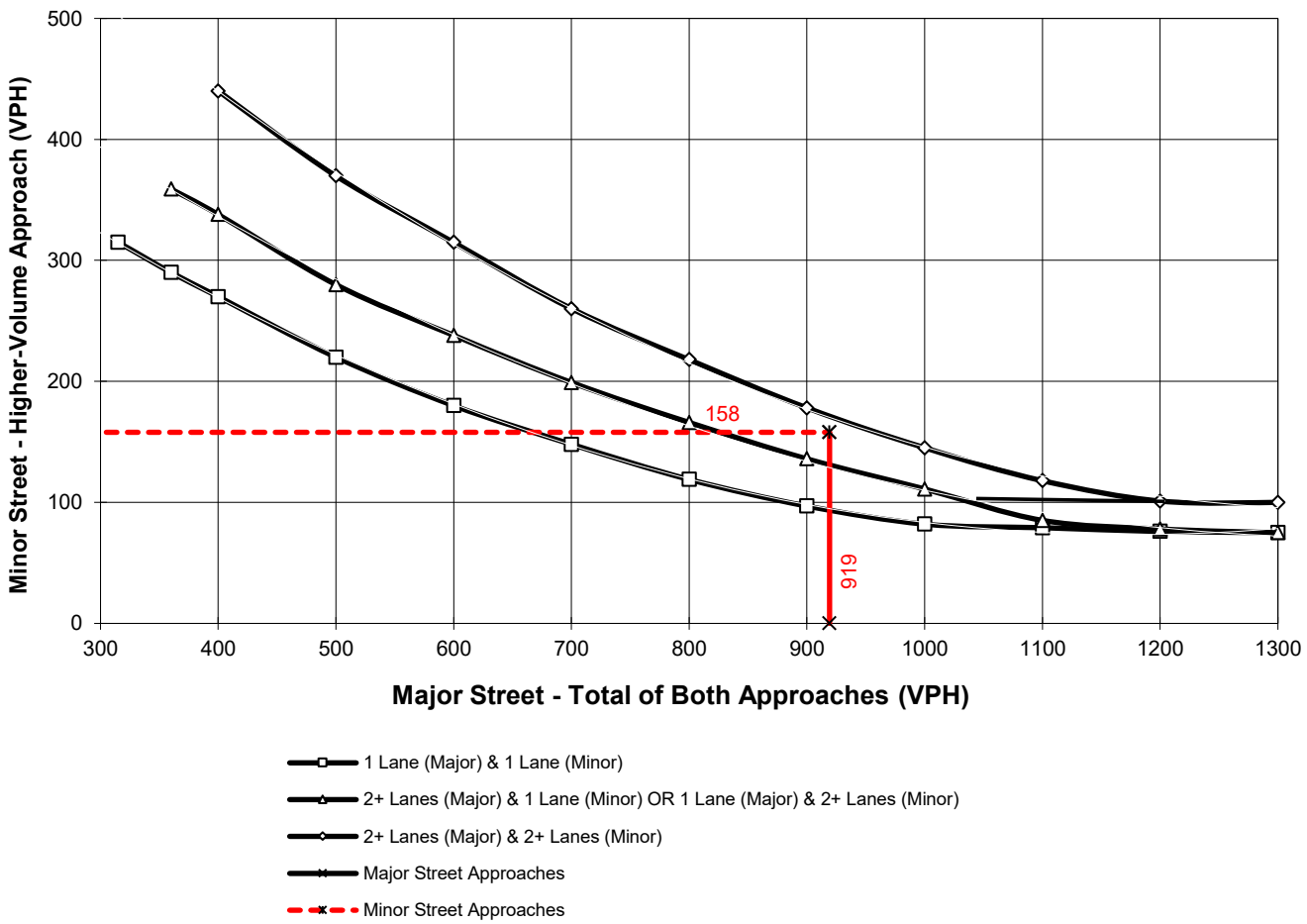
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday AM Peak Hour**

Major Street Name = **Old 215 Frontage Rd.** Total of Both Approaches (VPH) = **919**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Cottonwood Av.** High Volume Approach (VPH) = **158**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

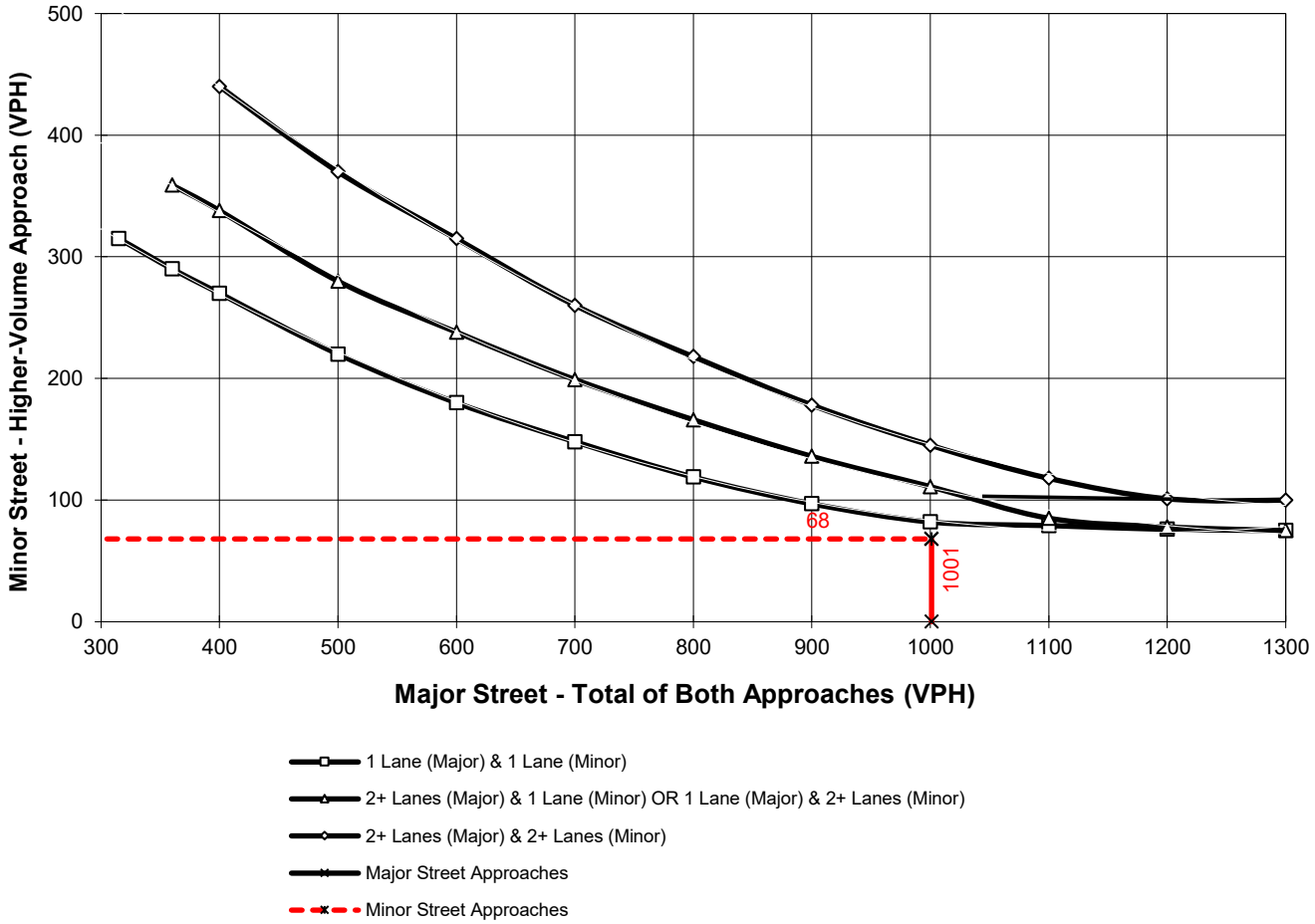
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday AM Peak Hour**

Major Street Name = **Old 215 Frontage Rd.**
Total of Both Approaches (VPH) = **1001**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Bay Av.**
High Volume Approach (VPH) = **68**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 3.4: EXISTING (2022) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Lane Group	EBT	WBT	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	144	816	461	118	255	194
v/c Ratio	0.13	0.72	0.65	0.12	0.46	0.36
Control Delay	16.5	24.6	30.2	1.1	29.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	24.6	30.2	1.1	29.4	6.7
Queue Length 50th (ft)	23	161	93	0	52	0
Queue Length 95th (ft)	37	196	136	5	81	51
Internal Link Dist (ft)	897	901				
Turn Bay Length (ft)			500	500	535	
Base Capacity (vph)	1213	1213	709	952	553	538
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.67	0.65	0.12	0.46	0.36

Intersection Summary

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1048	2329	172	163	158
v/c Ratio	0.32	0.71	0.53	0.50	0.47
Control Delay	4.8	12.5	31.2	21.6	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	12.5	31.2	21.6	20.8
Queue Length 50th (ft)	43	276	72	46	42
Queue Length 95th (ft)	80	410	117	94	86
Internal Link Dist (ft)	715	695		1521	
Turn Bay Length (ft)			500		500
Base Capacity (vph)	3242	3262	450	435	443
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.71	0.38	0.37	0.36

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	81	838	1568	424	429	198
v/c Ratio	0.55	0.31	0.74	0.84	0.75	0.37
Control Delay	43.6	11.0	21.7	39.3	24.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	11.0	21.7	39.3	24.5	9.6
Queue Length 50th (ft)	35	78	221	172	123	23
Queue Length 95th (ft)	#86	114	279	#316	#235	71
Internal Link Dist (ft)		695	1017		1021	
Turn Bay Length (ft)	200			380		380
Base Capacity (vph)	152	2743	2107	543	605	572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.31	0.74	0.78	0.71	0.35

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	225	222	57	42	869	55	355	408	30	78	465
v/c Ratio	0.75	0.16	0.08	0.34	0.76	0.09	0.84	0.31	0.29	0.30	0.69
Control Delay	58.3	20.3	0.2	50.8	32.3	0.3	52.0	20.4	51.5	40.7	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	20.3	0.2	50.8	32.3	0.3	52.0	20.4	51.5	40.7	17.4
Queue Length 50th (ft)	65	46	0	23	228	0	188	83	17	41	39
Queue Length 95th (ft)	#141	78	0	61	321	0	#355	131	49	89	100
Internal Link Dist (ft)		901			625			982		1066	
Turn Bay Length (ft)	300			100		30	150		180		
Base Capacity (vph)	302	1484	767	136	1439	749	515	1408	105	316	753
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.15	0.07	0.31	0.60	0.07	0.69	0.29	0.29	0.25	0.62

Intersection Summary

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	3	4	90	3	65	14	683	27	21	165	9
Future Vol, veh/h	6	3	4	90	3	65	14	683	27	21	165	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	3	4	97	3	70	15	734	29	23	177	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	627	1022	94	916	1013	383	187	0	0	764	0	0
Stage 1	228	228	-	780	780	-	-	-	-	-	-	-
Stage 2	399	794	-	136	233	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	372	238	951	230	241	621	1399	-	-	858	-	-
Stage 1	760	719	-	359	409	-	-	-	-	-	-	-
Stage 2	604	403	-	859	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	318	229	951	221	232	620	1399	-	-	857	-	-
Mov Cap-2 Maneuver	409	311	-	301	325	-	-	-	-	-	-	-
Stage 1	752	700	-	355	404	-	-	-	-	-	-	-
Stage 2	526	398	-	828	697	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	21.8	0.1	1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1399	-	-	456	382	857	-	-
HCM Lane V/C Ratio	0.011	-	-	0.031	0.445	0.026	-	-
HCM Control Delay (s)	7.6	-	-	13.1	21.8	9.3	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1	8	38	3	27	23	703	13	10	238	14
Future Vol, veh/h	7	1	8	38	3	27	23	703	13	10	238	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	1	9	41	3	29	25	764	14	11	259	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	723	1119	137	975	1119	391	274	0	0	780	0	0
Stage 1	289	289	-	823	823	-	-	-	-	-	-	-
Stage 2	434	830	-	152	296	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	318	209	893	209	209	614	1301	-	-	846	-	-
Stage 1	700	677	-	338	391	-	-	-	-	-	-	-
Stage 2	576	388	-	841	672	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	293	202	893	201	202	613	1301	-	-	844	-	-
Mov Cap-2 Maneuver	400	297	-	281	301	-	-	-	-	-	-	-
Stage 1	687	668	-	331	383	-	-	-	-	-	-	-
Stage 2	533	380	-	821	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	17.6	0.2	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	536	359	844	-	-
HCM Lane V/C Ratio	0.019	-	-	0.032	0.206	0.013	-	-
HCM Control Delay (s)	7.8	-	-	11.9	17.6	9.3	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	291	728	22	33	1176	112	109	348	16	25	27	247
v/c Ratio	0.64	0.25	0.02	0.24	0.79	0.07	0.26	0.62	0.04	0.18	0.05	0.15
Control Delay	37.8	9.5	0.0	38.4	22.1	0.1	33.1	34.6	0.2	37.3	29.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	9.5	0.0	38.4	22.1	0.1	33.1	34.6	0.2	37.3	29.2	0.2
Queue Length 50th (ft)	55	36	0	12	192	0	18	67	0	9	4	0
Queue Length 95th (ft)	#126	103	0	43	331	0	53	#146	0	36	17	0
Internal Link Dist (ft)		1017			1269			1438			1212	
Turn Bay Length (ft)	250		190	200		370	150		150	460		160
Base Capacity (vph)	485	3030	1013	137	1884	1595	424	571	401	137	571	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.24	0.02	0.24	0.62	0.07	0.26	0.61	0.04	0.18	0.05	0.15

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	102	521	432	389	286	154	416	433	194
v/c Ratio	0.54	0.72	0.73	0.38	0.44	0.39	0.43	0.73	0.32
Control Delay	48.2	36.7	42.9	27.0	5.4	40.4	5.5	42.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	36.7	42.9	27.0	5.4	40.4	5.5	42.8	5.5
Queue Length 50th (ft)	56	134	121	94	0	42	0	120	0
Queue Length 95th (ft)	102	180	162	129	56	72	44	170	48
Internal Link Dist (ft)		897		901					
Turn Bay Length (ft)	170		270			500	500	535	
Base Capacity (vph)	238	882	663	1098	677	391	975	643	612
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.59	0.65	0.35	0.42	0.39	0.43	0.67	0.32

Intersection Summary

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1813	1397	170	187	183
v/c Ratio	0.56	0.43	0.52	0.57	0.54
Control Delay	7.9	6.5	30.6	24.3	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.9	6.5	30.6	24.3	23.2
Queue Length 50th (ft)	119	60	71	57	52
Queue Length 95th (ft)	211	153	115	108	101
Internal Link Dist (ft)	715	695		1521	
Turn Bay Length (ft)			500		500
Base Capacity (vph)	3240	3254	494	468	481
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.43	0.34	0.40	0.38

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	171	1487	1085	268	266	123
v/c Ratio	0.68	0.48	0.53	0.71	0.73	0.28
Control Delay	44.8	4.9	17.3	35.5	36.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	4.9	17.3	35.5	36.7	6.2
Queue Length 50th (ft)	49	50	128	108	112	0
Queue Length 95th (ft)	138	77	176	183	190	36
Internal Link Dist (ft)		695	1017		1021	
Turn Bay Length (ft)	200			380		380
Base Capacity (vph)	293	3129	2042	445	429	492
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.48	0.53	0.60	0.62	0.25

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	393	732	157	36	409	60	105	301	52	230	615
v/c Ratio	1.00	0.53	0.22	0.24	0.41	0.11	0.48	0.26	0.38	0.51	0.54
Control Delay	84.6	22.3	3.7	43.1	23.5	0.4	42.8	17.6	48.9	31.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.6	22.3	3.7	43.1	23.5	0.4	42.8	17.6	48.9	31.0	4.4
Queue Length 50th (ft)	~111	153	0	16	79	0	46	47	24	94	0
Queue Length 95th (ft)	#274	256	33	55	141	0	117	93	#88	195	44
Internal Link Dist (ft)		901			625			982		1066	
Turn Bay Length (ft)	300			100		30	150		180		
Base Capacity (vph)	394	1945	951	170	1879	912	335	1816	137	769	1517
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.38	0.17	0.21	0.22	0.07	0.31	0.17	0.38	0.30	0.41

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	11	53	0	43	10	371	59	71	335	1
Future Vol, veh/h	6	1	11	53	0	43	10	371	59	71	335	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	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	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	1	12	56	0	46	11	395	63	76	356	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	729	991	179	782	960	231	357	0	0	460	0	0
Stage 1	509	509	-	451	451	-	-	-	-	-	-	-
Stage 2	220	482	-	331	509	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	314	248	839	288	259	777	1213	-	-	1112	-	-
Stage 1	520	541	-	563	574	-	-	-	-	-	-	-
Stage 2	768	557	-	662	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	278	229	839	266	239	776	1213	-	-	1110	-	-
Mov Cap-2 Maneuver	384	328	-	384	349	-	-	-	-	-	-	-
Stage 1	515	504	-	557	568	-	-	-	-	-	-	-
Stage 2	716	551	-	607	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	14.1	0.2	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	566	496	1110	-	-
HCM Lane V/C Ratio	0.009	-	-	0.034	0.206	0.068	-	-
HCM Control Delay (s)	8	-	-	11.6	14.1	8.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	15	14	0	22	12	399	19	42	362	3
Future Vol, veh/h	13	0	15	14	0	22	12	399	19	42	362	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	14	0	16	15	0	24	13	434	21	46	393	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	730	969	198	761	960	229	396	0	0	456	0	0
Stage 1	487	487	-	472	472	-	-	-	-	-	-	-
Stage 2	243	482	-	289	488	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	314	256	816	298	259	780	1174	-	-	1115	-	-
Stage 1	536	554	-	547	562	-	-	-	-	-	-	-
Stage 2	745	557	-	700	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	292	243	816	280	246	779	1174	-	-	1114	-	-
Mov Cap-2 Maneuver	400	347	-	394	356	-	-	-	-	-	-	-
Stage 1	530	531	-	540	555	-	-	-	-	-	-	-
Stage 2	714	550	-	658	530	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	11.9	0.2	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1174	-	-	550	564	1114	-	-
HCM Lane V/C Ratio	0.011	-	-	0.055	0.069	0.041	-	-
HCM Control Delay (s)	8.1	-	-	11.9	11.9	8.4	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	256	1288	47	7	797	92	23	103	9	79	119	212
v/c Ratio	0.48	0.42	0.05	0.04	0.64	0.06	0.07	0.15	0.02	0.42	0.13	0.13
Control Delay	31.5	11.2	0.1	33.9	21.1	0.1	33.3	28.7	0.1	41.1	25.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	11.2	0.1	33.9	21.1	0.1	33.3	28.7	0.1	41.1	25.3	0.2
Queue Length 50th (ft)	52	118	0	3	150	0	4	20	0	32	18	0
Queue Length 95th (ft)	98	200	0	16	210	0	17	47	0	#98	52	0
Internal Link Dist (ft)		1017			1269			1438			1212	
Turn Bay Length (ft)	250		190	200		370	150		150	460		160
Base Capacity (vph)	723	3267	1067	172	2049	1595	335	690	500	200	958	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.39	0.04	0.04	0.39	0.06	0.07	0.15	0.02	0.40	0.12	0.13

Intersection Summary

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

APPENDIX 5.1: OPENING YEAR CUMULATIVE (2025) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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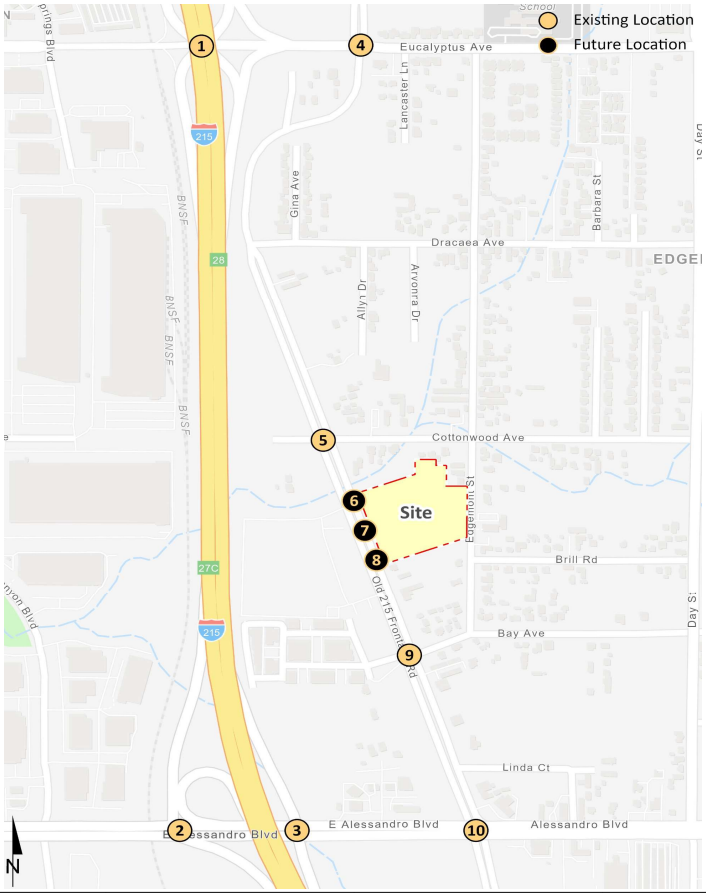


