

APPENDIX 2.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

This Page Intentionally Left Blank

August 1, 2022

Kyra Tao
City of Placentia
401 E. Chapman Avenue
Placentia, CA 92870

**ALTA VISTA RESIDENTIAL – NORTH PARCEL ACCESS EVALUATION AND VMT
SCREENING SCOPE**

Dear Kyra Tao:

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter to City of Placentia regarding the Access Evaluation and Vehicle Miles Traveled (VMT) Screening for the proposed Alta Vista Residential – North Parcel development (“Project”), which is generally located north of Alta Vista Street and east of N Rose Drive in the City of Placentia. It is our understanding that the Project is to consist of 100 single family detached units.

The remainder of this letter describes the proposed analysis methodology, Project trip generation, trip distribution, and Project traffic assignment/project trips on the surrounding roadway network. The following scoping assumptions have been prepared in accordance with the City of Placentia’s Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (January 2021).

A preliminary site plan the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed project in relation to the existing roadway network. It is anticipated that the Project would be fully developed by year 2024. The Project will have one gated full access driveway at Alta Vista Street, east of Rose Drive.

TRIP GENERATION

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land use (210 – Single Family Detached) is used. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 1, the Project is anticipated to generate a total of 943 trip-ends per day with 70 AM peak hour trips and 94 PM peak hour trips.