1 I-215 Ramps & Eucalpytus Av.	2 I-215 SB Ramps & Alessandro Bl.	3 I-215 NB Ramps & Alessandro Bl.	4 Old 215 Frontage Rd. & Eucalyptus Av.
15,900 / 41,950 / 18,400 / 19,350	8,450 / 41,150 / 46,450 / 5,300	4,350 / 36,600 / 41,150 / 8,900	30,100 / 22,400 / 41,950 / 12,850
202(202) ↲ / 487(568) ↳	304(368) ↲ / 281(219) ↳	↱ 81(206) / ← 1576(1005)	618(1121) ↲ / 102(294) ↓ / 62(135) ↳
↱ 452(622) / ← 898(513) / ↰ 687(758)	↱ 205(114) / ← 2219(1362) / ↰ 16(60)	83(176) ↰ / 953(1553) →	↱ 124(105) / ← 1026(558) / ↰ 51(43)
73(106) ↰ / 234(485) → / 125(119) ↱	755(1510) → / 342(397) ↱	↰ 863(530) / ↑ 0(5) / ↱ 312(167)	630(616) ↰ / 338(865) → / 113(175) ↱
480(160) ↰ / 359(600) ↱			394(215) ↰ / 383(259) ↑ / 96(80) ↱

5 Old 215 Frontage Rd. & Cottonwood Av.	6 Old 215 Frontage Rd. & Driveway 1	7 Old 215 Frontage Rd. & Driveway 2	8 Old 215 Frontage Rd. & Driveway 3
12,100 / 3,350 / 650 / 12,600	12,600 / 12,600	12,600 / 12,600	12,600 / 12,600
27(5) ↲ / 202(374) ↓ / 26(92) ↳	307(446) ↓	307(446) ↓	307(446) ↓
↱ 69(45) / ← 8(1) / ↰ 101(58)			
9(21) ↰ / 4(6) → / 5(15) ↱	↑ 802(566)	↑ 802(566)	↑ 802(566)
30(15) ↰ / 740(477) ↑ / 32(75) ↱			

9 Old 215 Frontage Rd. & Bay Av.	10 Old 215 Frontage Rd. & Alessandro Bl.
12,200 / 1,400 / 1,200 / 11,850	12,200 / 30,600 / 34,450 / 3,700
39(11) ↲ / 261(398) ↓ / 10(44) ↳	263(257) ↲ / 29(126) ↓ / 27(91) ↳
↱ 28(23) / ← 6(1) / ↰ 40(15)	↱ 140(101) / ← 1224(839) / ↰ 34(7)
14(43) ↰ / 2(3) → / 8(18) ↱	407(288) ↰ / 757(1354) → / 22(49) ↱
47(36) ↰ / 772(493) ↑ / 15(25) ↱	112(24) ↰ / 112(24) ↑ / 17(9) ↱

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

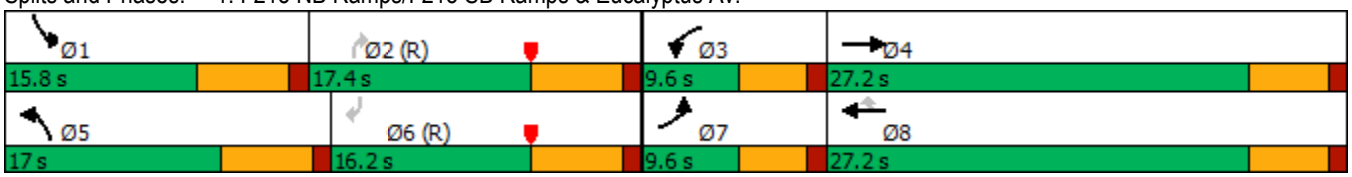
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	73	234	687	898	452	480	359	487	202
Future Volume (vph)	73	234	687	898	452	480	359	487	202
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	15.8
Total Split (s)	9.6	27.2	9.6	27.2	27.2	17.0	17.4	15.8	16.2
Total Split (%)	13.7%	38.9%	13.7%	38.9%	38.9%	24.3%	24.9%	22.6%	23.1%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	5.2	19.6	5.3	21.6	21.6	11.3	12.7	11.0	12.3
Actuated g/C Ratio	0.07	0.28	0.08	0.31	0.31	0.16	0.18	0.16	0.18
v/c Ratio	0.55	0.35	2.64	0.82	0.56	0.86	0.47	0.91	0.46
Control Delay	48.8	13.0	765.4	29.9	5.1	46.5	5.3	53.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	13.0	765.4	29.9	5.1	46.5	5.3	53.5	9.2
LOS	D	B	F	C	A	D	A	D	A
Approach Delay		19.0		272.5					
Approach LOS		B		F					

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.64
Intersection Signal Delay: 153.1 — Intersection LOS: F
Intersection Capacity Utilization 63.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	234	125	687	898	452	480	0	359	487	0	202
Future Volume (veh/h)	73	234	125	687	898	452	480	0	359	487	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	74	239	0	701	916	0	490	0	0	497	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1000		251	1061		1505	0		1505	0	
Arrive On Green	0.05	0.28	0.00	0.07	0.29	0.00	0.43	0.00	0.00	0.43	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	490		3510	497	
Grp Volume(v), veh/h	74	239	0	701	916	0	490	13.4		497	13.4	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	2.8	3.6	0.0	5.0	16.8	0.0	6.5			6.6		
Cycle Q Clear(g_c), s	2.8	3.6	0.0	5.0	16.8	0.0	6.5			6.6		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	99	1000		251	1061		1505			1505		
V/C Ratio(X)	0.75	0.24		2.80	0.86		0.33			0.33		
Avail Cap(c_a), veh/h	129	1135		251	1135		1505			1505		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.32	0.32	0.00	1.00			1.00		
Uniform Delay (d), s/veh	32.6	19.6	0.0	32.5	23.4	0.0	13.3			13.3		
Incr Delay (d2), s/veh	10.7	0.1	0.0	811.6	2.3	0.0	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.5	1.4	0.0	30.3	6.9	0.0	2.2			2.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	19.7	0.0	844.1	25.7	0.0	13.4			13.4		
LnGrp LOS	D	B		F	C		B			B		
Approach Vol, veh/h		313			1617							
Approach Delay, s/veh		25.3			380.5							
Approach LOS		C			F							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	35.8		9.6	24.6	35.8		8.4	25.8
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	10.0		5.0	22.0	11.2		5.0	22.0
Max Q Clear Time (g_c+I1), s	8.6		7.0	5.6	8.5		4.8	18.8
Green Ext Time (p_c), s	0.3		0.0	1.2	0.5		0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	218.2
HCM 6th LOS	F

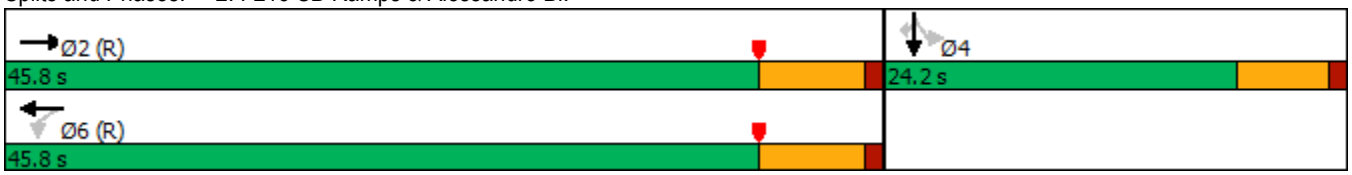
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	755	16	2219	281	0	304
Future Volume (vph)	755	16	2219	281	0	304
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2		6		4	
Permitted Phases		6		4		4
Detector Phase	2	6	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	28.5	28.5	23.8	23.8	23.8
Total Split (s)	45.8	45.8	45.8	24.2	24.2	24.2
Total Split (%)	65.4%	65.4%	65.4%	34.6%	34.6%	34.6%
Yellow Time (s)	5.5	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	5.8	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	43.3		43.3	14.4	14.4	14.4
Actuated g/C Ratio	0.62		0.62	0.21	0.21	0.21
v/c Ratio	0.35		0.85	0.59	0.55	0.54
Control Delay	5.5		16.8	31.6	23.1	22.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.5		16.8	31.6	23.1	22.5
LOS	A		B	C	C	C
Approach Delay	5.5		16.8		25.9	
Approach LOS	A		B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 79.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	755	342	16	2219	205	0	0	0	281	0	304
Future Volume (veh/h)	0	755	342	16	2219	205	0	0	0	281	0	304
Initial Q (Qb), veh	0	0	0	0	50	0				0	0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	770	349	16	2264	0				365	0	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2373	1067	60	3394					530	0	236
Arrive On Green	0.00	0.68	0.68	0.68	0.68	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	3672	1574	12	5157	0				3619	0	1610
Grp Volume(v), veh/h	0	761	358	852	1428	0				365	0	167
Grp Sat Flow(s),veh/h/ln	0	1729	1617	1867	1573	0				1810	0	1610
Q Serve(g_s), s	0.0	6.4	6.4	0.0	18.7	0.0				6.7	0.0	6.9
Cycle Q Clear(g_c), s	0.0	6.4	6.4	18.3	18.7	0.0				6.7	0.0	6.9
Prop In Lane	0.00		0.97	0.02		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2344	1096	1320	2133					530	0	236
V/C Ratio(X)	0.00	0.32	0.33	0.65	0.67					0.69	0.00	0.71
Avail Cap(c_a), veh/h	0	2344	1096	1318	2133					951	0	423
HCM Platoon Ratio	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	0.45	0.45	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.7	4.7	7.4	7.5	0.0				28.4	0.0	28.5
Incr Delay (d2), s/veh	0.0	0.4	0.8	1.1	0.8	0.0				1.6	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	3.2	5.3	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	1.3	6.0	5.6	0.0				2.8	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.0	5.5	11.7	13.6	0.0				30.0	0.0	32.4
LnGrp LOS	A	A	A	B	B					C	A	C
Approach Vol, veh/h		1119			2280						532	
Approach Delay, s/veh		5.2			12.9						30.7	
Approach LOS		A			B						C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		54.0		16.0		54.0
Change Period (Y+Rc), s		6.5		5.8		6.5
Max Green Setting (Gmax), s		39.3		18.4		39.3
Max Q Clear Time (g_c+I1), s		8.4		8.9		20.7
Green Ext Time (p_c), s		7.6		1.3		13.7

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

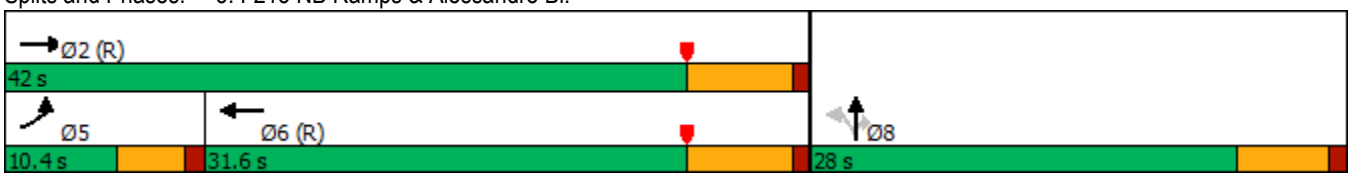
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	83	953	1576	863	0	312
Future Volume (vph)	83	953	1576	863	0	312
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				8		8
Detector Phase	5	2	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	28.5	15.8	15.8	15.8
Total Split (s)	10.4	42.0	31.6	28.0	28.0	28.0
Total Split (%)	14.9%	60.0%	45.1%	40.0%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	5.8	5.8	5.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Min	C-Min	Min	Min	Min
Act Effct Green (s)	5.6	36.3	28.0	21.4	21.4	21.4
Actuated g/C Ratio	0.08	0.52	0.40	0.31	0.31	0.31
v/c Ratio	0.59	0.36	0.82	0.88	0.78	0.51
Control Delay	46.3	11.2	24.3	43.0	26.4	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	11.2	24.3	43.0	26.4	14.3
LOS	D	B	C	D	C	B
Approach Delay		14.0	24.3		29.8	
Approach LOS		B	C		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 25.1 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 78.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	953	0	0	1576	81	863	0	312	0	0	0
Future Volume (veh/h)	83	953	0	0	1576	81	863	0	312	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	85	972	0	0	1608	71	948	0	143			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	110	2739	0	0	2042	90	1072	0	477			
Arrive On Green	0.02	0.17	0.00	0.00	0.40	0.40	0.30	0.00	0.30			
Sat Flow, veh/h	1810	5358	0	0	5260	225	3619	0	1610			
Grp Volume(v), veh/h	85	972	0	0	1092	587	948	0	143			
Grp Sat Flow(s),veh/h/ln	1810	1729	0	0	1729	1856	1810	0	1610			
Q Serve(g_s), s	3.3	11.5	0.0	0.0	19.4	19.4	17.5	0.0	4.8			
Cycle Q Clear(g_c), s	3.3	11.5	0.0	0.0	19.4	19.4	17.5	0.0	4.8			
Prop In Lane	1.00		0.00	0.00		0.12	1.00		1.00			
Lane Grp Cap(c), veh/h	110	2739	0	0	1388	745	1072	0	477			
V/C Ratio(X)	0.77	0.35	0.00	0.00	0.79	0.79	0.88	0.00	0.30			
Avail Cap(c_a), veh/h	150	2739	0	0	1388	745	1148	0	511			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.8	18.4	0.0	0.0	18.3	18.3	23.5	0.0	19.0			
Incr Delay (d2), s/veh	9.5	0.3	0.0	0.0	3.2	5.7	8.1	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	4.5	0.0	0.0	6.7	7.8	7.7	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	18.7	0.0	0.0	21.5	24.1	31.5	0.0	19.4			
LnGrp LOS	D	B	A	A	C	C	C	A	B			
Approach Vol, veh/h		1057			1679			1091				
Approach Delay, s/veh		20.7			22.4			29.9				
Approach LOS		C			C			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.5			8.9	34.6		26.5				
Change Period (Y+Rc), s		6.5			4.6	6.5		5.8				
Max Green Setting (Gmax), s		35.5			5.8	25.1		22.2				
Max Q Clear Time (g_c+I1), s		13.5			5.3	21.4		19.5				
Green Ext Time (p_c), s		6.0			0.0	2.9		1.3				

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

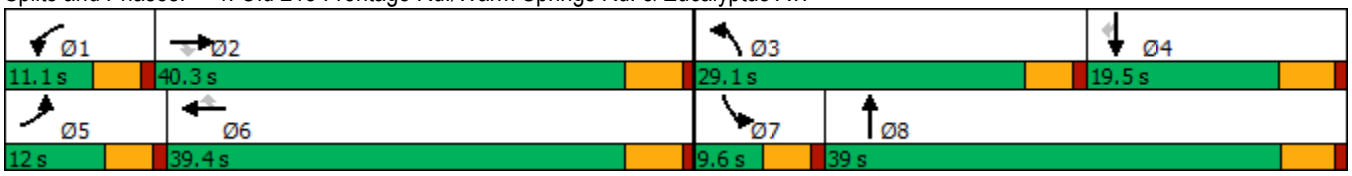
12/12/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	630	338	113	51	1026	124	394	383	62	102	618
Future Volume (vph)	630	338	113	51	1026	124	394	383	62	102	618
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	15.2
Total Split (s)	12.0	40.3	40.3	11.1	39.4	39.4	29.1	39.0	9.6	19.5	19.5
Total Split (%)	12.0%	40.3%	40.3%	11.1%	39.4%	39.4%	29.1%	39.0%	9.6%	19.5%	19.5%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	7.4	35.8	35.8	6.1	32.3	32.3	23.2	34.7	5.0	14.1	14.1
Actuated g/C Ratio	0.08	0.37	0.37	0.06	0.33	0.33	0.24	0.36	0.05	0.15	0.15
v/c Ratio	2.36	0.25	0.16	0.46	0.86	0.19	0.92	0.38	0.68	0.37	0.94
Control Delay	647.1	22.9	1.3	58.5	38.8	1.9	64.8	23.4	81.1	43.0	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	647.1	22.9	1.3	58.5	38.8	1.9	64.8	23.4	81.1	43.0	44.8
LOS	F	C	A	E	D	A	E	C	F	D	D
Approach Delay		384.5			35.8			42.1		47.5	
Approach LOS		F			D			D		D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 96.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.36
Intersection Signal Delay: 135.2 — Intersection LOS: F
Intersection Capacity Utilization 92.8% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	338	113	51	1026	124	394	383	96	62	102	618
Future Volume (veh/h)	630	338	113	51	1026	124	394	383	96	62	102	618
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	636	341	101	52	1036	115	398	387	62	63	103	435
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	272	1329	593	71	1190	531	430	1068	170	81	285	425
Arrive On Green	0.08	0.37	0.37	0.04	0.33	0.33	0.24	0.34	0.34	0.04	0.15	0.15
Sat Flow, veh/h	3510	3610	1610	1810	3610	1610	1810	3120	496	1810	1900	2834
Grp Volume(v), veh/h	636	341	101	52	1036	115	398	223	226	63	103	435
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1610	1810	1805	1811	1810	1900	1417
Q Serve(g_s), s	7.4	6.3	4.0	2.7	25.8	4.9	20.5	8.8	9.0	3.3	4.7	14.3
Cycle Q Clear(g_c), s	7.4	6.3	4.0	2.7	25.8	4.9	20.5	8.8	9.0	3.3	4.7	14.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	272	1329	593	71	1190	531	430	618	620	81	285	425
V/C Ratio(X)	2.34	0.26	0.17	0.73	0.87	0.22	0.93	0.36	0.37	0.77	0.36	1.02
Avail Cap(c_a), veh/h	272	1329	593	123	1293	577	464	643	645	95	285	425
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	44.0	21.0	20.3	45.4	30.1	23.1	35.6	23.5	23.6	45.1	36.5	40.6
Incr Delay (d2), s/veh	613.1	0.1	0.1	5.4	6.3	0.2	22.8	0.4	0.4	23.6	0.8	50.1
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	26.3	2.6	1.5	1.3	11.7	1.9	11.6	3.8	3.8	2.0	2.2	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	657.1	21.2	20.5	50.7	36.4	23.3	58.4	23.9	23.9	68.7	37.3	90.7
LnGrp LOS	F	C	C	D	D	C	E	C	C	E	D	F
Approach Vol, veh/h		1078			1203			847			601	
Approach Delay, s/veh		396.3			35.7			40.1			79.2	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	40.3	27.3	19.5	12.0	36.7	8.9	37.9
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	6.5	35.1	24.5	14.3	7.4	34.2	5.0	* 34
Max Q Clear Time (g_c+I1), s	4.7	8.3	22.5	16.3	9.4	27.8	5.3	11.0
Green Ext Time (p_c), s	0.0	2.5	0.2	0.0	0.0	3.7	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	148.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	4	5	101	8	69	7	23	740	32	26	202	27
Future Vol, veh/h	9	4	5	101	8	69	7	23	740	32	26	202	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	92	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	4	5	109	9	74	8	25	796	34	28	217	29

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	757	1185	123	1047	1182	416	246	246	0	0	831	0	0
Stage 1	288	288	-	880	880	-	-	-	-	-	-	-	-
Stage 2	469	897	-	167	302	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	300	191	911	185	191	591	1012	1332	-	-	810	-	-
Stage 1	701	677	-	312	368	-	-	-	-	-	-	-	-
Stage 2	549	361	-	824	668	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	244	179	911	173	179	590	1238	1238	-	-	809	-	-
Mov Cap-2 Maneuver	341	264	-	255	279	-	-	-	-	-	-	-	-
Stage 1	683	653	-	304	358	-	-	-	-	-	-	-	-
Stage 2	456	351	-	786	645	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.9	30.1	0.3	1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1238	-	-	383	329	809	-	-
HCM Lane V/C Ratio	0.026	-	-	0.051	0.582	0.035	-	-
HCM Control Delay (s)	8	-	-	14.9	30.1	9.6	-	-
HCM Lane LOS	A	-	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	3.5	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	2	8	40	6	28	47	772	15	10	261	39
Future Vol, veh/h	14	2	8	40	6	28	47	772	15	10	261	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	2	9	43	7	30	51	839	16	11	284	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	852	1286	163	1116	1299	430	326	0	0	857	0	0
Stage 1	327	327	-	951	951	-	-	-	-	-	-	-
Stage 2	525	959	-	165	348	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	256	166	859	165	163	579	1245	-	-	792	-	-
Stage 1	665	651	-	283	341	-	-	-	-	-	-	-
Stage 2	509	338	-	826	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	228	157	859	155	154	578	1245	-	-	790	-	-
Mov Cap-2 Maneuver	336	251	-	230	252	-	-	-	-	-	-	-
Stage 1	638	642	-	271	326	-	-	-	-	-	-	-
Stage 2	453	323	-	804	629	-	-	-	-	-	-	-

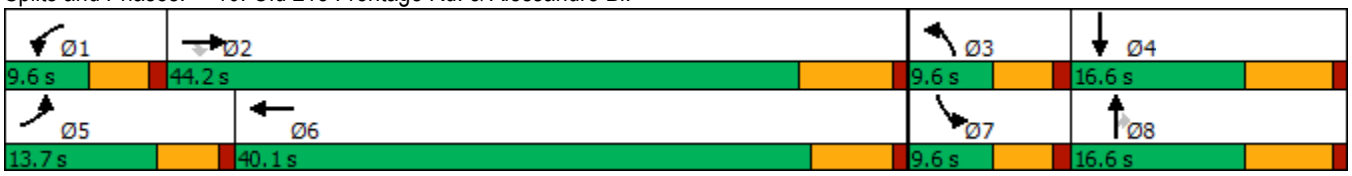
Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	21.3	0.5	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1245	-	-	407	301	790	-	-
HCM Lane V/C Ratio	0.041	-	-	0.064	0.267	0.014	-	-
HCM Control Delay (s)	8	-	-	14.5	21.3	9.6	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	757	22	34	1224	140	112	361	17	27	29	263
Future Volume (vph)	407	757	22	34	1224	140	112	361	17	27	29	263
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	43.5	43.5	9.6	15.8		9.6	16.2	16.2	9.6	16.2	
Total Split (s)	13.7	44.2	44.2	9.6	40.1		9.6	16.6	16.6	9.6	16.6	
Total Split (%)	17.1%	55.3%	55.3%	12.0%	50.1%		12.0%	20.8%	20.8%	12.0%	20.8%	
Yellow Time (s)	3.6	5.5	5.5	3.6	4.8		3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.5	6.5	4.6	5.8		4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Act Effct Green (s)	9.2	39.7	39.7	5.1	29.9	69.8	8.1	10.5	10.5	5.1	10.3	69.8
Actuated g/C Ratio	0.13	0.57	0.57	0.07	0.43	1.00	0.12	0.15	0.15	0.07	0.15	1.00
v/c Ratio	0.91	0.26	0.02	0.27	0.82	0.09	0.28	0.69	0.05	0.21	0.06	0.17
Control Delay	58.5	9.4	0.0	39.7	23.3	0.1	33.8	37.9	0.2	38.4	29.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	9.4	0.0	39.7	23.3	0.1	33.8	37.9	0.2	38.4	29.5	0.2
LOS	E	A	A	D	C	A	C	D	A	D	C	A
Approach Delay		26.1			21.4			35.7			6.1	
Approach LOS		C			C			D			A	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 69.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 23.6	Intersection LOS: C
Intersection Capacity Utilization 77.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Old 215 Frontage Rd. & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	407	757	22	34	1224	140	112	361	17	27	29	263
Future Volume (veh/h)	407	757	22	34	1224	140	112	361	17	27	29	263
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	420	780	16	35	1262	0	115	372	17	28	30	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	434	2607	809	63	1494		216	490	219	54	375	
Arrive On Green	0.12	0.50	0.50	0.03	0.41	0.00	0.06	0.14	0.14	0.03	0.10	0.00
Sat Flow, veh/h	3510	5187	1610	1810	3610	1610	3510	3610	1610	1810	3610	1610
Grp Volume(v), veh/h	420	780	16	35	1262	0	115	372	17	28	30	0
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1810	1805	1610	1755	1805	1610	1810	1805	1610
Q Serve(g_s), s	8.8	6.5	0.4	1.4	23.2	0.0	2.3	7.3	0.7	1.1	0.6	0.0
Cycle Q Clear(g_c), s	8.8	6.5	0.4	1.4	23.2	0.0	2.3	7.3	0.7	1.1	0.6	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	434	2607	809	63	1494		216	490	219	54	375	
V/C Ratio(X)	0.97	0.30	0.02	0.56	0.84		0.53	0.76	0.08	0.52	0.08	
Avail Cap(c_a), veh/h	434	2655	824	123	1681		238	510	227	123	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.1	10.7	9.2	35.0	19.5	0.0	33.5	30.7	27.8	35.2	29.8	0.0
Incr Delay (d2), s/veh	34.7	0.1	0.0	2.9	3.8	0.0	0.8	6.3	0.2	2.9	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	5.4	1.9	0.1	0.6	9.0	0.0	0.9	3.3	0.2	0.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	10.8	9.2	37.8	23.3	0.0	34.3	37.0	27.9	38.1	29.9	0.0
LnGrp LOS	E	B	A	D	C		C	D	C	D	C	
Approach Vol, veh/h		1216			1297			504			58	
Approach Delay, s/veh		30.1			23.6			36.1			33.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	43.5	9.1	13.9	13.7	37.0	6.8	16.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	* 6.5	4.6	6.2
Max Green Setting (Gmax), s	5.0	37.7	5.0	10.4	9.1	* 34	5.0	10.4
Max Q Clear Time (g_c+I1), s	3.4	8.5	4.3	2.6	10.8	25.2	3.1	9.3
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.0	5.3	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

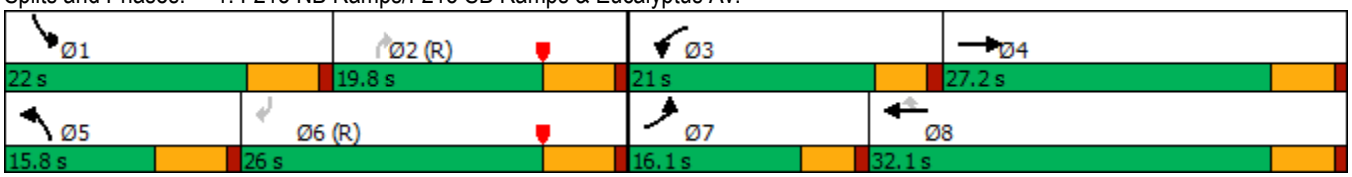
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	106	485	758	513	622	160	600	568	202
Future Volume (vph)	106	485	758	513	622	160	600	568	202
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	23.8
Total Split (s)	16.1	27.2	21.0	32.1	32.1	15.8	19.8	22.0	26.0
Total Split (%)	17.9%	30.2%	23.3%	35.7%	35.7%	17.6%	22.0%	24.4%	28.9%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	9.2	19.8	19.6	32.2	32.2	10.0	12.1	17.1	19.2
Actuated g/C Ratio	0.10	0.22	0.22	0.36	0.36	0.11	0.13	0.19	0.21
v/c Ratio	0.58	0.77	1.01	0.40	0.65	0.42	0.69	0.87	0.41
Control Delay	51.0	38.2	72.9	23.8	5.8	40.9	8.8	51.6	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	38.2	72.9	23.8	5.8	40.9	8.8	51.6	7.1
LOS	D	D	E	C	A	D	A	D	A
Approach Delay		40.1		37.6					
Approach LOS		D		D					

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 34.4 — Intersection LOS: C
Intersection Capacity Utilization 68.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	485	119	758	513	622	160	0	600	568	0	202
Future Volume (veh/h)	106	485	119	758	513	622	160	0	600	568	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	108	495	0	773	523	0	163	0	0	580	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	632		640	1016		1647	0		1647	0	
Arrive On Green	0.08	0.18	0.00	0.18	0.28	0.00	0.47	0.00	0.00	0.47	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	163		3510	580	
Grp Volume(v), veh/h	108	495	0	773	523	0	163	13.3		580	15.3	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	5.3	11.8	0.0	16.4	11.0	0.0	2.3			9.5		
Cycle Q Clear(g_c), s	5.3	11.8	0.0	16.4	11.0	0.0	2.3			9.5		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	137	632		640	1016		1647			1647		
V/C Ratio(X)	0.79	0.78		1.21	0.51		0.10			0.35		
Avail Cap(c_a), veh/h	231	882		640	1079		1647			1647		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.33	0.33	0.00	1.00			1.00		
Uniform Delay (d), s/veh	40.9	35.5	0.0	36.8	27.2	0.0	13.3			15.2		
Incr Delay (d2), s/veh	3.7	3.1	0.0	98.9	0.1	0.0	0.0			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	2.4	5.3	0.0	15.6	4.6	0.0	0.8			3.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	38.6	0.0	135.7	27.3	0.0	13.3			15.3		
LnGrp LOS	D	D		F	C		B			B		
Approach Vol, veh/h		603			1296							
Approach Delay, s/veh		39.7			91.9							
Approach LOS		D			F							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	48.0		21.0	21.0	48.0		11.4	30.5
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	16.2		16.4	22.0	10.0		11.5	26.9
Max Q Clear Time (g_c+I1), s	11.5		18.4	13.8	4.3		7.3	13.0
Green Ext Time (p_c), s	1.0		0.0	2.0	0.2		0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

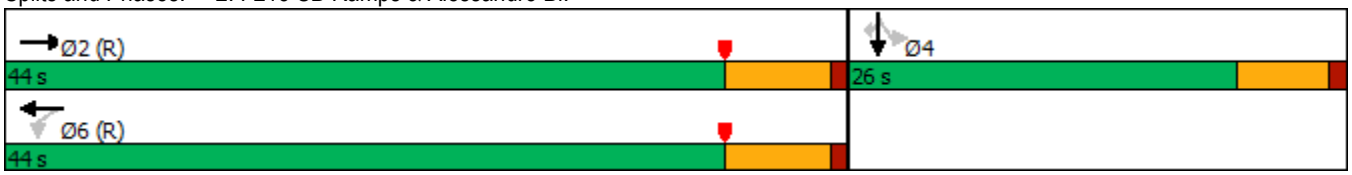
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1510	60	1362	219	0	368
Future Volume (vph)	1510	60	1362	219	0	368
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2		6		4	
Permitted Phases		6		4		4
Detector Phase	2	6	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	28.5	28.5	23.8	23.8	23.8
Total Split (s)	44.0	44.0	44.0	26.0	26.0	26.0
Total Split (%)	62.9%	62.9%	62.9%	37.1%	37.1%	37.1%
Yellow Time (s)	5.5	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	5.8	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	43.2		43.2	14.5	14.5	14.5
Actuated g/C Ratio	0.62		0.62	0.21	0.21	0.21
v/c Ratio	0.61		0.65	0.56	0.56	0.54
Control Delay	9.2		11.1	30.3	23.1	22.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	9.2		11.1	30.3	23.1	22.6
LOS	A		B	C	C	C
Approach Delay	9.2		11.1		25.3	
Approach LOS	A		B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 93.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1510	397	60	1362	114	0	0	0	219	0	368
Future Volume (veh/h)	0	1510	397	60	1362	114	0	0	0	219	0	368
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1525	401	61	1376	0				294	0	152
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2792	728	134	2731					517	0	230
Arrive On Green	0.00	0.68	0.68	1.00	1.00	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	4269	1068	108	4163	0				3619	0	1610
Grp Volume(v), veh/h	0	1285	641	342	1095	0				294	0	152
Grp Sat Flow(s),veh/h/ln	0	1729	1708	968	1573	0				1810	0	1610
Q Serve(g_s), s	0.0	13.2	13.4	6.3	0.0	0.0				5.3	0.0	6.3
Cycle Q Clear(g_c), s	0.0	13.2	13.4	19.8	0.0	0.0				5.3	0.0	6.3
Prop In Lane	0.00		0.63	0.18		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2356	1164	720	2144					517	0	230
V/C Ratio(X)	0.00	0.55	0.55	0.48	0.51					0.57	0.00	0.66
Avail Cap(c_a), veh/h	0	2356	1164	720	2144					1044	0	465
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.72	0.72	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.7	5.7	0.5	0.0	0.0				28.0	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.9	1.9	1.6	0.6	0.0				1.0	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	2.9	0.3	0.2	0.0				2.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.6	7.6	2.1	0.6	0.0				29.0	0.0	31.6
LnGrp LOS	A	A	A	A	A					C	A	C
Approach Vol, veh/h		1926			1437						446	
Approach Delay, s/veh		6.9			1.0						29.9	
Approach LOS		A			A						C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		54.2		15.8		54.2
Change Period (Y+Rc), s		6.5		5.8		6.5
Max Green Setting (Gmax), s		37.5		20.2		37.5
Max Q Clear Time (g_c+I1), s		15.4		8.3		21.8
Green Ext Time (p_c), s		13.2		1.2		9.0

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

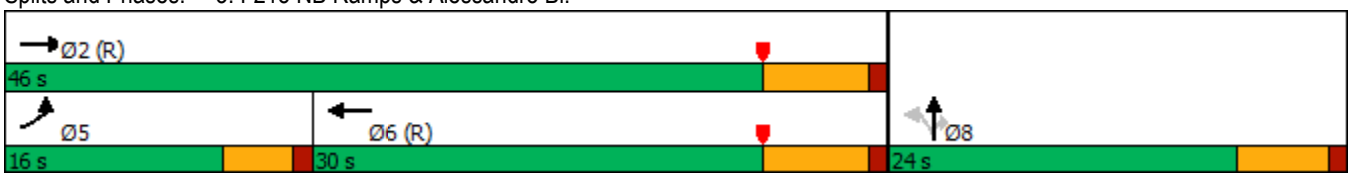
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	176	1553	1005	530	5	167
Future Volume (vph)	176	1553	1005	530	5	167
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				8		8
Detector Phase	5	2	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	24.5	28.5	23.8	23.8	23.8
Total Split (s)	16.0	46.0	30.0	24.0	24.0	24.0
Total Split (%)	22.9%	65.7%	42.9%	34.3%	34.3%	34.3%
Yellow Time (s)	3.6	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	5.8	5.8	5.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Min	C-Min	Min	Min	Min
Act Effct Green (s)	10.1	41.8	27.1	15.9	15.9	15.9
Actuated g/C Ratio	0.14	0.60	0.39	0.23	0.23	0.23
v/c Ratio	0.70	0.52	0.63	0.73	0.76	0.35
Control Delay	48.0	5.2	19.0	36.2	38.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	5.2	19.0	36.2	38.3	8.8
LOS	D	A	B	D	D	A
Approach Delay		9.5	19.0		31.2	
Approach LOS		A	B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	1553	0	0	1005	206	530	5	167	0	0	0
Future Volume (veh/h)	176	1553	0	0	1005	206	530	5	167	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	181	1601	0	0	1036	175	581	0	72			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	218	3241	0	0	1959	330	722	0	321			
Arrive On Green	0.24	1.00	0.00	0.00	0.44	0.44	0.20	0.00	0.20			
Sat Flow, veh/h	1810	5358	0	0	4639	754	3619	0	1610			
Grp Volume(v), veh/h	181	1601	0	0	801	410	581	0	72			
Grp Sat Flow(s),veh/h/ln	1810	1729	0	0	1729	1764	1810	0	1610			
Q Serve(g_s), s	6.6	0.0	0.0	0.0	11.9	11.9	10.7	0.0	2.6			
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.0	11.9	11.9	10.7	0.0	2.6			
Prop In Lane	1.00		0.00	0.00		0.43	1.00		1.00			
Lane Grp Cap(c), veh/h	218	3241	0	0	1516	773	722	0	321			
V/C Ratio(X)	0.83	0.49	0.00	0.00	0.53	0.53	0.80	0.00	0.22			
Avail Cap(c_a), veh/h	295	3241	0	0	1516	773	941	0	419			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	0.83	0.83	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.9	0.0	0.0	0.0	14.4	14.4	26.7	0.0	23.5			
Incr Delay (d2), s/veh	8.0	0.4	0.0	0.0	1.1	2.2	3.9	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.7	0.1	0.0	0.0	3.8	4.1	4.6	0.0	0.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	0.4	0.0	0.0	15.5	16.5	30.7	0.0	23.8			
LnGrp LOS	C	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		1782			1211			653				
Approach Delay, s/veh		3.8			15.8			29.9				
Approach LOS		A			B			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.2			13.0	37.2		19.8				
Change Period (Y+Rc), s		6.5			4.6	6.5		5.8				
Max Green Setting (Gmax), s		39.5			11.4	23.5		18.2				
Max Q Clear Time (g_c+I1), s		2.0			8.6	13.9		12.7				
Green Ext Time (p_c), s		13.8			0.1	4.8		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

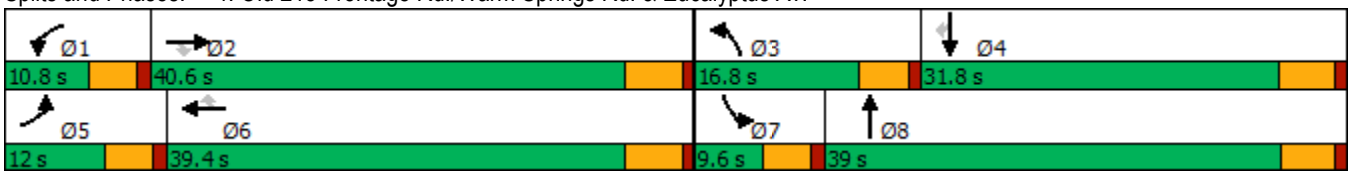
12/12/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	616	865	175	43	558	105	215	259	135	294	1121
Future Volume (vph)	616	865	175	43	558	105	215	259	135	294	1121
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	15.2
Total Split (s)	12.0	40.6	40.6	10.8	39.4	39.4	16.8	39.0	9.6	31.8	31.8
Total Split (%)	12.0%	40.6%	40.6%	10.8%	39.4%	39.4%	16.8%	39.0%	9.6%	31.8%	31.8%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	7.5	31.6	31.6	5.8	25.5	25.5	12.3	34.3	5.0	26.8	26.8
Actuated g/C Ratio	0.08	0.34	0.34	0.06	0.28	0.28	0.13	0.37	0.05	0.29	0.29
v/c Ratio	2.26	0.73	0.27	0.39	0.58	0.19	0.93	0.27	1.42	0.55	1.04
Control Delay	600.6	30.8	4.6	54.6	30.4	1.3	84.9	19.5	276.1	33.8	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	600.6	30.8	4.6	54.6	30.4	1.3	84.9	19.5	276.1	33.8	60.0
LOS	F	C	A	D	C	A	F	B	F	C	E
Approach Delay		240.1			27.5			44.9		73.9	
Approach LOS		F			C			D		E	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 91.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.26
Intersection Signal Delay: 124.6 — Intersection LOS: F
Intersection Capacity Utilization 79.9% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	616	865	175	43	558	105	215	259	80	135	294	1121
Future Volume (veh/h)	616	865	175	43	558	105	215	259	80	135	294	1121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	642	901	115	45	581	93	224	270	56	141	306	842
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	290	1122	500	68	959	421	246	1125	230	101	564	841
Arrive On Green	0.08	0.31	0.31	0.04	0.27	0.27	0.14	0.38	0.38	0.06	0.30	0.30
Sat Flow, veh/h	3510	3610	1610	1810	3610	1586	1810	2984	609	1810	1900	2834
Grp Volume(v), veh/h	642	901	115	45	581	93	224	162	164	141	306	842
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1586	1810	1805	1788	1810	1900	1417
Q Serve(g_s), s	7.4	20.5	4.8	2.2	12.6	4.1	10.9	5.5	5.7	5.0	12.1	26.6
Cycle Q Clear(g_c), s	7.4	20.5	4.8	2.2	12.6	4.1	10.9	5.5	5.7	5.0	12.1	26.6
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	290	1122	500	68	959	421	246	681	674	101	564	841
V/C Ratio(X)	2.21	0.80	0.23	0.66	0.61	0.22	0.91	0.24	0.24	1.40	0.54	1.00
Avail Cap(c_a), veh/h	290	1426	636	125	1378	605	246	685	678	101	564	841
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	41.1	28.4	22.9	42.6	28.8	25.7	38.2	19.1	19.1	42.3	26.4	31.5
Incr Delay (d2), s/veh	557.6	2.7	0.2	4.0	0.6	0.3	33.5	0.2	0.2	227.6	1.1	31.2
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	25.6	8.9	1.8	1.0	5.3	1.5	7.1	2.3	2.3	8.6	5.4	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	598.7	31.1	23.2	46.6	29.4	25.9	71.7	19.3	19.3	269.9	27.5	62.8
LnGrp LOS	F	C	C	D	C	C	E	B	B	F	C	F
Approach Vol, veh/h		1658			719			550			1289	
Approach Delay, s/veh		250.3			30.0			40.6			77.0	
Approach LOS		F			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	33.0	16.8	31.8	12.0	29.0	9.6	39.0
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	6.2	35.4	12.2	26.6	7.4	34.2	5.0	* 34
Max Q Clear Time (g_c+I1), s	4.2	22.5	12.9	28.6	9.4	14.6	7.0	7.7
Green Ext Time (p_c), s	0.0	5.3	0.0	0.0	0.0	4.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	132.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	21	6	15	58	1	45	2	13	477	75	92	374	5
Future Vol, veh/h	21	6	15	58	1	45	2	13	477	75	92	374	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	6	16	62	1	48	2	14	507	80	98	398	5

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	883	1218	202	979	1180	296	403	403	0	0	589	0	0
Stage 1	597	597	-	581	581	-	-	-	-	-	-	-	-
Stage 2	286	621	-	398	599	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	243	182	811	207	192	706	806	1167	-	-	996	-	-
Stage 1	461	495	-	472	503	-	-	-	-	-	-	-	-
Stage 2	703	482	-	605	494	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	207	161	811	182	170	705	1096	1096	-	-	994	-	-
Mov Cap-2 Maneuver	319	259	-	305	287	-	-	-	-	-	-	-	-
Stage 1	454	446	-	464	494	-	-	-	-	-	-	-	-
Stage 2	644	474	-	527	445	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	17.2	0.2	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1096	-	-	391	404	994	-	-
HCM Lane V/C Ratio	0.015	-	-	0.114	0.274	0.098	-	-
HCM Control Delay (s)	8.3	-	-	15.4	17.2	9	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	1.1	0.3	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	3	18	15	1	23	36	493	25	44	398	11
Future Vol, veh/h	43	3	18	15	1	23	36	493	25	44	398	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	47	3	20	16	1	25	39	536	27	48	433	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	882	1177	223	943	1170	283	445	0	0	564	0	0
Stage 1	535	535	-	629	629	-	-	-	-	-	-	-
Stage 2	347	642	-	314	541	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	244	193	787	220	195	720	1126	-	-	1018	-	-
Stage 1	502	527	-	442	478	-	-	-	-	-	-	-
Stage 2	648	472	-	677	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	220	177	787	200	179	719	1126	-	-	1017	-	-
Mov Cap-2 Maneuver	335	285	-	313	292	-	-	-	-	-	-	-
Stage 1	484	502	-	426	461	-	-	-	-	-	-	-
Stage 2	602	455	-	625	499	-	-	-	-	-	-	-