EXHIBIT 1: PRELIMINARY SITE PLAN

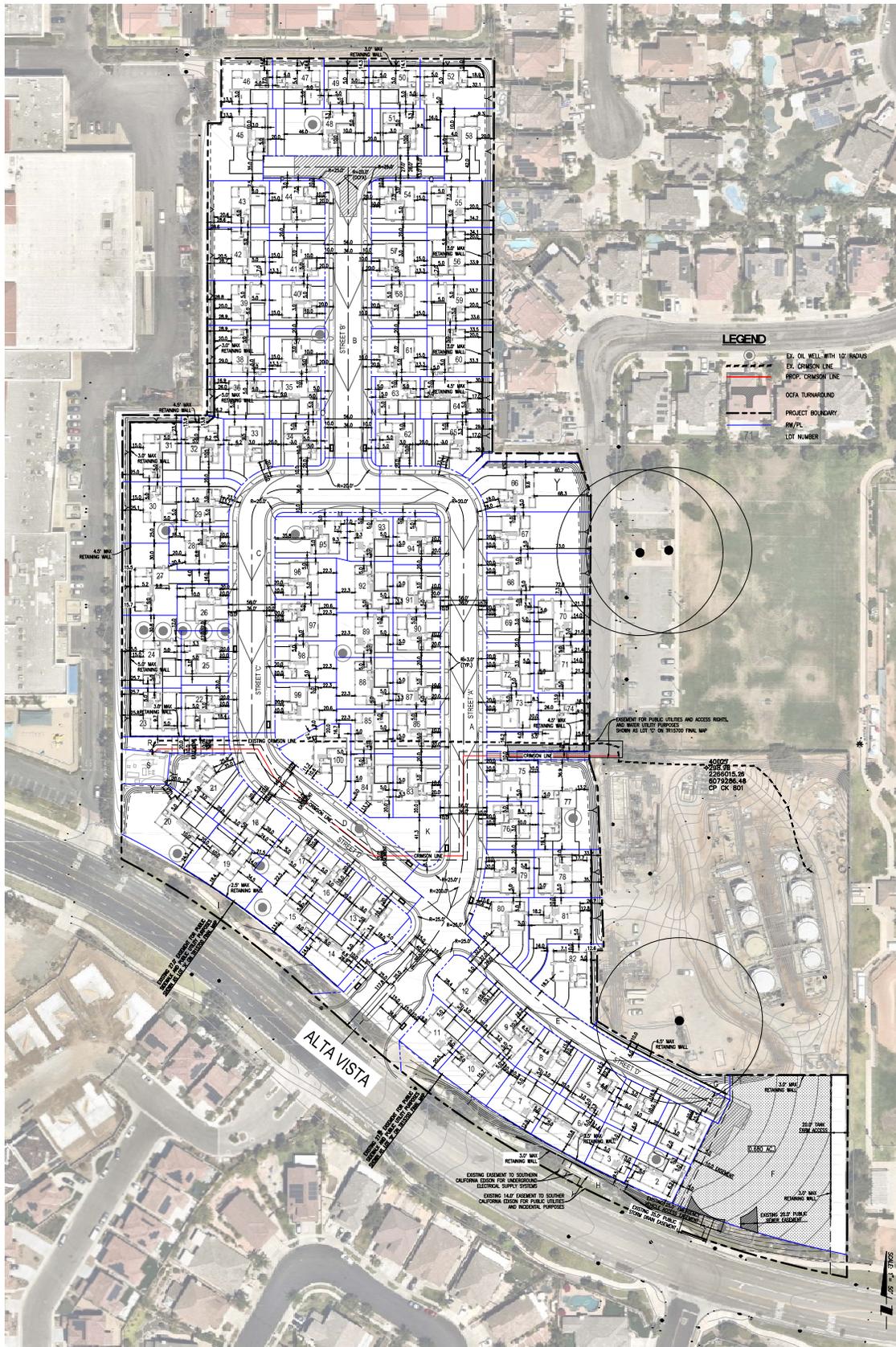