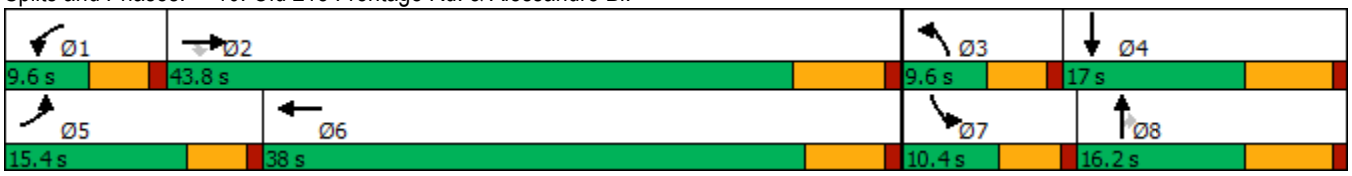
Approach	EB	WB	NB	SB
HCM Control Delay, s	16	13.5	0.5	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1126	-	-	396	468	1017	-	-
HCM Lane V/C Ratio	0.035	-	-	0.176	0.091	0.047	-	-
HCM Control Delay (s)	8.3	-	-	16	13.5	8.7	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.3	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	1354	49	7	839	101	24	108	9	91	126	257
Future Volume (vph)	288	1354	49	7	839	101	24	108	9	91	126	257
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	43.5	43.5	9.6	15.8		9.6	16.2	16.2	9.6	16.2	
Total Split (s)	15.4	43.8	43.8	9.6	38.0		9.6	16.2	16.2	10.4	17.0	
Total Split (%)	19.3%	54.8%	54.8%	12.0%	47.5%		12.0%	20.3%	20.3%	13.0%	21.3%	
Yellow Time (s)	3.6	5.5	5.5	3.6	4.8		3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.5	6.5	4.6	5.8		4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Act Effct Green (s)	9.8	38.7	38.7	5.9	22.8	63.5	5.9	11.8	11.8	6.6	15.9	63.5
Actuated g/C Ratio	0.15	0.61	0.61	0.09	0.36	1.00	0.09	0.19	0.19	0.10	0.25	1.00
v/c Ratio	0.54	0.44	0.05	0.04	0.66	0.06	0.07	0.16	0.02	0.50	0.14	0.16
Control Delay	33.0	11.2	0.1	34.6	21.4	0.1	34.1	29.7	0.1	45.4	26.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	11.2	0.1	34.6	21.4	0.1	34.1	29.7	0.1	45.4	26.3	0.2
LOS	C	B	A	C	C	A	C	C	A	D	C	A
Approach Delay		14.6			19.3			28.6			15.8	
Approach LOS		B			B			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 63.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Old 215 Frontage Rd. & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	1354	49	7	839	101	24	108	9	91	126	257
Future Volume (veh/h)	288	1354	49	7	839	101	24	108	9	91	126	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	294	1382	44	7	856	0	24	110	8	93	129	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	406	2235	685	17	1171		96	506	226	120	647	
Arrive On Green	0.12	0.43	0.43	0.01	0.32	0.00	0.03	0.14	0.14	0.07	0.18	0.00
Sat Flow, veh/h	3510	5187	1590	1810	3610	1610	3510	3610	1610	1810	3610	1610
Grp Volume(v), veh/h	294	1382	44	7	856	0	24	110	8	93	129	0
Grp Sat Flow(s),veh/h/ln	1755	1729	1590	1810	1805	1610	1755	1805	1610	1810	1805	1610
Q Serve(g_s), s	5.0	12.8	1.0	0.2	13.0	0.0	0.4	1.7	0.3	3.1	1.9	0.0
Cycle Q Clear(g_c), s	5.0	12.8	1.0	0.2	13.0	0.0	0.4	1.7	0.3	3.1	1.9	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	406	2235	685	17	1171		96	506	226	120	647	
V/C Ratio(X)	0.72	0.62	0.06	0.42	0.73		0.25	0.22	0.04	0.78	0.20	
Avail Cap(c_a), veh/h	612	3123	957	146	1877		283	583	260	169	647	
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	13.7	10.3	30.5	18.5	0.0	29.5	23.6	23.0	28.5	21.6	0.0
Incr Delay (d2), s/veh	0.9	0.3	0.0	6.2	0.9	0.0	0.5	0.2	0.1	8.2	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	1.8	3.7	0.3	0.1	4.7	0.0	0.2	0.6	0.1	1.5	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	14.0	10.4	36.7	19.4	0.0	30.0	23.8	23.1	36.7	21.8	0.0
LnGrp LOS	C	B	B	D	B		C	C	C	D	C	
Approach Vol, veh/h		1720			863			142			222	
Approach Delay, s/veh		16.2			19.6			24.8			28.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	33.2	6.3	17.3	11.8	26.6	8.7	14.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	* 6.5	4.6	6.2
Max Green Setting (Gmax), s	5.0	37.3	5.0	10.8	10.8	* 32	5.8	10.0
Max Q Clear Time (g_c+I1), s	2.2	14.8	2.4	3.9	7.0	15.0	5.1	3.7
Green Ext Time (p_c), s	0.0	9.4	0.0	0.3	0.2	5.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

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APPENDIX 5.2: OPENING YEAR CUMULATIVE (2025) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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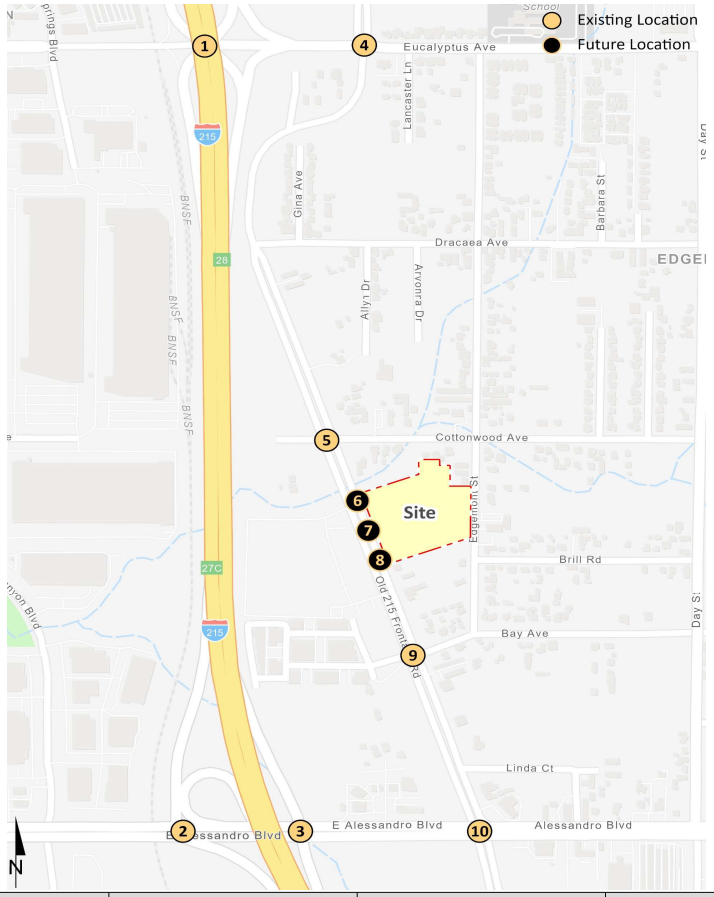


1	I-215 Ramps & Eucalpytus Av.	2	I-215 SB Ramps & Alessandro Bl.	3	I-215 NB Ramps & Alessandro Bl.	4	Old 215 Frontage Rd. & Eucalyptus Av.
16,050	42,150	8,500	41,200	4,350	36,750	30,100	22,450
↲ 202(202)	↳ 502(570)	↲ 304(368)	↳ 282(220)			↲ 618(1121)	↓ 102(294) ↳ 62(135)
↱ 455(635)		↱ 207(124)		↱ 81(206)		↱ 124(105)	
← 899(521)		← 2219(1365)		← 1578(1018)		← 1026(558)	
↰ 688(759)		↰ 16(60)				↰ 54(43)	
↳ 73(106)	↰			↳ 83(176)	↰	↳ 630(616)	↰
→ 243(486)	↑	→ 758(1510)	↑	→ 956(1554)	↑	→ 338(865)	↑
↴ 125(119)	↱	↴ 342(397)	↱		↱	↴ 137(178)	↱
480(160)	359(600)			863(530)	0(5) 324(169)	398(236)	383(259) 97(88)
18,450	19,400	46,450	5,300	41,200	8,950	42,150	13,050

5	Old 215 Frontage Rd. & Cottonwood Av.	6	Old 215 Frontage Rd. & Driveway 1	7	Old 215 Frontage Rd. & Driveway 2	8	Old 215 Frontage Rd. & Driveway 3
12,350	3,350	13,000	100	13,000	200	13,000	100
↲ 27(5) ↓ 229(378) ↳ 26(92)		↓ 337(473)		↓ 337(473)		↓ 337(473)	
↱ 69(45)		↱ 3(13)		↱ 4(26)		↱ 3(13)	
← 8(1)							
↰ 101(58)							
↳ 9(21)	↰						
→ 4(6)	↑		↑		↑		↑
↴ 5(15)	↱		↱		↱		↱
34(38)	745(506) 32(75)		809(605) 15(3)		820(582) 30(4)		847(573) 15(3)
750	12,900	13,000	13,000	13,000	13,000	13,000	13,000

9	Old 215 Frontage Rd. & Bay Av.	10	Old 215 Frontage Rd. & Alessandro Bl.
12,550	1,500	12,400	30,650
↲ 39(11) ↓ 265(421) ↳ 37(48)		↲ 265(270) ↓ 30(131) ↳ 28(96)	
↱ 34(24)		↱ 146(102)	
← 6(1)		← 1224(839)	
↰ 40(15)		↰ 34(7)	
↳ 14(43)	↰	↳ 423(291)	↰
→ 2(3)	↑	→ 757(1354)	↑
↴ 8(18)	↱	↴ 22(49)	↱
47(36)	800(498) 15(25)	112(24)	112(24) 17(9)
1,200	12,050	34,550	3,750

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

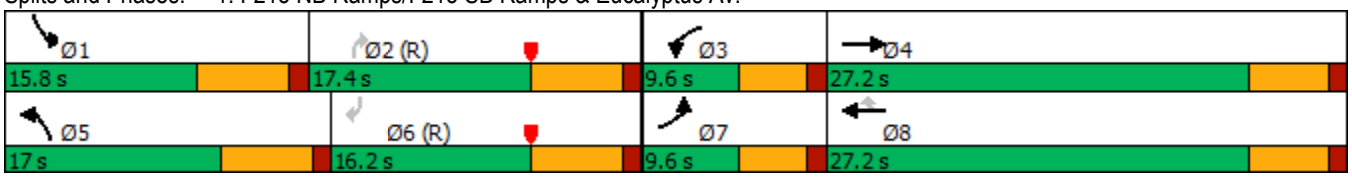
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	73	243	688	899	455	480	359	502	202
Future Volume (vph)	73	243	688	899	455	480	359	502	202
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	15.8
Total Split (s)	9.6	27.2	9.6	27.2	27.2	17.0	17.4	15.8	16.2
Total Split (%)	13.7%	38.9%	13.7%	38.9%	38.9%	24.3%	24.9%	22.6%	23.1%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	5.2	19.6	5.3	21.6	21.6	11.3	12.4	11.3	12.3
Actuated g/C Ratio	0.07	0.28	0.08	0.31	0.31	0.16	0.18	0.16	0.18
v/c Ratio	0.55	0.36	2.64	0.82	0.57	0.86	0.47	0.91	0.46
Control Delay	48.8	13.3	767.1	29.9	5.1	46.5	5.4	54.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	13.3	767.1	29.9	5.1	46.5	5.4	54.0	9.2
LOS	D	B	F	C	A	D	A	D	A
Approach Delay		19.1		272.8					
Approach LOS		B		F					

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.64
Intersection Signal Delay: 152.8 — Intersection LOS: F
Intersection Capacity Utilization 63.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	243	125	688	899	455	480	0	359	502	0	202
Future Volume (veh/h)	73	243	125	688	899	455	480	0	359	502	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	74	248	0	702	917	0	490	0	0	512	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1001		251	1062		1504	0		1504	0	
Arrive On Green	0.05	0.28	0.00	0.07	0.29	0.00	0.43	0.00	0.00	0.43	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	490		3510	512	
Grp Volume(v), veh/h	74	248	0	702	917	0	490	13.4		512	13.5	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	2.8	3.7	0.0	5.0	16.8	0.0	6.5			6.8		
Cycle Q Clear(g_c), s	2.8	3.7	0.0	5.0	16.8	0.0	6.5			6.8		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	99	1001		251	1062		1504			1504		
V/C Ratio(X)	0.75	0.25		2.80	0.86		0.33			0.34		
Avail Cap(c_a), veh/h	129	1135		251	1135		1504			1504		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.32	0.32	0.00	1.00			1.00		
Uniform Delay (d), s/veh	32.6	19.6	0.0	32.5	23.4	0.0	13.3			13.4		
Incr Delay (d2), s/veh	10.7	0.1	0.0	813.4	2.3	0.0	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.5	1.5	0.0	30.3	6.9	0.0	2.2			2.3		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	19.8	0.0	845.9	25.7	0.0	13.4			13.5		
LnGrp LOS	D	B		F	C		B			B		
Approach Vol, veh/h		322			1619							
Approach Delay, s/veh		25.2			381.3							
Approach LOS		C			F							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	35.8		9.6	24.6	35.8		8.4	25.8
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	10.0		5.0	22.0	11.2		5.0	22.0
Max Q Clear Time (g_c+I1), s	8.8		7.0	5.7	8.5		4.8	18.8
Green Ext Time (p_c), s	0.3		0.0	1.3	0.5		0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	217.1
HCM 6th LOS	F

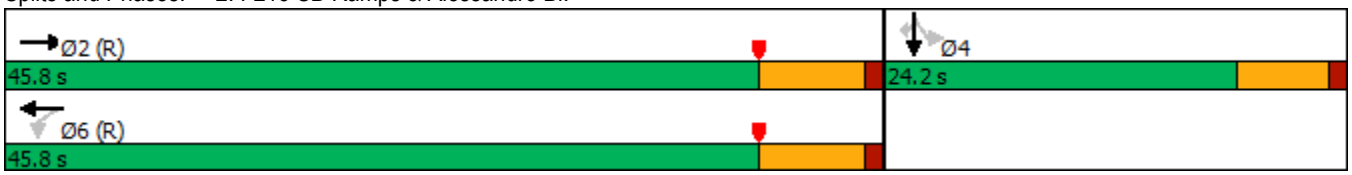
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	758	16	2219	282	0	304
Future Volume (vph)	758	16	2219	282	0	304
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2		6		4	
Permitted Phases		6		4		4
Detector Phase	2	6	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	28.5	28.5	23.8	23.8	23.8
Total Split (s)	45.8	45.8	45.8	24.2	24.2	24.2
Total Split (%)	65.4%	65.4%	65.4%	34.6%	34.6%	34.6%
Yellow Time (s)	5.5	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	5.8	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	43.3		43.3	14.4	14.4	14.4
Actuated g/C Ratio	0.62		0.62	0.21	0.21	0.21
v/c Ratio	0.35		0.85	0.59	0.55	0.54
Control Delay	5.5		16.8	31.6	23.2	22.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.5		16.8	31.6	23.2	22.5
LOS	A		B	C	C	C
Approach Delay	5.5		16.8		25.9	
Approach LOS	A		B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	758	342	16	2219	207	0	0	0	282	0	304
Future Volume (veh/h)	0	758	342	16	2219	207	0	0	0	282	0	304
Initial Q (Qb), veh	0	0	0	0	50	0				0	0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	773	349	16	2264	0				366	0	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2376	1064	60	3394					530	0	236
Arrive On Green	0.00	0.68	0.68	0.68	0.68	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	3676	1570	12	5157	0				3619	0	1610
Grp Volume(v), veh/h	0	763	359	852	1428	0				366	0	167
Grp Sat Flow(s),veh/h/ln	0	1729	1617	1867	1573	0				1810	0	1610
Q Serve(g_s), s	0.0	6.4	6.4	0.0	18.7	0.0				6.7	0.0	6.9
Cycle Q Clear(g_c), s	0.0	6.4	6.4	18.3	18.7	0.0				6.7	0.0	6.9
Prop In Lane	0.00		0.97	0.02		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2344	1096	1320	2133					530	0	236
V/C Ratio(X)	0.00	0.33	0.33	0.65	0.67					0.69	0.00	0.71
Avail Cap(c_a), veh/h	0	2344	1096	1318	2133					951	0	423
HCM Platoon Ratio	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	0.45	0.45	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.7	4.7	7.4	7.5	0.0				28.4	0.0	28.5
Incr Delay (d2), s/veh	0.0	0.4	0.8	1.1	0.8	0.0				1.6	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	3.2	5.3	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	1.3	6.0	5.6	0.0				2.8	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.0	5.5	11.7	13.6	0.0				30.0	0.0	32.4
LnGrp LOS	A	A	A	B	B					C	A	C
Approach Vol, veh/h		1122			2280						533	
Approach Delay, s/veh		5.2			12.9						30.7	
Approach LOS		A			B						C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		54.0		16.0		54.0
Change Period (Y+Rc), s		6.5		5.8		6.5
Max Green Setting (Gmax), s		39.3		18.4		39.3
Max Q Clear Time (g_c+I1), s		8.4		8.9		20.7
Green Ext Time (p_c), s		7.6		1.3		13.7

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

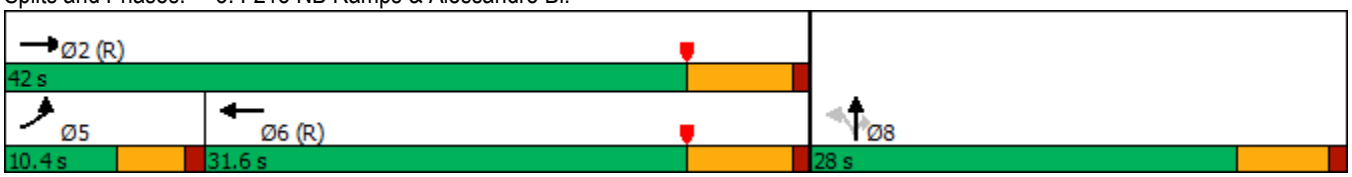
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	83	956	1578	863	0	324
Future Volume (vph)	83	956	1578	863	0	324
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				8		8
Detector Phase	5	2	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	28.5	15.8	15.8	15.8
Total Split (s)	10.4	42.0	31.6	28.0	28.0	28.0
Total Split (%)	14.9%	60.0%	45.1%	40.0%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	5.8	5.8	5.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Min	C-Min	Min	Min	Min
Act Effct Green (s)	5.6	36.3	28.0	21.4	21.4	21.4
Actuated g/C Ratio	0.08	0.52	0.40	0.31	0.31	0.31
v/c Ratio	0.59	0.36	0.82	0.88	0.78	0.54
Control Delay	46.3	11.2	24.4	43.0	26.5	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	11.2	24.4	43.0	26.5	15.1
LOS	D	B	C	D	C	B
Approach Delay		14.0	24.4		29.9	
Approach LOS		B	C		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 25.1 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 78.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	956	0	0	1578	81	863	0	324	0	0	0
Future Volume (veh/h)	83	956	0	0	1578	81	863	0	324	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	85	976	0	0	1610	71	952	0	152			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	110	2734	0	0	2038	90	1076	0	479			
Arrive On Green	0.02	0.17	0.00	0.00	0.40	0.40	0.30	0.00	0.30			
Sat Flow, veh/h	1810	5358	0	0	5261	224	3619	0	1610			
Grp Volume(v), veh/h	85	976	0	0	1094	587	952	0	152			
Grp Sat Flow(s),veh/h/ln	1810	1729	0	0	1729	1856	1810	0	1610			
Q Serve(g_s), s	3.3	11.6	0.0	0.0	19.4	19.4	17.6	0.0	5.1			
Cycle Q Clear(g_c), s	3.3	11.6	0.0	0.0	19.4	19.4	17.6	0.0	5.1			
Prop In Lane	1.00		0.00	0.00		0.12	1.00		1.00			
Lane Grp Cap(c), veh/h	110	2734	0	0	1385	743	1076	0	479			
V/C Ratio(X)	0.77	0.36	0.00	0.00	0.79	0.79	0.89	0.00	0.32			
Avail Cap(c_a), veh/h	150	2734	0	0	1385	743	1148	0	511			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.8	18.5	0.0	0.0	18.4	18.4	23.5	0.0	19.1			
Incr Delay (d2), s/veh	9.5	0.3	0.0	0.0	3.3	5.9	8.2	0.0	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			
%ile BackOfQ(50%),veh/ln	1.6	4.5	0.0	0.0	6.7	7.8	7.7	0.0	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	18.8	0.0	0.0	21.7	24.3	31.6	0.0	19.5			
LnGrp LOS	D	B	A	A	C	C	C	A	B			
Approach Vol, veh/h		1061			1681			1104				
Approach Delay, s/veh		20.8			22.6			29.9				
Approach LOS		C			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.4			8.9	34.5		26.6				
Change Period (Y+Rc), s		6.5			4.6	6.5		5.8				
Max Green Setting (Gmax), s		35.5			5.8	25.1		22.2				
Max Q Clear Time (g_c+I1), s		13.6			5.3	21.4		19.6				
Green Ext Time (p_c), s		6.1			0.0	2.8		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

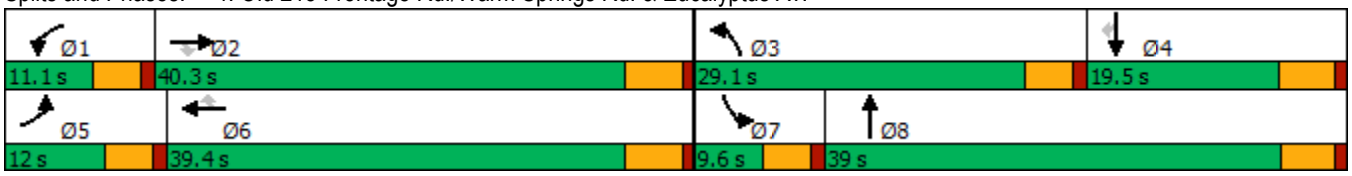
12/12/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	630	338	137	54	1026	124	398	383	62	102	618
Future Volume (vph)	630	338	137	54	1026	124	398	383	62	102	618
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	15.2
Total Split (s)	12.0	40.3	40.3	11.1	39.4	39.4	29.1	39.0	9.6	19.5	19.5
Total Split (%)	12.0%	40.3%	40.3%	11.1%	39.4%	39.4%	29.1%	39.0%	9.6%	19.5%	19.5%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	7.4	35.8	35.8	6.1	32.3	32.3	23.3	34.8	5.0	14.1	14.1
Actuated g/C Ratio	0.08	0.37	0.37	0.06	0.33	0.33	0.24	0.36	0.05	0.15	0.15
v/c Ratio	2.36	0.26	0.20	0.48	0.86	0.19	0.93	0.38	0.68	0.37	0.94
Control Delay	649.5	23.0	2.3	59.7	38.9	1.9	65.7	23.3	81.3	43.0	45.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	649.5	23.0	2.3	59.7	38.9	1.9	65.7	23.3	81.3	43.0	45.4
LOS	F	C	A	E	D	A	E	C	F	D	D
Approach Delay		377.8			36.0			42.5		47.9	
Approach LOS		F			D			D		D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 96.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.36
Intersection Signal Delay: 134.9 — Intersection LOS: F
Intersection Capacity Utilization 93.1% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	338	137	54	1026	124	398	383	97	62	102	618
Future Volume (veh/h)	630	338	137	54	1026	124	398	383	97	62	102	618
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	636	341	125	55	1036	115	402	387	63	63	103	435
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	271	1323	590	73	1188	530	434	1070	173	81	284	423
Arrive On Green	0.08	0.37	0.37	0.04	0.33	0.33	0.24	0.34	0.34	0.04	0.15	0.15
Sat Flow, veh/h	3510	3610	1610	1810	3610	1610	1810	3112	503	1810	1900	2834
Grp Volume(v), veh/h	636	341	125	55	1036	115	402	223	227	63	103	435
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1610	1810	1805	1810	1810	1900	1417
Q Serve(g_s), s	7.4	6.3	5.1	2.9	25.9	4.9	20.8	8.9	9.0	3.3	4.7	14.3
Cycle Q Clear(g_c), s	7.4	6.3	5.1	2.9	25.9	4.9	20.8	8.9	9.0	3.3	4.7	14.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	271	1323	590	73	1188	530	434	621	622	81	284	423
V/C Ratio(X)	2.34	0.26	0.21	0.76	0.87	0.22	0.93	0.36	0.36	0.77	0.36	1.03
Avail Cap(c_a), veh/h	271	1323	590	123	1289	575	463	641	642	94	284	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	21.2	20.8	45.5	30.2	23.2	35.6	23.5	23.6	45.3	36.6	40.7
Incr Delay (d2), s/veh	616.6	0.1	0.2	5.9	6.4	0.2	23.4	0.4	0.4	23.8	0.8	51.1
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	26.4	2.6	1.9	1.4	11.8	1.9	11.8	3.8	3.8	2.0	2.2	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	660.8	21.3	21.0	51.4	36.6	23.4	59.0	23.9	23.9	69.0	37.4	91.9
LnGrp LOS	F	C	C	D	D	C	E	C	C	E	D	F
Approach Vol, veh/h		1102			1206			852			601	
Approach Delay, s/veh		390.4			36.0			40.5			80.2	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	40.3	27.5	19.5	12.0	36.7	8.9	38.1
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	6.5	35.1	24.5	14.3	7.4	34.2	5.0	* 34
Max Q Clear Time (g_c+I1), s	4.9	8.3	22.8	16.3	9.4	27.9	5.3	11.0
Green Ext Time (p_c), s	0.0	2.6	0.1	0.0	0.0	3.7	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	147.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	4	5	101	8	69	11	23	745	32	26	229	27
Future Vol, veh/h	9	4	5	101	8	69	11	23	745	32	26	229	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	92	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	4	5	109	9	74	12	25	801	34	28	246	29

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	796	1227	138	1074	1224	419	275	275	0	0	836	0	0
Stage 1	317	317	-	893	893	-	-	-	-	-	-	-	-
Stage 2	479	910	-	181	331	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	281	180	891	177	181	589	970	1300	-	-	807	-	-
Stage 1	674	658	-	307	363	-	-	-	-	-	-	-	-
Stage 2	542	356	-	809	649	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	228	168	891	165	169	588	1168	1168	-	-	806	-	-
Mov Cap-2 Maneuver	328	256	-	248	270	-	-	-	-	-	-	-	-
Stage 1	652	635	-	297	351	-	-	-	-	-	-	-	-
Stage 2	447	344	-	771	626	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	31.5	0.3	0.9
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1168	-	-	370	321	806	-	-
HCM Lane V/C Ratio	0.031	-	-	0.052	0.596	0.035	-	-
HCM Control Delay (s)	8.2	-	-	15.3	31.5	9.6	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	3.6	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	3	809	15	0	337
Future Vol, veh/h	0	3	809	15	0	337
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, %	0	0	0	0	0	0
Mvmt Flow	0	3	879	16	0	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	448	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	564	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	564	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	564	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	820	30	0	337
Future Vol, veh/h	0	4	820	30	0	337
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, %	0	0	0	0	0	0
Mvmt Flow	0	4	891	33	0	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	462	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	552	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	552	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	552	-
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	11.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	847	15	0	337
Future Vol, veh/h	0	3	847	15	0	337
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, %	0	0	0	0	0	0
Mvmt Flow	0	3	921	16	0	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	469	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	546	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	546	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	546	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	11.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	2	8	40	6	34	47	800	15	27	10	265	39
Future Vol, veh/h	14	2	8	40	6	34	47	800	15	27	10	265	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	2	9	43	7	37	51	870	16	29	11	288	42

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	930	1379	165	1207	1392	445	330	0	0	886	888	0	0
Stage 1	389	389	-	982	982	-	-	-	-	-	-	-	-
Stage 2	541	990	-	225	410	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	225	146	857	141	143	566	1241	-	-	399	771	-	-
Stage 1	612	612	-	271	330	-	-	-	-	-	-	-	-
Stage 2	498	327	-	763	599	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	185	127	857	125	124	565	1241	-	-	435	435	-	-
Mov Cap-2 Maneuver	296	215	-	211	228	-	-	-	-	-	-	-	-
Stage 1	587	556	-	259	316	-	-	-	-	-	-	-	-
Stage 2	437	313	-	683	544	-	-	-	-	-	-	-	-

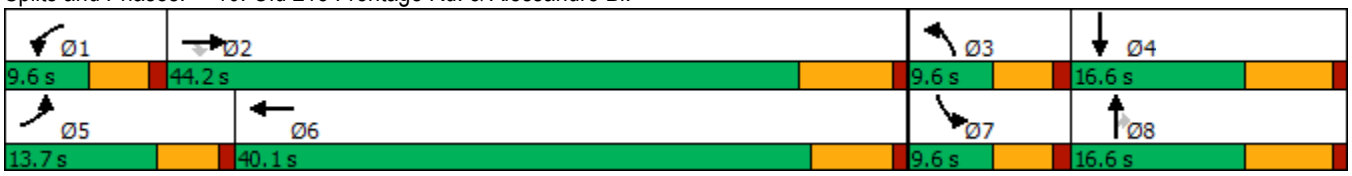
Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	22.6	0.4	1.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1241	-	-	364	290	435	-	-
HCM Lane V/C Ratio	0.041	-	-	0.072	0.3	0.092	-	-
HCM Control Delay (s)	8	-	-	15.7	22.6	14.1	-	-
HCM Lane LOS	A	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.2	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	757	22	34	1224	146	112	367	17	28	30	265
Future Volume (vph)	423	757	22	34	1224	146	112	367	17	28	30	265
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	43.5	43.5	9.6	15.8		9.6	16.2	16.2	9.6	16.2	
Total Split (s)	13.7	44.2	44.2	9.6	40.1		9.6	16.6	16.6	9.6	16.6	
Total Split (%)	17.1%	55.3%	55.3%	12.0%	50.1%		12.0%	20.8%	20.8%	12.0%	20.8%	
Yellow Time (s)	3.6	5.5	5.5	3.6	4.8		3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.5	6.5	4.6	5.8		4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Act Effct Green (s)	9.2	39.7	39.7	5.1	29.9	69.8	8.1	10.5	10.5	5.1	10.3	69.8
Actuated g/C Ratio	0.13	0.57	0.57	0.07	0.43	1.00	0.12	0.15	0.15	0.07	0.15	1.00
v/c Ratio	0.94	0.26	0.02	0.27	0.82	0.09	0.28	0.70	0.05	0.22	0.06	0.17
Control Delay	64.3	9.4	0.0	39.7	23.3	0.1	33.8	38.4	0.2	38.6	29.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	9.4	0.0	39.7	23.3	0.1	33.8	38.4	0.2	38.6	29.5	0.2
LOS	E	A	A	D	C	A	C	D	A	D	C	A
Approach Delay		28.6			21.2			36.0			6.3	
Approach LOS		C			C			D			A	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 69.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Old 215 Frontage Rd. & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	757	22	34	1224	146	112	367	17	28	30	265
Future Volume (veh/h)	423	757	22	34	1224	146	112	367	17	28	30	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	436	780	16	35	1262	0	115	378	17	29	31	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	433	2605	809	63	1493		215	490	218	55	378	
Arrive On Green	0.12	0.50	0.50	0.03	0.41	0.00	0.06	0.14	0.14	0.03	0.10	0.00
Sat Flow, veh/h	3510	5187	1610	1810	3610	1610	3510	3610	1610	1810	3610	1610
Grp Volume(v), veh/h	436	780	16	35	1262	0	115	378	17	29	31	0
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1810	1805	1610	1755	1805	1610	1810	1805	1610
Q Serve(g_s), s	9.1	6.5	0.4	1.4	23.2	0.0	2.3	7.5	0.7	1.2	0.6	0.0
Cycle Q Clear(g_c), s	9.1	6.5	0.4	1.4	23.2	0.0	2.3	7.5	0.7	1.2	0.6	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	433	2605	809	63	1493		215	490	218	55	378	
V/C Ratio(X)	1.01	0.30	0.02	0.56	0.85		0.53	0.77	0.08	0.53	0.08	
Avail Cap(c_a), veh/h	433	2652	823	123	1680		238	509	227	123	509	
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.3	10.7	9.2	35.0	19.5	0.0	33.6	30.8	27.8	35.2	29.8	0.0
Incr Delay (d2), s/veh	44.8	0.1	0.0	2.9	3.8	0.0	0.8	7.0	0.2	2.9	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	6.1	1.9	0.1	0.6	9.0	0.0	0.9	3.4	0.2	0.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	10.8	9.2	37.9	23.3	0.0	34.3	37.7	28.0	38.1	29.9	0.0
LnGrp LOS	F	B	A	D	C		C	D	C	D	C	
Approach Vol, veh/h		1232			1297			510			60	
Approach Delay, s/veh		34.3			23.7			36.6			33.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	43.5	9.1	13.9	13.7	37.0	6.8	16.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	* 6.5	4.6	6.2
Max Green Setting (Gmax), s	5.0	37.7	5.0	10.4	9.1	* 34	5.0	10.4
Max Q Clear Time (g_c+I1), s	3.4	8.5	4.3	2.6	11.1	25.2	3.2	9.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.0	5.2	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

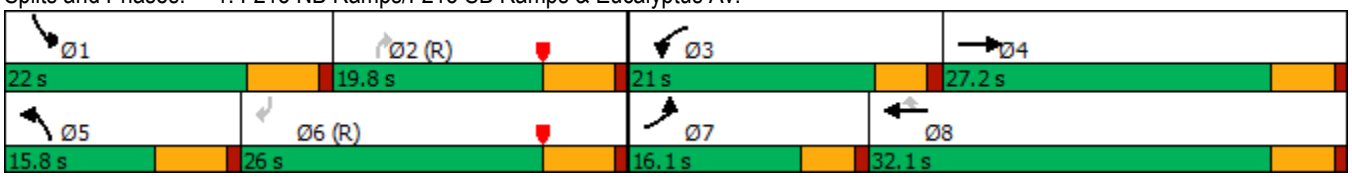
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	106	486	759	521	635	160	600	570	202
Future Volume (vph)	106	486	759	521	635	160	600	570	202
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	23.8
Total Split (s)	16.1	27.2	21.0	32.1	32.1	15.8	19.8	22.0	26.0
Total Split (%)	17.9%	30.2%	23.3%	35.7%	35.7%	17.6%	22.0%	24.4%	28.9%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	9.2	19.8	19.6	32.2	32.2	10.0	12.1	17.1	19.2
Actuated g/C Ratio	0.10	0.22	0.22	0.36	0.36	0.11	0.13	0.19	0.21
v/c Ratio	0.58	0.78	1.02	0.41	0.66	0.42	0.69	0.88	0.41
Control Delay	51.0	38.4	73.3	23.9	5.9	40.9	8.8	51.8	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	38.4	73.3	23.9	5.9	40.9	8.8	51.8	7.1
LOS	D	D	E	C	A	D	A	D	A
Approach Delay		40.2		37.5					
Approach LOS		D		D					

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 34.4 — Intersection LOS: C
Intersection Capacity Utilization 68.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	486	119	759	521	635	160	0	600	570	0	202
Future Volume (veh/h)	106	486	119	759	521	635	160	0	600	570	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	108	496	0	774	532	0	163	0	0	582	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	633		640	1017		1646	0		1646	0	
Arrive On Green	0.08	0.18	0.00	0.18	0.28	0.00	0.47	0.00	0.00	0.47	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	163		3510	582	
Grp Volume(v), veh/h	108	496	0	774	532	0	163	13.3		582	15.3	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	5.3	11.8	0.0	16.4	11.2	0.0	2.3			9.5		
Cycle Q Clear(g_c), s	5.3	11.8	0.0	16.4	11.2	0.0	2.3			9.5		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	137	633		640	1017		1646			1646		
V/C Ratio(X)	0.79	0.78		1.21	0.52		0.10			0.35		
Avail Cap(c_a), veh/h	231	882		640	1079		1646			1646		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.30	0.30	0.00	1.00			1.00		
Uniform Delay (d), s/veh	40.9	35.5	0.0	36.8	27.2	0.0	13.3			15.2		
Incr Delay (d2), s/veh	3.7	3.1	0.0	99.1	0.1	0.0	0.0			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	2.4	5.3	0.0	15.6	4.7	0.0	0.8			3.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	38.6	0.0	135.9	27.4	0.0	13.3			15.3		
LnGrp LOS	D	D		F	C		B			B		
Approach Vol, veh/h		604			1306							
Approach Delay, s/veh		39.7			91.7							
Approach LOS		D			F							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	48.0		21.0	21.0	48.0		11.4	30.6
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	16.2		16.4	22.0	10.0		11.5	26.9
Max Q Clear Time (g_c+I1), s	11.5		18.4	13.8	4.3		7.3	13.2
Green Ext Time (p_c), s	1.0		0.0	2.0	0.2		0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

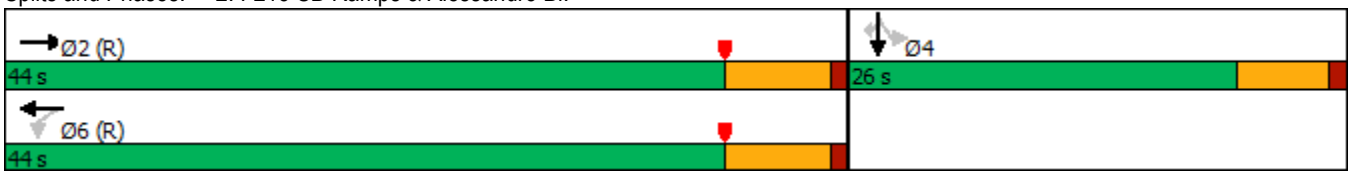
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1510	60	1365	220	0	368
Future Volume (vph)	1510	60	1365	220	0	368
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2		6		4	
Permitted Phases		6		4		4
Detector Phase	2	6	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	28.5	28.5	23.8	23.8	23.8
Total Split (s)	44.0	44.0	44.0	26.0	26.0	26.0
Total Split (%)	62.9%	62.9%	62.9%	37.1%	37.1%	37.1%
Yellow Time (s)	5.5	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	5.8	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	43.1		43.1	14.6	14.6	14.6
Actuated g/C Ratio	0.62		0.62	0.21	0.21	0.21
v/c Ratio	0.61		0.66	0.56	0.56	0.54
Control Delay	9.2		11.3	30.3	23.0	22.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	9.2		11.3	30.3	23.0	22.5
LOS	A		B	C	C	C
Approach Delay	9.2		11.3		25.3	
Approach LOS	A		B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 93.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1510	397	60	1365	124	0	0	0	220	0	368
Future Volume (veh/h)	0	1510	397	60	1365	124	0	0	0	220	0	368
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1525	401	61	1379	0				295	0	152
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2792	728	134	2733					517	0	230
Arrive On Green	0.00	0.68	0.68	1.00	1.00	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	4269	1068	107	4167	0				3619	0	1610
Grp Volume(v), veh/h	0	1285	641	344	1096	0				295	0	152
Grp Sat Flow(s),veh/h/ln	0	1729	1708	972	1573	0				1810	0	1610
Q Serve(g_s), s	0.0	13.2	13.4	6.3	0.0	0.0				5.3	0.0	6.3
Cycle Q Clear(g_c), s	0.0	13.2	13.4	19.7	0.0	0.0				5.3	0.0	6.3
Prop In Lane	0.00		0.63	0.18		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2356	1164	723	2144					517	0	230
V/C Ratio(X)	0.00	0.55	0.55	0.48	0.51					0.57	0.00	0.66
Avail Cap(c_a), veh/h	0	2356	1164	723	2144					1044	0	465
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.7	5.7	0.5	0.0	0.0				28.0	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.9	1.9	1.6	0.6	0.0				1.0	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	2.9	0.3	0.2	0.0				2.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.6	7.6	2.1	0.6	0.0				29.0	0.0	31.6
LnGrp LOS	A	A	A	A	A					C	A	C
Approach Vol, veh/h		1926			1440						447	
Approach Delay, s/veh		6.9			1.0						29.9	
Approach LOS		A			A						C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		54.2		15.8		54.2
Change Period (Y+Rc), s		6.5		5.8		6.5
Max Green Setting (Gmax), s		37.5		20.2		37.5
Max Q Clear Time (g_c+I1), s		15.4		8.3		21.7
Green Ext Time (p_c), s		13.2		1.2		9.0