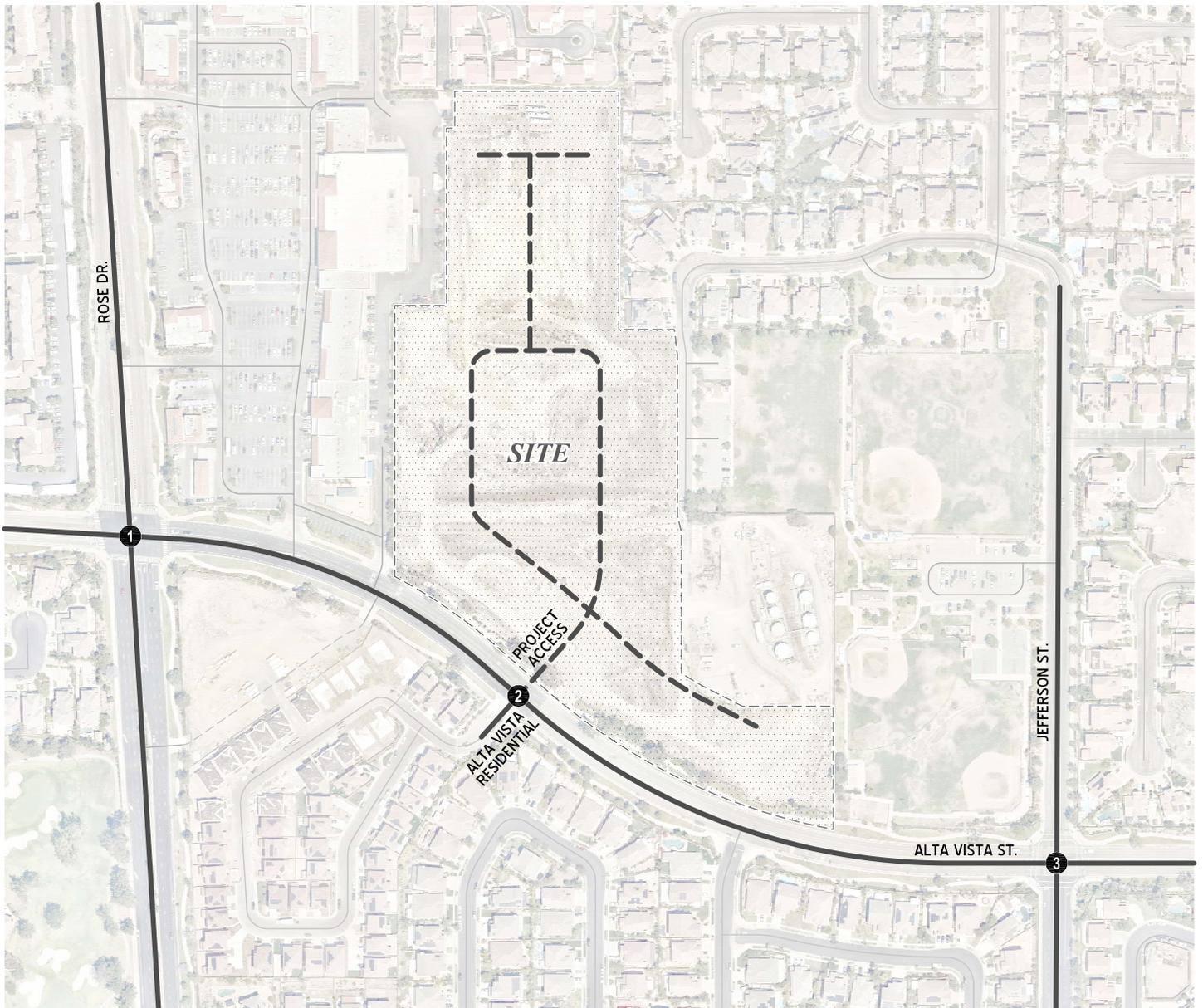