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

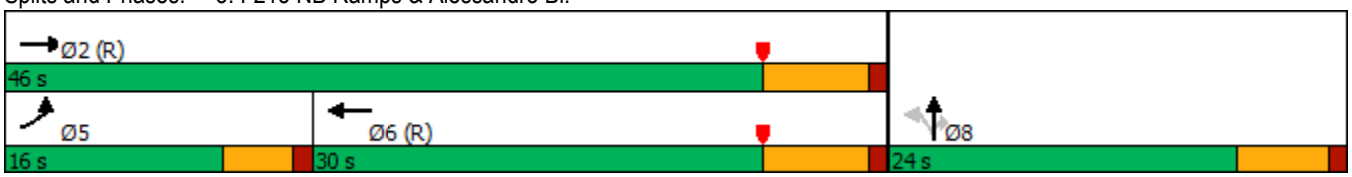
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	176	1554	1018	530	5	169
Future Volume (vph)	176	1554	1018	530	5	169
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				8		8
Detector Phase	5	2	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	24.5	28.5	23.8	23.8	23.8
Total Split (s)	16.0	46.0	30.0	24.0	24.0	24.0
Total Split (%)	22.9%	65.7%	42.9%	34.3%	34.3%	34.3%
Yellow Time (s)	3.6	5.5	5.5	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	5.8	5.8	5.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Min	C-Min	Min	Min	Min
Act Effct Green (s)	10.1	41.6	26.9	16.1	16.1	16.1
Actuated g/C Ratio	0.14	0.59	0.38	0.23	0.23	0.23
v/c Ratio	0.70	0.52	0.64	0.72	0.75	0.35
Control Delay	47.7	5.3	19.2	35.7	37.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	5.3	19.2	35.7	37.6	8.9
LOS	D	A	B	D	D	A
Approach Delay		9.6	19.2		30.6	
Approach LOS		A	B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 64.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	1554	0	0	1018	206	530	5	169	0	0	0
Future Volume (veh/h)	176	1554	0	0	1018	206	530	5	169	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	181	1602	0	0	1049	175	582	0	74			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	218	3239	0	0	1962	327	723	0	322			
Arrive On Green	0.24	1.00	0.00	0.00	0.44	0.44	0.20	0.00	0.20			
Sat Flow, veh/h	1810	5358	0	0	4648	746	3619	0	1610			
Grp Volume(v), veh/h	181	1602	0	0	810	414	582	0	74			
Grp Sat Flow(s),veh/h/ln	1810	1729	0	0	1729	1765	1810	0	1610			
Q Serve(g_s), s	6.6	0.0	0.0	0.0	12.0	12.1	10.7	0.0	2.7			
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.0	12.0	12.1	10.7	0.0	2.7			
Prop In Lane	1.00		0.00	0.00		0.42	1.00		1.00			
Lane Grp Cap(c), veh/h	218	3239	0	0	1515	773	723	0	322			
V/C Ratio(X)	0.83	0.49	0.00	0.00	0.53	0.54	0.81	0.00	0.23			
Avail Cap(c_a), veh/h	295	3239	0	0	1515	773	941	0	419			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	0.83	0.83	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.9	0.0	0.0	0.0	14.4	14.4	26.7	0.0	23.5			
Incr Delay (d2), s/veh	8.0	0.4	0.0	0.0	1.1	2.2	4.0	0.0	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			
%ile BackOfQ(50%),veh/ln	2.7	0.1	0.0	0.0	3.9	4.2	4.6	0.0	1.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	0.4	0.0	0.0	15.6	16.6	30.7	0.0	23.9			
LnGrp LOS	C	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		1783			1224			656				
Approach Delay, s/veh		3.8			15.9			29.9				
Approach LOS		A			B			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.2			13.0	37.2		19.8				
Change Period (Y+Rc), s		6.5			4.6	6.5		5.8				
Max Green Setting (Gmax), s		39.5			11.4	23.5		18.2				
Max Q Clear Time (g_c+I1), s		2.0			8.6	14.1		12.7				
Green Ext Time (p_c), s		13.8			0.1	4.8		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

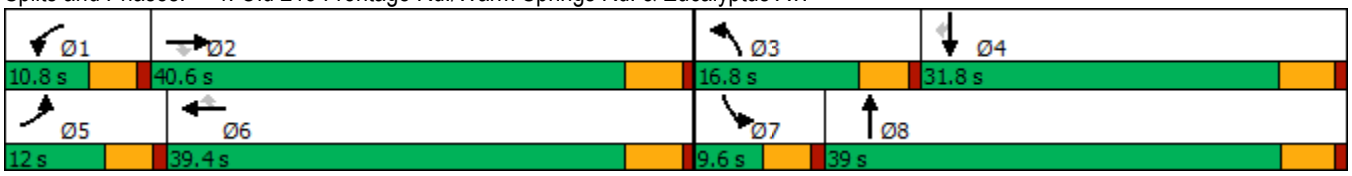
01/04/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	616	865	178	43	558	105	236	259	135	294	1121
Future Volume (vph)	616	865	178	43	558	105	236	259	135	294	1121
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	15.2
Total Split (s)	12.0	40.6	40.6	10.8	39.4	39.4	16.8	39.0	9.6	31.8	31.8
Total Split (%)	12.0%	40.6%	40.6%	10.8%	39.4%	39.4%	16.8%	39.0%	9.6%	31.8%	31.8%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	7.5	31.6	31.6	5.8	25.5	25.5	12.3	34.3	5.0	26.8	26.8
Actuated g/C Ratio	0.08	0.34	0.34	0.06	0.28	0.28	0.13	0.37	0.05	0.29	0.29
v/c Ratio	2.26	0.73	0.27	0.39	0.58	0.19	1.02	0.27	1.42	0.55	1.04
Control Delay	600.6	30.8	4.6	54.6	30.4	1.3	105.8	19.2	276.1	33.8	61.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	600.6	30.8	4.6	54.6	30.4	1.3	105.8	19.2	276.1	33.8	61.5
LOS	F	C	A	D	C	A	F	B	F	C	E
Approach Delay		239.7			27.5			54.2		75.0	
Approach LOS		F			C			D		E	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 91.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.26
Intersection Signal Delay: 125.6 — Intersection LOS: F
Intersection Capacity Utilization 81.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	616	865	178	43	558	105	236	259	88	135	294	1121
Future Volume (veh/h)	616	865	178	43	558	105	236	259	88	135	294	1121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	642	901	118	45	581	93	246	270	65	141	306	842
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	290	1122	500	68	959	421	246	1092	258	101	564	841
Arrive On Green	0.08	0.31	0.31	0.04	0.27	0.27	0.14	0.38	0.38	0.06	0.30	0.30
Sat Flow, veh/h	3510	3610	1610	1810	3610	1586	1810	2894	684	1810	1900	2834
Grp Volume(v), veh/h	642	901	118	45	581	93	246	167	168	141	306	842
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1586	1810	1805	1774	1810	1900	1417
Q Serve(g_s), s	7.4	20.5	4.9	2.2	12.6	4.1	12.2	5.7	5.9	5.0	12.1	26.6
Cycle Q Clear(g_c), s	7.4	20.5	4.9	2.2	12.6	4.1	12.2	5.7	5.9	5.0	12.1	26.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	290	1122	500	68	959	421	246	681	669	101	564	841
V/C Ratio(X)	2.21	0.80	0.24	0.66	0.61	0.22	1.00	0.24	0.25	1.40	0.54	1.00
Avail Cap(c_a), veh/h	290	1426	636	125	1378	605	246	685	673	101	564	841
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	41.1	28.4	23.0	42.6	28.8	25.7	38.7	19.1	19.2	42.3	26.4	31.5
Incr Delay (d2), s/veh	557.7	2.7	0.2	4.0	0.6	0.3	56.9	0.2	0.2	227.7	1.1	31.3
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	25.6	8.9	1.8	1.0	5.3	1.5	9.2	2.4	2.4	8.6	5.4	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	598.8	31.1	23.2	46.6	29.4	25.9	95.6	19.3	19.4	270.0	27.5	62.8
LnGrp LOS	F	C	C	D	C	C	F	B	B	F	C	F
Approach Vol, veh/h		1661			719			581			1289	
Approach Delay, s/veh		250.0			30.0			51.7			77.1	
Approach LOS		F			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	33.0	16.8	31.8	12.0	29.0	9.6	39.0
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	6.2	35.4	12.2	26.6	7.4	34.2	5.0	* 34
Max Q Clear Time (g_c+I1), s	4.2	22.5	14.2	28.6	9.4	14.6	7.0	7.9
Green Ext Time (p_c), s	0.0	5.3	0.0	0.0	0.0	4.0	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	133.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	21	6	15	58	1	45	25	13	506	75	92	378	5
Future Vol, veh/h	21	6	15	58	1	45	25	13	506	75	92	378	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	6	16	62	1	48	27	14	538	80	98	402	5

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	953	1303	204	1062	1265	311	407	407	0	0	620	0	0
Stage 1	601	601	-	662	662	-	-	-	-	-	-	-	-
Stage 2	352	702	-	400	603	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	217	162	809	180	171	691	802	1163	-	-	970	-	-
Stage 1	459	493	-	422	462	-	-	-	-	-	-	-	-
Stage 2	643	443	-	603	492	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	179	139	809	154	146	690	883	883	-	-	968	-	-
Mov Cap-2 Maneuver	289	232	-	270	258	-	-	-	-	-	-	-	-
Stage 1	438	443	-	402	440	-	-	-	-	-	-	-	-
Stage 2	569	422	-	524	442	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	19	0.6	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	883	-	-	359	366	968	-	-
HCM Lane V/C Ratio	0.046	-	-	0.124	0.302	0.101	-	-
HCM Control Delay (s)	9.3	-	-	16.4	19	9.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.3	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	13	605	3	0	473
Future Vol, veh/h	0	13	605	3	0	473
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, %	0	0	0	0	0	0
Mvmt Flow	0	14	658	3	0	514

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	331	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	671	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	671	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	671	-
HCM Lane V/C Ratio	-	-	0.021	-
HCM Control Delay (s)	-	-	10.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	582	4	0	473
Future Vol, veh/h	0	26	582	4	0	473
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, %	0	0	0	0	0	0
Mvmt Flow	0	28	633	4	0	514

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	319	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	683	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	683	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	683	-
HCM Lane V/C Ratio	-	-	0.041	-
HCM Control Delay (s)	-	-	10.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	13	573	3	0	473
Future Vol, veh/h	0	13	573	3	0	473
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, %	0	0	0	0	0	0
Mvmt Flow	0	14	623	3	0	514

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	313	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	689	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	689	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	689	-
HCM Lane V/C Ratio	-	-	0.021	-
HCM Control Delay (s)	-	-	10.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	43	3	18	15	1	24	36	498	25	2	46	421	11
Future Vol, veh/h	43	3	18	15	1	24	36	498	25	2	46	421	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	47	3	20	16	1	26	39	541	27	2	50	458	12

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	917	1215	235	969	1208	285	470	0	0	568	569	0	0
Stage 1	568	568	-	634	634	-	-	-	-	-	-	-	-
Stage 2	349	647	-	335	574	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	230	183	773	211	185	718	1102	-	-	635	1013	-	-
Stage 1	480	510	-	439	476	-	-	-	-	-	-	-	-
Stage 2	646	470	-	658	506	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	206	167	773	190	169	717	1102	-	-	985	985	-	-
Mov Cap-2 Maneuver	322	275	-	304	282	-	-	-	-	-	-	-	-
Stage 1	463	483	-	423	459	-	-	-	-	-	-	-	-
Stage 2	599	453	-	603	479	-	-	-	-	-	-	-	-

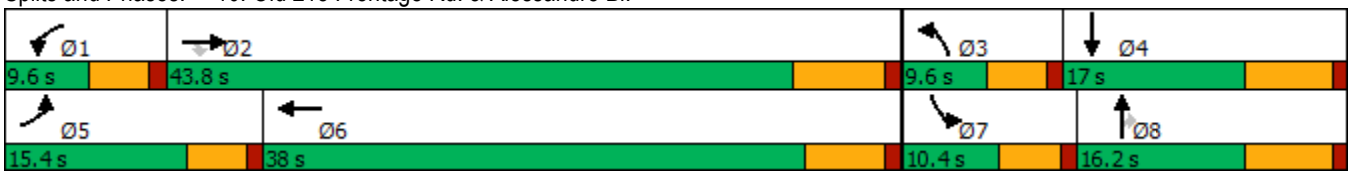
Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	13.6	0.5	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1102	-	-	382	463	985	-	-
HCM Lane V/C Ratio	0.036	-	-	0.182	0.094	0.053	-	-
HCM Control Delay (s)	8.4	-	-	16.5	13.6	8.9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.3	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	1354	49	7	839	102	24	109	9	96	131	270
Future Volume (vph)	291	1354	49	7	839	102	24	109	9	96	131	270
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	43.5	43.5	9.6	15.8		9.6	16.2	16.2	9.6	16.2	
Total Split (s)	15.4	43.8	43.8	9.6	38.0		9.6	16.2	16.2	10.4	17.0	
Total Split (%)	19.3%	54.8%	54.8%	12.0%	47.5%		12.0%	20.3%	20.3%	13.0%	21.3%	
Yellow Time (s)	3.6	5.5	5.5	3.6	4.8		3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.5	6.5	4.6	5.8		4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Act Effct Green (s)	9.9	38.8	38.8	5.9	22.8	63.6	5.9	11.8	11.8	6.7	15.9	63.6
Actuated g/C Ratio	0.16	0.61	0.61	0.09	0.36	1.00	0.09	0.19	0.19	0.11	0.25	1.00
v/c Ratio	0.55	0.44	0.05	0.04	0.66	0.07	0.07	0.17	0.02	0.52	0.15	0.17
Control Delay	33.0	11.2	0.1	34.6	21.5	0.1	34.1	29.8	0.1	46.3	26.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	11.2	0.1	34.6	21.5	0.1	34.1	29.8	0.1	46.3	26.3	0.2
LOS	C	B	A	C	C	A	C	C	A	D	C	A
Approach Delay		14.6			19.3			28.6			16.0	
Approach LOS		B			B			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 63.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Old 215 Frontage Rd. & Alessandro Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	1354	49	7	839	102	24	109	9	96	131	270
Future Volume (veh/h)	291	1354	49	7	839	102	24	109	9	96	131	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	297	1382	44	7	856	0	24	111	8	98	134	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	408	2233	685	17	1168		96	505	225	126	658	
Arrive On Green	0.12	0.43	0.43	0.01	0.32	0.00	0.03	0.14	0.14	0.07	0.18	0.00
Sat Flow, veh/h	3510	5187	1590	1810	3610	1610	3510	3610	1610	1810	3610	1610
Grp Volume(v), veh/h	297	1382	44	7	856	0	24	111	8	98	134	0
Grp Sat Flow(s),veh/h/ln	1755	1729	1590	1810	1805	1610	1755	1805	1610	1810	1805	1610
Q Serve(g_s), s	5.1	12.9	1.0	0.2	13.1	0.0	0.4	1.7	0.3	3.3	2.0	0.0
Cycle Q Clear(g_c), s	5.1	12.9	1.0	0.2	13.1	0.0	0.4	1.7	0.3	3.3	2.0	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	408	2233	685	17	1168		96	505	225	126	658	
V/C Ratio(X)	0.73	0.62	0.06	0.42	0.73		0.25	0.22	0.04	0.78	0.20	
Avail Cap(c_a), veh/h	607	3098	950	145	1862		281	578	258	168	658	
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.6	13.8	10.4	30.8	18.7	0.0	29.7	23.8	23.2	28.6	21.7	0.0
Incr Delay (d2), s/veh	0.9	0.3	0.0	6.2	0.9	0.0	0.5	0.2	0.1	10.4	0.2	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	1.9	3.7	0.3	0.1	4.7	0.0	0.2	0.7	0.1	1.6	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	14.1	10.5	37.0	19.6	0.0	30.3	24.1	23.3	39.0	21.8	0.0
LnGrp LOS	C	B	B	D	B		C	C	C	D	C	
Approach Vol, veh/h		1723			863			143			232	
Approach Delay, s/veh		16.3			19.8			25.0			29.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	33.4	6.3	17.6	11.9	26.7	9.0	14.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	* 6.5	4.6	6.2
Max Green Setting (Gmax), s	5.0	37.3	5.0	10.8	10.8	* 32	5.8	10.0
Max Q Clear Time (g_c+I1), s	2.2	14.9	2.4	4.0	7.1	15.1	5.3	3.7
Green Ext Time (p_c), s	0.0	9.4	0.0	0.3	0.2	5.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

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APPENDIX 5.3: OPENING YEAR CUMULATIVE (2025) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

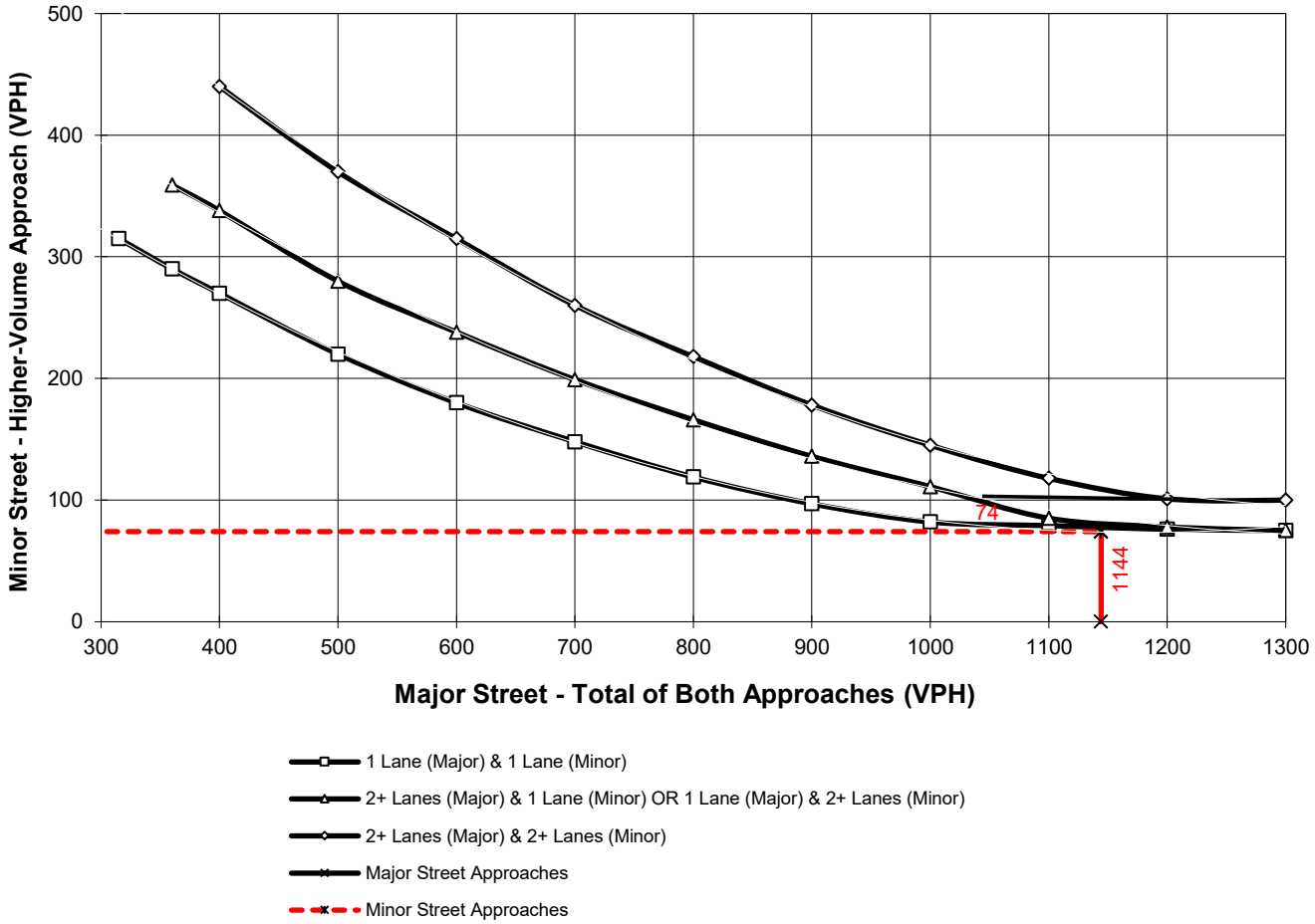
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2025 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Old 215 Frontage Rd.**
Total of Both Approaches (VPH) = **1144**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Bay Av.**
High Volume Approach (VPH) = **74**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 5.4: OPENING YEAR CUMULATIVE (2025) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

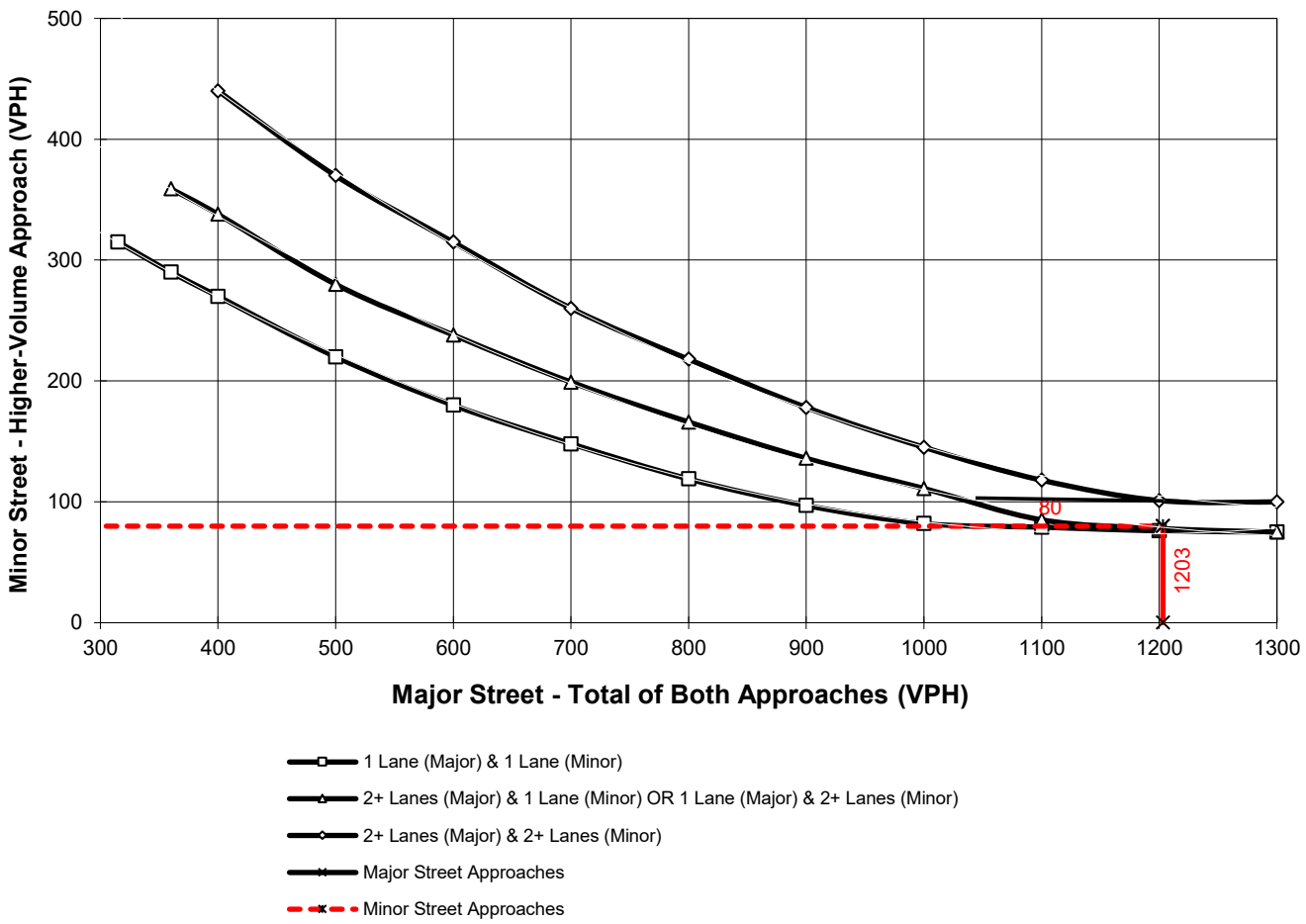
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2025 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Old 215 Frontage Rd.**
Total of Both Approaches (VPH) = **1203**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Bay Av.**
High Volume Approach (VPH) = **80**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 5.5: OPENING YEAR CUMULATIVE (2025) WITHOUT PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	74	367	701	916	461	490	390	497	206
v/c Ratio	0.55	0.35	2.64	0.82	0.56	0.86	0.47	0.91	0.46
Control Delay	48.8	13.0	765.4	29.9	5.1	46.5	5.3	53.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	13.0	765.4	29.9	5.1	46.5	5.3	53.5	9.2
Queue Length 50th (ft)	31	39	~267	188	0	107	0	111	4
Queue Length 95th (ft)	#86	70	#372	#261	60	#187	37	#205	58
Internal Link Dist (ft)		897		901					
Turn Bay Length (ft)	170		270			500	500	535	
Base Capacity (vph)	135	1158	266	1134	823	567	842	549	450
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.32	2.64	0.81	0.56	0.86	0.46	0.91	0.46

Intersection Summary

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

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

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1119	2489	207	198	192
v/c Ratio	0.35	0.85	0.59	0.55	0.54
Control Delay	5.5	16.8	31.6	23.1	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	16.8	31.6	23.1	22.5
Queue Length 50th (ft)	54	404	85	59	54
Queue Length 95th (ft)	89	#507	141	117	108
Internal Link Dist (ft)	715	695		1521	
Turn Bay Length (ft)			500		500
Base Capacity (vph)	3161	2945	450	446	443
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.85	0.46	0.44	0.43

Intersection Summary

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

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	85	972	1691	458	455	286
v/c Ratio	0.59	0.36	0.82	0.88	0.78	0.51
Control Delay	46.3	11.2	24.3	43.0	26.4	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	11.2	24.3	43.0	26.4	14.3
Queue Length 50th (ft)	38	90	247	190	137	54
Queue Length 95th (ft)	#93	134	#346	#354	#291	125
Internal Link Dist (ft)		695	1017		1021	
Turn Bay Length (ft)	200			380		380
Base Capacity (vph)	149	2691	2066	543	604	572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.36	0.82	0.84	0.75	0.50

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	636	341	114	52	1036	125	398	484	63	103	624
v/c Ratio	2.36	0.25	0.16	0.46	0.86	0.19	0.92	0.38	0.68	0.37	0.94
Control Delay	647.1	22.9	1.3	58.5	38.8	1.9	64.8	23.4	81.1	43.0	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	647.1	22.9	1.3	58.5	38.8	1.9	64.8	23.4	81.1	43.0	44.8
Queue Length 50th (ft)	~348	81	0	33	317	0	246	113	40	60	122
Queue Length 95th (ft)	#458	116	9	72	402	16	#420	158	#109	112	#245
Internal Link Dist (ft)		901			625			982		1066	
Turn Bay Length (ft)	300			100		30	150		180		
Base Capacity (vph)	269	1338	708	122	1283	687	460	1276	93	282	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.36	0.25	0.16	0.43	0.81	0.18	0.87	0.38	0.68	0.37	0.92

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	4	5	101	8	69	7	23	740	32	26	202	27
Future Vol, veh/h	9	4	5	101	8	69	7	23	740	32	26	202	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	92	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	4	5	109	9	74	8	25	796	34	28	217	29

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	757	1185	123	1047	1182	416	246	246	0	0	831	0	0
Stage 1	288	288	-	880	880	-	-	-	-	-	-	-	-
Stage 2	469	897	-	167	302	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	300	191	911	185	191	591	1012	1332	-	-	810	-	-
Stage 1	701	677	-	312	368	-	-	-	-	-	-	-	-
Stage 2	549	361	-	824	668	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	244	179	911	173	179	590	1238	1238	-	-	809	-	-
Mov Cap-2 Maneuver	341	264	-	255	279	-	-	-	-	-	-	-	-
Stage 1	683	653	-	304	358	-	-	-	-	-	-	-	-
Stage 2	456	351	-	786	645	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.9	30.1	0.3	1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1238	-	-	383	329	809	-	-
HCM Lane V/C Ratio	0.026	-	-	0.051	0.582	0.035	-	-
HCM Control Delay (s)	8	-	-	14.9	30.1	9.6	-	-
HCM Lane LOS	A	-	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	3.5	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	2	8	40	6	28	47	772	15	10	261	39
Future Vol, veh/h	14	2	8	40	6	28	47	772	15	10	261	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	2	9	43	7	30	51	839	16	11	284	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	852	1286	163	1116	1299	430	326	0	0	857	0	0
Stage 1	327	327	-	951	951	-	-	-	-	-	-	-
Stage 2	525	959	-	165	348	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	256	166	859	165	163	579	1245	-	-	792	-	-
Stage 1	665	651	-	283	341	-	-	-	-	-	-	-
Stage 2	509	338	-	826	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	228	157	859	155	154	578	1245	-	-	790	-	-
Mov Cap-2 Maneuver	336	251	-	230	252	-	-	-	-	-	-	-
Stage 1	638	642	-	271	326	-	-	-	-	-	-	-
Stage 2	453	323	-	804	629	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	21.3	0.5	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1245	-	-	407	301	790	-	-
HCM Lane V/C Ratio	0.041	-	-	0.064	0.267	0.014	-	-
HCM Control Delay (s)	8	-	-	14.5	21.3	9.6	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	420	780	23	35	1262	144	115	372	18	28	30	271
v/c Ratio	0.91	0.26	0.02	0.27	0.82	0.09	0.28	0.69	0.05	0.21	0.06	0.17
Control Delay	58.5	9.4	0.0	39.7	23.3	0.1	33.8	37.9	0.2	38.4	29.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	9.4	0.0	39.7	23.3	0.1	33.8	37.9	0.2	38.4	29.5	0.2
Queue Length 50th (ft)	89	39	0	14	213	0	21	77	0	11	5	0
Queue Length 95th (ft)	#207	111	0	45	368	0	55	#162	0	39	19	0
Internal Link Dist (ft)		1017			1269			1438			1212	
Turn Bay Length (ft)	250		190	200		370	150		150	460		160
Base Capacity (vph)	463	2993	1003	131	1802	1595	404	546	391	131	546	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.26	0.02	0.27	0.70	0.09	0.28	0.68	0.05	0.21	0.05	0.17

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	108	616	773	523	635	163	612	580	206
v/c Ratio	0.58	0.77	1.01	0.40	0.65	0.42	0.69	0.87	0.41
Control Delay	51.0	38.2	72.9	23.8	5.8	40.9	8.8	51.6	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	38.2	72.9	23.8	5.8	40.9	8.8	51.6	7.1
Queue Length 50th (ft)	59	162	225	116	0	45	9	165	0
Queue Length 95th (ft)	109	219	#392	176	86	76	59	#266	53
Internal Link Dist (ft)		897		901					
Turn Bay Length (ft)	170		270			500	500	535	
Base Capacity (vph)	230	880	762	1293	970	389	945	664	532
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.70	1.01	0.40	0.65	0.42	0.65	0.87	0.39

Intersection Summary

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

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1926	1552	199	197	197
v/c Ratio	0.61	0.65	0.56	0.56	0.54
Control Delay	9.2	11.1	30.3	23.1	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	11.1	30.3	23.1	22.6
Queue Length 50th (ft)	147	170	82	59	56
Queue Length 95th (ft)	242	184	130	113	107
Internal Link Dist (ft)	715	695		1521	
Turn Bay Length (ft)			500		500
Base Capacity (vph)	3154	2391	494	469	481
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.65	0.40	0.42	0.41

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	181	1601	1248	284	284	155
v/c Ratio	0.70	0.52	0.63	0.73	0.76	0.35
Control Delay	48.0	5.2	19.0	36.2	38.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	5.2	19.0	36.2	38.3	8.8
Queue Length 50th (ft)	61	63	159	114	118	9
Queue Length 95th (ft)	m#147	85	208	195	#209	53
Internal Link Dist (ft)		695	1017		1021	
Turn Bay Length (ft)	200			380		380
Base Capacity (vph)	293	3095	1994	445	428	492
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.52	0.63	0.64	0.66	0.32

Intersection Summary

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	642	901	182	45	581	109	224	353	141	306	1168
v/c Ratio	2.26	0.73	0.27	0.39	0.58	0.19	0.93	0.27	1.42	0.55	1.04
Control Delay	600.6	30.8	4.6	54.6	30.4	1.3	84.9	19.5	276.1	33.8	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	600.6	30.8	4.6	54.6	30.4	1.3	84.9	19.5	276.1	33.8	60.0
Queue Length 50th (ft)	~336	256	0	27	151	0	139	70	~121	162	~342
Queue Length 95th (ft)	#462	328	44	65	202	7	#300	111	#249	261	#508
Internal Link Dist (ft)		901			625			982		1066	
Turn Bay Length (ft)	300			100		30	150		180		
Base Capacity (vph)	284	1403	739	122	1355	707	242	1323	99	555	1125
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.26	0.64	0.25	0.37	0.43	0.15	0.93	0.27	1.42	0.55	1.04

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	21	6	15	58	1	45	2	13	477	75	92	374	5
Future Vol, veh/h	21	6	15	58	1	45	2	13	477	75	92	374	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	6	16	62	1	48	2	14	507	80	98	398	5

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	883	1218	202	979	1180	296	403	403	0	0	589	0	0
Stage 1	597	597	-	581	581	-	-	-	-	-	-	-	-
Stage 2	286	621	-	398	599	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	243	182	811	207	192	706	806	1167	-	-	996	-	-
Stage 1	461	495	-	472	503	-	-	-	-	-	-	-	-
Stage 2	703	482	-	605	494	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	207	161	811	182	170	705	1096	1096	-	-	994	-	-
Mov Cap-2 Maneuver	319	259	-	305	287	-	-	-	-	-	-	-	-
Stage 1	454	446	-	464	494	-	-	-	-	-	-	-	-
Stage 2	644	474	-	527	445	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	17.2	0.2	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1096	-	-	391	404	994	-	-
HCM Lane V/C Ratio	0.015	-	-	0.114	0.274	0.098	-	-
HCM Control Delay (s)	8.3	-	-	15.4	17.2	9	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	1.1	0.3	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	3	18	15	1	23	36	493	25	44	398	11
Future Vol, veh/h	43	3	18	15	1	23	36	493	25	44	398	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	225	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	47	3	20	16	1	25	39	536	27	48	433	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	882	1177	223	943	1170	283	445	0	0	564	0	0
Stage 1	535	535	-	629	629	-	-	-	-	-	-	-
Stage 2	347	642	-	314	541	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	244	193	787	220	195	720	1126	-	-	1018	-	-
Stage 1	502	527	-	442	478	-	-	-	-	-	-	-
Stage 2	648	472	-	677	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	220	177	787	200	179	719	1126	-	-	1017	-	-
Mov Cap-2 Maneuver	335	285	-	313	292	-	-	-	-	-	-	-
Stage 1	484	502	-	426	461	-	-	-	-	-	-	-
Stage 2	602	455	-	625	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	13.5	0.5	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1126	-	-	396	468	1017	-	-
HCM Lane V/C Ratio	0.035	-	-	0.176	0.091	0.047	-	-
HCM Control Delay (s)	8.3	-	-	16	13.5	8.7	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.3	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	294	1382	50	7	856	103	24	110	9	93	129	262
v/c Ratio	0.54	0.44	0.05	0.04	0.66	0.06	0.07	0.16	0.02	0.50	0.14	0.16
Control Delay	33.0	11.2	0.1	34.6	21.4	0.1	34.1	29.7	0.1	45.4	26.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	11.2	0.1	34.6	21.4	0.1	34.1	29.7	0.1	45.4	26.3	0.2
Queue Length 50th (ft)	62	130	0	3	168	0	5	22	0	40	21	0
Queue Length 95th (ft)	112	218	0	16	229	0	17	50	0	#120	56	0
Internal Link Dist (ft)		1017			1269			1438			1212	
Turn Bay Length (ft)	250		190	200		370	150		150	460		160
Base Capacity (vph)	701	3232	1057	167	2007	1595	324	669	491	194	926	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.43	0.05	0.04	0.43	0.06	0.07	0.16	0.02	0.48	0.14	0.16

Intersection Summary

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

APPENDIX 5.6: OPENING YEAR CUMULATIVE (2025) WITH PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	74	376	702	917	464	490	390	512	206
v/c Ratio	0.55	0.36	2.64	0.82	0.57	0.86	0.47	0.91	0.46
Control Delay	48.8	13.3	767.1	29.9	5.1	46.5	5.4	54.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	13.3	767.1	29.9	5.1	46.5	5.4	54.0	9.2
Queue Length 50th (ft)	31	41	~268	188	0	107	0	~119	4
Queue Length 95th (ft)	#86	73	#373	#262	60	#187	37	#213	58
Internal Link Dist (ft)		897		901					
Turn Bay Length (ft)	170		270			500	500	535	
Base Capacity (vph)	135	1159	266	1134	825	567	832	563	450
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.32	2.64	0.81	0.56	0.86	0.47	0.91	0.46

Intersection Summary

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

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

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1122	2491	207	199	192
v/c Ratio	0.35	0.85	0.59	0.55	0.54
Control Delay	5.5	16.8	31.6	23.2	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	16.8	31.6	23.2	22.5
Queue Length 50th (ft)	54	406	85	60	54
Queue Length 95th (ft)	89	#508	141	117	108
Internal Link Dist (ft)	715	695		1521	
Turn Bay Length (ft)			500		500
Base Capacity (vph)	3161	2945	450	446	443
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.85	0.46	0.45	0.43

Intersection Summary

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

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	85	976	1693	458	456	298
v/c Ratio	0.59	0.36	0.82	0.88	0.78	0.54
Control Delay	46.3	11.2	24.4	43.0	26.5	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	11.2	24.4	43.0	26.5	15.1
Queue Length 50th (ft)	38	90	247	190	138	58
Queue Length 95th (ft)	#94	135	#346	#354	#292	133
Internal Link Dist (ft)		695	1017		1021	
Turn Bay Length (ft)	200			380		380
Base Capacity (vph)	149	2691	2066	543	604	572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.36	0.82	0.84	0.75	0.52

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	636	341	138	55	1036	125	402	485	63	103	624
v/c Ratio	2.36	0.26	0.20	0.48	0.86	0.19	0.93	0.38	0.68	0.37	0.94
Control Delay	649.5	23.0	2.3	59.7	38.9	1.9	65.7	23.3	81.3	43.0	45.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	649.5	23.0	2.3	59.7	38.9	1.9	65.7	23.3	81.3	43.0	45.4
Queue Length 50th (ft)	~348	81	0	35	317	0	250	113	40	60	123
Queue Length 95th (ft)	#458	116	23	75	402	16	#425	158	#109	112	#246
Internal Link Dist (ft)		901			625			982		1066	
Turn Bay Length (ft)	300			100		30	150		180		
Base Capacity (vph)	269	1335	707	121	1280	685	458	1280	93	281	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.36	0.26	0.20	0.45	0.81	0.18	0.88	0.38	0.68	0.37	0.93

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	4	5	101	8	69	11	23	745	32	26	229	27
Future Vol, veh/h	9	4	5	101	8	69	11	23	745	32	26	229	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	92	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	4	5	109	9	74	12	25	801	34	28	246	29

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	796	1227	138	1074	1224	419	275	275	0	0	836	0	0
Stage 1	317	317	-	893	893	-	-	-	-	-	-	-	-
Stage 2	479	910	-	181	331	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	281	180	891	177	181	589	970	1300	-	-	807	-	-
Stage 1	674	658	-	307	363	-	-	-	-	-	-	-	-
Stage 2	542	356	-	809	649	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	228	168	891	165	169	588	1168	1168	-	-	806	-	-
Mov Cap-2 Maneuver	328	256	-	248	270	-	-	-	-	-	-	-	-
Stage 1	652	635	-	297	351	-	-	-	-	-	-	-	-
Stage 2	447	344	-	771	626	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	31.5	0.3	0.9
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1168	-	-	370	321	806	-	-
HCM Lane V/C Ratio	0.031	-	-	0.052	0.596	0.035	-	-
HCM Control Delay (s)	8.2	-	-	15.3	31.5	9.6	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	3.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	2	8	40	6	34	47	800	15	27	10	265	39
Future Vol, veh/h	14	2	8	40	6	34	47	800	15	27	10	265	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	2	9	43	7	37	51	870	16	29	11	288	42

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	930	1379	165	1207	1392	445	330	0	0	886	888	0	0
Stage 1	389	389	-	982	982	-	-	-	-	-	-	-	-
Stage 2	541	990	-	225	410	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	225	146	857	141	143	566	1241	-	-	399	771	-	-
Stage 1	612	612	-	271	330	-	-	-	-	-	-	-	-
Stage 2	498	327	-	763	599	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	185	127	857	125	124	565	1241	-	-	435	435	-	-
Mov Cap-2 Maneuver	296	215	-	211	228	-	-	-	-	-	-	-	-
Stage 1	587	556	-	259	316	-	-	-	-	-	-	-	-
Stage 2	437	313	-	683	544	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	22.6	0.4	1.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1241	-	-	364	290	435	-	-
HCM Lane V/C Ratio	0.041	-	-	0.072	0.3	0.092	-	-
HCM Control Delay (s)	8	-	-	15.7	22.6	14.1	-	-
HCM Lane LOS	A	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.2	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	436	780	23	35	1262	151	115	378	18	29	31	273
v/c Ratio	0.94	0.26	0.02	0.27	0.82	0.09	0.28	0.70	0.05	0.22	0.06	0.17
Control Delay	64.3	9.4	0.0	39.7	23.3	0.1	33.8	38.4	0.2	38.6	29.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	9.4	0.0	39.7	23.3	0.1	33.8	38.4	0.2	38.6	29.5	0.2
Queue Length 50th (ft)	93	39	0	14	213	0	21	78	0	12	5	0
Queue Length 95th (ft)	#217	111	0	45	368	0	55	#166	0	40	20	0
Internal Link Dist (ft)		1017			1269			1438			1212	
Turn Bay Length (ft)	250		190	200		370	150		150	460		160
Base Capacity (vph)	463	2992	1003	131	1801	1595	404	546	391	131	546	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.26	0.02	0.27	0.70	0.09	0.28	0.69	0.05	0.22	0.06	0.17

Intersection Summary

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

1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	108	617	774	532	648	163	612	582	206
v/c Ratio	0.58	0.78	1.02	0.41	0.66	0.42	0.69	0.88	0.41
Control Delay	51.0	38.4	73.3	23.9	5.9	40.9	8.8	51.8	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	38.4	73.3	23.9	5.9	40.9	8.8	51.8	7.1
Queue Length 50th (ft)	59	163	226	119	0	45	9	167	0
Queue Length 95th (ft)	109	220	#392	180	89	76	59	#268	53
Internal Link Dist (ft)		897		901					
Turn Bay Length (ft)	170		270			500	500	535	
Base Capacity (vph)	230	880	762	1293	978	389	945	665	532
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.70	1.02	0.41	0.66	0.42	0.65	0.88	0.39

Intersection Summary

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

Lane Group	EBT	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1926	1565	200	197	197
v/c Ratio	0.61	0.66	0.56	0.56	0.54
Control Delay	9.2	11.3	30.3	23.0	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	11.3	30.3	23.0	22.5
Queue Length 50th (ft)	147	172	82	59	56
Queue Length 95th (ft)	242	186	130	113	107
Internal Link Dist (ft)	715	695		1521	
Turn Bay Length (ft)			500		500
Base Capacity (vph)	3152	2388	494	469	481
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.66	0.40	0.42	0.41

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	181	1602	1261	284	284	157
v/c Ratio	0.70	0.52	0.64	0.72	0.75	0.35
Control Delay	47.7	5.3	19.2	35.7	37.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	5.3	19.2	35.7	37.6	8.9
Queue Length 50th (ft)	62	63	161	114	118	10
Queue Length 95th (ft)	m#146	85	211	195	#209	55
Internal Link Dist (ft)		695	1017		1021	
Turn Bay Length (ft)	200			380		380
Base Capacity (vph)	293	3083	1982	445	428	492
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.52	0.64	0.64	0.66	0.32