EXHIBIT 2: TRAFFIC ANALYSIS STUDY AREA



LEGEND:

- ① = INTERSECTION ANALYSIS LOCATION
- = FUTURE ROADWAY



TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates ¹										
Land Use	ITE LU Code	Quantity ²		AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
Single Family Detached	210	100	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43

Trip Generation Results										
Land Use	ITE LU Code	Quantity ²		AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
Single Family Detached	210	100	DU	18	52	70	59	35	94	943

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² DU = Dwelling Units

TRIP DISTRIBUTION AND TRIP ASSIGNMENT

The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibit 3 presents the Project distribution patterns. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibit 4.

ANALYSIS SCENARIOS

Consistent with the City's LOS guidelines, intersection analysis will be provided for the following analysis scenarios:

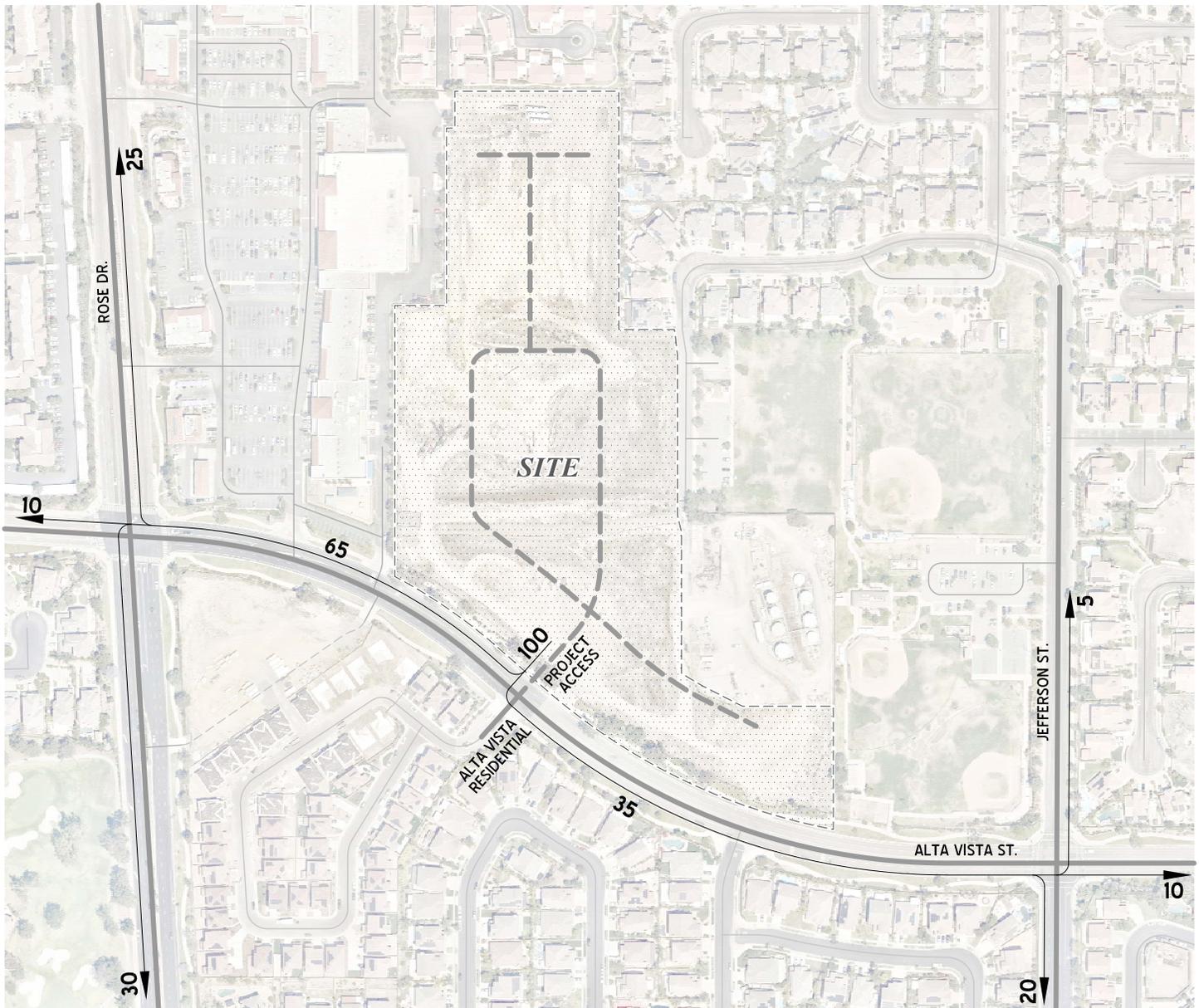
- Existing (2022) Conditions
- Existing Plus Approved and Pending Projects
- Existing Plus Approved and Pending Projects Plus Project

The City of Placentia General Plan Functional Roadway Classifications are depicted on Exhibit 5. Exhibit 6 shows the roadway cross-sections used by the City of Placentia.

STUDY AREA INTERSECTIONS

The traffic impact study area was defined in conformance with the requirements of the City of Placentia's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (January 2021). According to the guidelines, intersections should be identified for analysis based on Project contribution of 51 or more peak hour trips. For this access evaluation, two off-site nearby intersections are included for analysis purposes (in addition to the Project entry).

EXHIBIT 3: PROJECT TRIP DISTRIBUTION CONTEXT

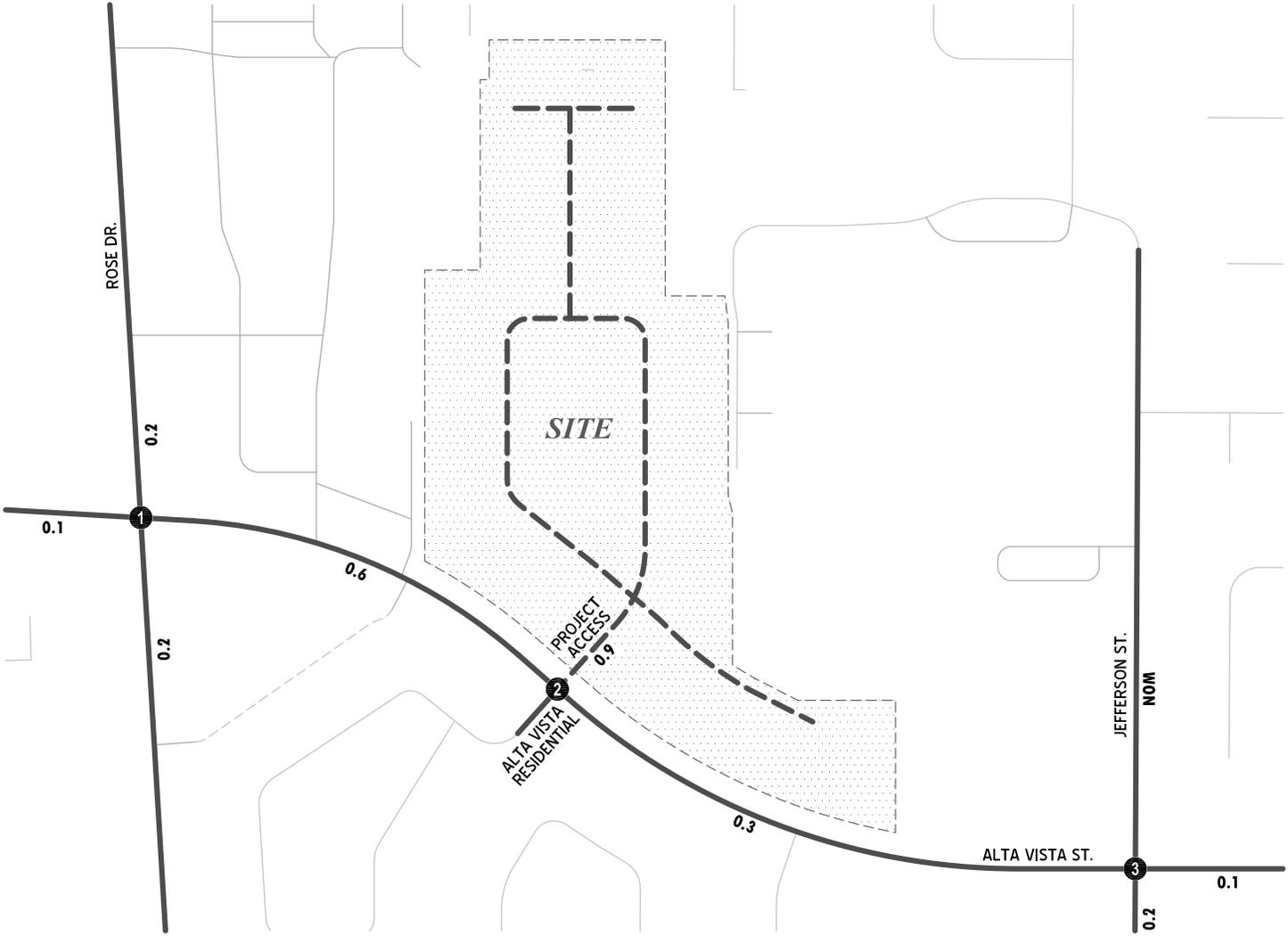


LEGEND:

- 10 = PERCENT FROM/TO PROJECT
- = FUTURE ROADWAY



EXHIBIT 4: PROJECT ONLY TRAFFIC VOLUMES



AM PEAK HOUR

1	2	3
Rose Dr. & Alta Vista St.	Alta Vista Residential - Project Access & Alta Vista St.	Jefferson St. & Alta Vista St.