Intersection Summary

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	642	901	185	45	581	109	246	362	141	306	1168
v/c Ratio	2.26	0.73	0.27	0.39	0.58	0.19	1.02	0.27	1.42	0.55	1.04
Control Delay	600.6	30.8	4.6	54.6	30.4	1.3	105.8	19.2	276.1	33.8	61.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	600.6	30.8	4.6	54.6	30.4	1.3	105.8	19.2	276.1	33.8	61.5
Queue Length 50th (ft)	~336	256	0	27	151	0	~169	70	~121	162	~345
Queue Length 95th (ft)	#462	328	44	65	202	7	#335	112	#249	261	#511
Internal Link Dist (ft)		901			625			982		1066	
Turn Bay Length (ft)	300			100		30	150		180		
Base Capacity (vph)	284	1403	741	122	1355	707	242	1323	99	555	1121
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.26	0.64	0.25	0.37	0.43	0.15	1.02	0.27	1.42	0.55	1.04

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	21	6	15	58	1	45	25	13	506	75	92	378	5
Future Vol, veh/h	21	6	15	58	1	45	25	13	506	75	92	378	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	240	-	-	450	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	6	16	62	1	48	27	14	538	80	98	402	5

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	953	1303	204	1062	1265	311	407	407	0	0	620	0	0
Stage 1	601	601	-	662	662	-	-	-	-	-	-	-	-
Stage 2	352	702	-	400	603	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	217	162	809	180	171	691	802	1163	-	-	970	-	-
Stage 1	459	493	-	422	462	-	-	-	-	-	-	-	-
Stage 2	643	443	-	603	492	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	179	139	809	154	146	690	883	883	-	-	968	-	-
Mov Cap-2 Maneuver	289	232	-	270	258	-	-	-	-	-	-	-	-
Stage 1	438	443	-	402	440	-	-	-	-	-	-	-	-
Stage 2	569	422	-	524	442	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	19	0.6	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	883	-	-	359	366	968	-	-
HCM Lane V/C Ratio	0.046	-	-	0.124	0.302	0.101	-	-
HCM Control Delay (s)	9.3	-	-	16.4	19	9.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.3	0.3	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	43	3	18	15	1	24	36	498	25	2	46	421	11
Future Vol, veh/h	43	3	18	15	1	24	36	498	25	2	46	421	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	-	460	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	47	3	20	16	1	26	39	541	27	2	50	458	12

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	917	1215	235	969	1208	285	470	0	0	568	569	0	0
Stage 1	568	568	-	634	634	-	-	-	-	-	-	-	-
Stage 2	349	647	-	335	574	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	230	183	773	211	185	718	1102	-	-	635	1013	-	-
Stage 1	480	510	-	439	476	-	-	-	-	-	-	-	-
Stage 2	646	470	-	658	506	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	206	167	773	190	169	717	1102	-	-	985	985	-	-
Mov Cap-2 Maneuver	322	275	-	304	282	-	-	-	-	-	-	-	-
Stage 1	463	483	-	423	459	-	-	-	-	-	-	-	-
Stage 2	599	453	-	603	479	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	13.6	0.5	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1102	-	-	382	463	985	-	-
HCM Lane V/C Ratio	0.036	-	-	0.182	0.094	0.053	-	-
HCM Control Delay (s)	8.4	-	-	16.5	13.6	8.9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.3	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	297	1382	50	7	856	104	24	111	9	98	134	276
v/c Ratio	0.55	0.44	0.05	0.04	0.66	0.07	0.07	0.17	0.02	0.52	0.15	0.17
Control Delay	33.0	11.2	0.1	34.6	21.5	0.1	34.1	29.8	0.1	46.3	26.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	11.2	0.1	34.6	21.5	0.1	34.1	29.8	0.1	46.3	26.3	0.2
Queue Length 50th (ft)	62	130	0	3	170	0	5	22	0	42	22	0
Queue Length 95th (ft)	113	218	0	16	229	0	17	50	0	#127	58	0
Internal Link Dist (ft)		1017			1269			1438			1212	
Turn Bay Length (ft)	250		190	200		370	150		150	460		160
Base Capacity (vph)	700	3231	1057	167	2006	1595	324	668	491	193	925	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.43	0.05	0.04	0.43	0.07	0.07	0.17	0.02	0.51	0.14	0.17

Intersection Summary

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

APPENDIX 5.7: OPENING YEAR CUMULATIVE (2025) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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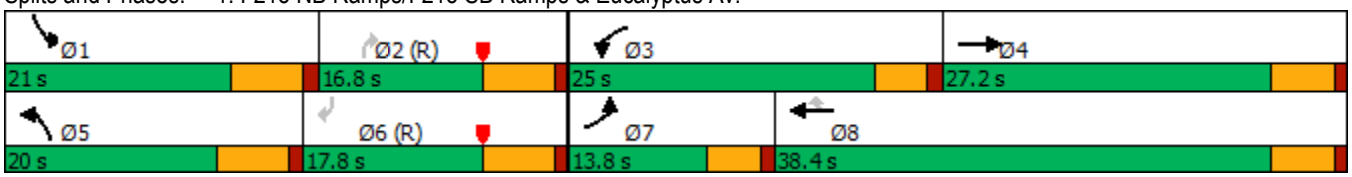
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	73	243	688	899	455	480	359	502	202
Future Volume (vph)	73	243	688	899	455	480	359	502	202
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	15.8
Total Split (s)	13.8	27.2	25.0	38.4	38.4	20.0	16.8	21.0	17.8
Total Split (%)	15.3%	30.2%	27.8%	42.7%	42.7%	22.2%	18.7%	23.3%	19.8%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	7.7	18.0	20.4	32.6	32.6	15.1	14.4	15.8	15.1
Actuated g/C Ratio	0.09	0.20	0.23	0.36	0.36	0.17	0.16	0.18	0.17
v/c Ratio	0.48	0.50	0.89	0.70	0.53	0.83	0.50	0.83	0.47
Control Delay	49.4	24.9	48.3	27.9	4.4	50.5	6.5	49.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	24.9	48.3	27.9	4.4	50.5	6.5	49.3	9.1
LOS	D	C	D	C	A	D	A	D	A
Approach Delay		28.9		29.5					
Approach LOS		C		C					

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 31.2 — Intersection LOS: C
Intersection Capacity Utilization 63.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	243	125	688	899	455	480	0	359	502	0	202
Future Volume (veh/h)	73	243	125	688	899	455	480	0	359	502	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	74	248	0	702	917	0	490	0	0	512	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	96	505		770	1106		1640	0		1640	0	
Arrive On Green	0.05	0.14	0.00	0.22	0.31	0.00	0.47	0.00	0.00	0.47	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	490		3510	512	
Grp Volume(v), veh/h	74	248	0	702	917	0	490	14.9		512	15.1	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	3.6	5.7	0.0	17.6	21.3	0.0	7.8			8.2		
Cycle Q Clear(g_c), s	3.6	5.7	0.0	17.6	21.3	0.0	7.8			8.2		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	96	505		770	1106		1640			1640		
V/C Ratio(X)	0.77	0.49		0.91	0.83		0.30			0.31		
Avail Cap(c_a), veh/h	185	882		796	1332		1640			1640		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.44	0.44	0.00	1.00			1.00		
Uniform Delay (d), s/veh	42.1	35.7	0.0	34.3	29.0	0.0	14.8			15.0		
Incr Delay (d2), s/veh	4.9	0.7	0.0	7.0	1.7	0.0	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.7	2.5	0.0	7.9	9.0	0.0	2.8			2.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	36.5	0.0	41.3	30.8	0.0	14.9			15.1		
LnGrp LOS	D	D		D	C		B			B		
Approach Vol, veh/h		322			1619							
Approach Delay, s/veh		38.9			35.3							
Approach LOS		D			D							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	47.9		24.4	17.8	47.9		9.4	32.8
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	15.2		20.4	22.0	14.2		9.2	33.2
Max Q Clear Time (g_c+I1), s	10.2		19.6	7.7	9.8		5.6	23.3
Green Ext Time (p_c), s	0.9		0.2	1.2	0.8		0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

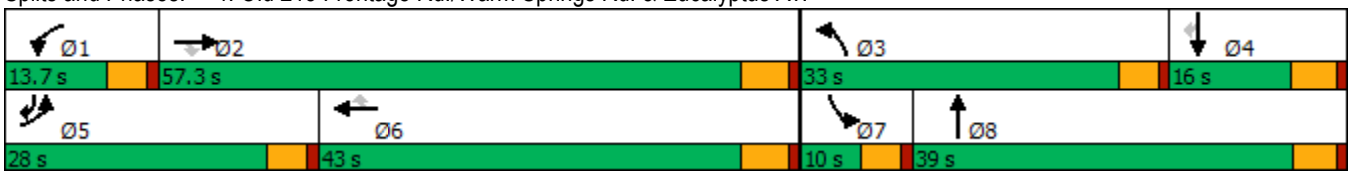
12/12/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	630	338	137	54	1026	124	398	383	62	102	618
Future Volume (vph)	630	338	137	54	1026	124	398	383	62	102	618
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	9.6
Total Split (s)	28.0	57.3	57.3	13.7	43.0	43.0	33.0	39.0	10.0	16.0	28.0
Total Split (%)	23.3%	47.8%	47.8%	11.4%	35.8%	35.8%	27.5%	32.5%	8.3%	13.3%	23.3%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	22.8	54.2	54.2	7.5	36.8	36.8	27.5	35.0	5.4	10.5	38.5
Actuated g/C Ratio	0.19	0.46	0.46	0.06	0.31	0.31	0.23	0.30	0.05	0.09	0.33
v/c Ratio	0.94	0.20	0.17	0.48	0.92	0.20	0.95	0.46	0.76	0.61	0.62
Control Delay	68.9	20.2	3.4	67.4	52.1	1.5	77.7	34.1	105.0	68.0	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	20.2	3.4	67.4	52.1	1.5	77.7	34.1	105.0	68.0	30.8
LOS	E	C	A	E	D	A	E	C	F	E	C
Approach Delay		45.9			47.6			53.9		41.6	
Approach LOS		D			D			D		D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 117.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 47.3 — Intersection LOS: D
Intersection Capacity Utilization 93.1% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	338	137	54	1026	124	398	383	97	62	102	618
Future Volume (veh/h)	630	338	137	54	1026	124	398	383	97	62	102	618
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	636	341	125	55	1036	115	402	387	63	63	103	435
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	687	1687	752	71	1123	501	427	879	142	81	174	814
Arrive On Green	0.20	0.47	0.47	0.04	0.31	0.31	0.24	0.28	0.28	0.04	0.09	0.09
Sat Flow, veh/h	3510	3610	1610	1810	3610	1610	1810	3112	503	1810	1900	2834
Grp Volume(v), veh/h	636	341	125	55	1036	115	402	223	227	63	103	435
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1610	1810	1805	1810	1810	1900	1417
Q Serve(g_s), s	21.0	6.6	5.3	3.6	32.7	6.3	25.8	11.9	12.1	4.1	6.1	10.8
Cycle Q Clear(g_c), s	21.0	6.6	5.3	3.6	32.7	6.3	25.8	11.9	12.1	4.1	6.1	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	687	1687	752	71	1123	501	427	510	511	81	174	814
V/C Ratio(X)	0.93	0.20	0.17	0.77	0.92	0.23	0.94	0.44	0.44	0.78	0.59	0.53
Avail Cap(c_a), veh/h	696	1687	752	140	1156	516	435	520	521	83	174	814
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	46.6	18.5	18.2	56.2	39.3	30.2	44.3	34.7	34.7	55.8	51.5	35.4
Incr Delay (d2), s/veh	18.0	0.1	0.1	6.4	11.9	0.2	28.3	0.6	0.6	32.5	5.3	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	10.7	2.7	2.0	1.7	16.0	2.5	14.8	5.3	5.4	2.6	3.2	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	18.6	18.3	62.6	51.2	30.4	72.6	35.3	35.4	88.3	56.8	36.1
LnGrp LOS	E	B	B	E	D	C	E	D	D	F	E	D
Approach Vol, veh/h		1102			1206			852			601	
Approach Delay, s/veh		45.1			49.7			52.9			45.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	60.3	32.4	16.0	27.7	41.9	9.9	38.5
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	9.1	52.1	28.4	10.8	23.4	37.8	5.4	* 34
Max Q Clear Time (g_c+I1), s	5.6	8.6	27.8	12.8	23.0	34.7	6.1	14.1
Green Ext Time (p_c), s	0.0	2.8	0.1	0.0	0.1	2.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

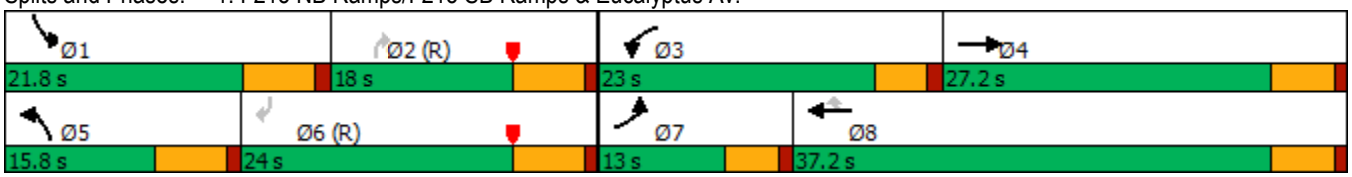
1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	106	486	759	521	635	160	600	570	202
Future Volume (vph)	106	486	759	521	635	160	600	570	202
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	7	4	3	8		5		1	
Permitted Phases					8		2		6
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	27.2	15.8	15.8	15.8	23.8
Total Split (s)	13.0	27.2	23.0	37.2	37.2	15.8	18.0	21.8	24.0
Total Split (%)	14.4%	30.2%	25.6%	41.3%	41.3%	17.6%	20.0%	24.2%	26.7%
Yellow Time (s)	3.6	4.2	3.6	4.2	4.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	5.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	8.6	19.8	20.2	31.4	31.4	10.0	11.6	17.0	18.6
Actuated g/C Ratio	0.10	0.22	0.22	0.35	0.35	0.11	0.13	0.19	0.21
v/c Ratio	0.62	0.78	0.99	0.42	0.67	0.42	0.68	0.88	0.41
Control Delay	55.8	38.4	65.7	23.5	5.7	40.9	7.6	52.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	38.4	65.7	23.5	5.7	40.9	7.6	52.5	7.4
LOS	E	D	E	C	A	D	A	D	A
Approach Delay		41.0		34.3					
Approach LOS		D		C					

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBR and 6:SBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 33.0 — Intersection LOS: C
Intersection Capacity Utilization 68.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: I-215 NB Ramps/I-215 SB Ramps & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	486	119	759	521	635	160	0	600	570	0	202
Future Volume (veh/h)	106	486	119	759	521	635	160	0	600	570	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	0	1900	1900	0	1900
Adj Flow Rate, veh/h	108	496	0	774	532	0	163	0	0	582	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	633		718	1098		1568	0		1568	0	
Arrive On Green	0.08	0.18	0.00	0.20	0.30	0.00	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1810	3705	0	3510	3610	1610	3510	163		3510	582	
Grp Volume(v), veh/h	108	496	0	774	532	0	163	14.5		582	16.7	
Grp Sat Flow(s),veh/h/ln	1810	1805	0	1755	1805	1610	1755	B		1755	B	
Q Serve(g_s), s	5.3	11.8	0.0	18.4	10.8	0.0	2.4			9.9		
Cycle Q Clear(g_c), s	5.3	11.8	0.0	18.4	10.8	0.0	2.4			9.9		
Prop In Lane	1.00		0.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	137	633		718	1098		1568			1568		
V/C Ratio(X)	0.79	0.78		1.08	0.48		0.10			0.37		
Avail Cap(c_a), veh/h	169	882		718	1284		1568			1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.51	0.51	0.00	1.00			1.00		
Uniform Delay (d), s/veh	40.9	35.5	0.0	35.8	25.5	0.0	14.4			16.5		
Incr Delay (d2), s/veh	14.4	3.1	0.0	48.2	0.2	0.0	0.0			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	2.8	5.3	0.0	12.4	4.5	0.0	0.9			3.6		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	38.6	0.0	84.0	25.7	0.0	14.5			16.7		
LnGrp LOS	E	D		F	C		B			B		
Approach Vol, veh/h		604			1306							
Approach Delay, s/veh		41.6			60.2							
Approach LOS		D			E							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	46.0		23.0	21.0	46.0		11.4	32.6
Change Period (Y+Rc), s	5.8		4.6	5.2	5.8		4.6	5.2
Max Green Setting (Gmax), s	16.0		18.4	22.0	10.0		8.4	32.0
Max Q Clear Time (g_c+I1), s	11.9		20.4	13.8	4.4		7.3	12.8
Green Ext Time (p_c), s	0.9		0.0	2.0	0.2		0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.

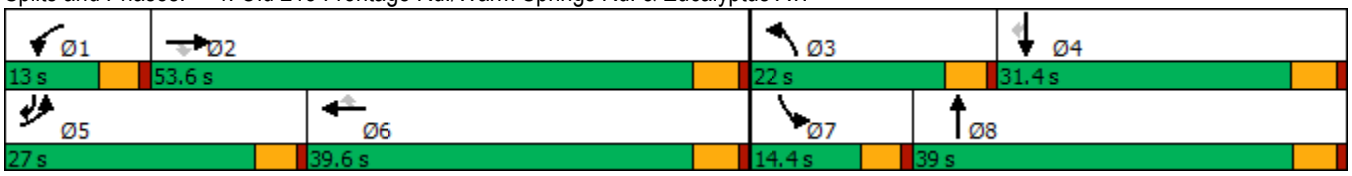
12/12/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	616	865	178	43	558	105	236	259	135	294	1121
Future Volume (vph)	616	865	178	43	558	105	236	259	135	294	1121
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	39.2	39.2	9.6	39.2	39.2	9.6	39.0	9.6	15.2	9.6
Total Split (s)	27.0	53.6	53.6	13.0	39.6	39.6	22.0	39.0	14.4	31.4	27.0
Total Split (%)	22.5%	44.7%	44.7%	10.8%	33.0%	33.0%	18.3%	32.5%	12.0%	26.2%	22.5%
Yellow Time (s)	3.6	4.2	4.2	3.6	4.2	4.2	3.6	4.0	3.6	4.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	5.2	4.6	5.2	5.2	4.6	5.0	4.6	5.2	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	22.5	43.9	43.9	6.9	23.7	23.7	17.0	28.5	9.9	21.2	49.0
Actuated g/C Ratio	0.22	0.42	0.42	0.07	0.23	0.23	0.16	0.27	0.09	0.20	0.47
v/c Ratio	0.85	0.59	0.24	0.38	0.71	0.22	0.84	0.37	0.82	0.79	0.83
Control Delay	52.8	27.1	4.2	59.5	42.5	1.0	69.0	28.8	84.1	56.0	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	27.1	4.2	59.5	42.5	1.0	69.0	28.8	84.1	56.0	27.6
LOS	D	C	A	E	D	A	E	C	F	E	C
Approach Delay		34.2			37.4			45.1		37.9	
Approach LOS		C			D			D		D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 104.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 37.4 — Intersection LOS: D
Intersection Capacity Utilization 80.5% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Old 215 Frontage Rd./Warm Springs Rd. & Eucalyptus Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	616	865	178	43	558	105	236	259	88	135	294	1121
Future Volume (veh/h)	616	865	178	43	558	105	236	259	88	135	294	1121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	642	901	118	45	581	93	246	270	65	141	306	842
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	705	1357	605	63	758	333	277	894	211	169	474	1277
Arrive On Green	0.20	0.38	0.38	0.03	0.21	0.21	0.15	0.31	0.31	0.09	0.25	0.25
Sat Flow, veh/h	3510	3610	1610	1810	3610	1585	1810	2894	684	1810	1900	2834
Grp Volume(v), veh/h	642	901	118	45	581	93	246	167	168	141	306	842
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1810	1805	1585	1810	1805	1773	1810	1900	1417
Q Serve(g_s), s	18.8	21.8	5.2	2.6	15.9	5.2	14.0	7.4	7.6	8.0	15.1	24.4
Cycle Q Clear(g_c), s	18.8	21.8	5.2	2.6	15.9	5.2	14.0	7.4	7.6	8.0	15.1	24.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	705	1357	605	63	758	333	277	558	548	169	474	1277
V/C Ratio(X)	0.91	0.66	0.19	0.71	0.77	0.28	0.89	0.30	0.31	0.83	0.65	0.66
Avail Cap(c_a), veh/h	749	1665	743	145	1183	519	300	585	574	169	474	1277
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	41.0	27.2	22.1	50.1	39.0	34.8	43.6	27.6	27.7	46.8	35.2	22.5
Incr Delay (d2), s/veh	14.1	0.7	0.2	5.5	1.7	0.5	23.7	0.3	0.3	27.3	3.0	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	9.3	9.2	2.0	1.2	7.1	2.0	8.0	3.2	3.3	4.8	7.2	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	28.0	22.2	55.6	40.7	35.3	67.3	27.9	28.0	74.1	38.2	23.8
LnGrp LOS	E	C	C	E	D	D	E	C	C	E	D	C
Approach Vol, veh/h		1661			719			581			1289	
Approach Delay, s/veh		38.1			40.9			44.6			32.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	44.6	20.6	31.4	25.7	27.2	14.4	37.6
Change Period (Y+Rc), s	4.6	5.2	4.6	5.2	4.6	5.2	4.6	* 5.2
Max Green Setting (Gmax), s	8.4	48.4	17.4	26.2	22.4	34.4	9.8	* 34
Max Q Clear Time (g_c+I1), s	4.6	23.8	16.0	26.4	20.8	17.9	10.0	9.6
Green Ext Time (p_c), s	0.0	7.1	0.1	0.0	0.3	3.8	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.