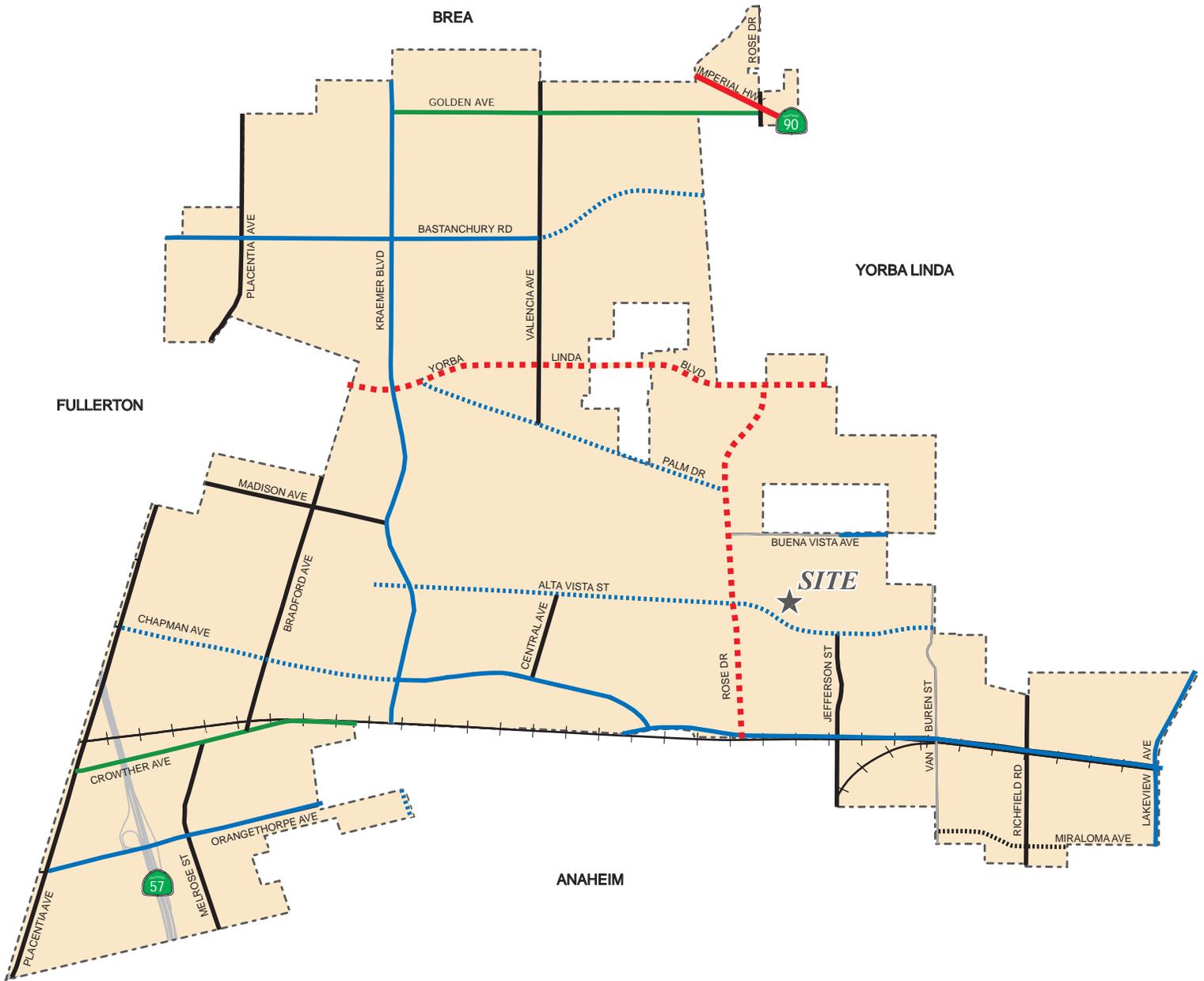
PM PEAK HOUR

1	2	3
Rose Dr. & Alta Vista St.	Alta Vista Residential - Project Access & Alta Vista St.	Jefferson St. & Alta Vista St.

LEGEND:

- INTERSECTION ID
- PEAK HOUR INTERSECTION VOLUMES
- 10.0** = VEHICLES PER DAY (1000'S)
- NOM** = NOMINAL, LESS THAN 50 VEHICLES PER DAY
- FUTURE ROADWAY

**EXHIBIT 5: CITY OF PLACENTIA
GENERAL PLAN FUNCTIONAL ROADWAY CLASSIFICATIONS**



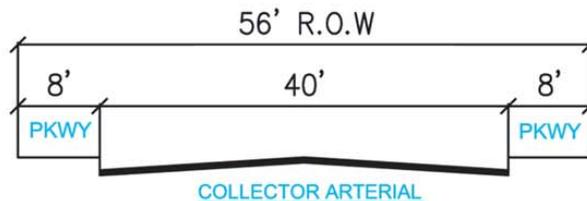
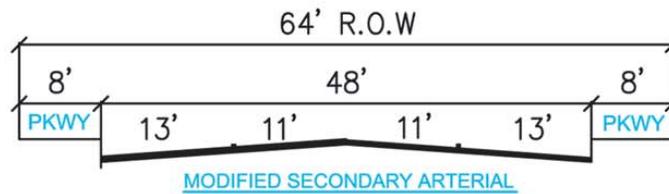
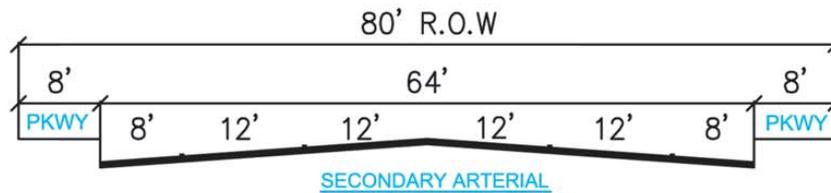
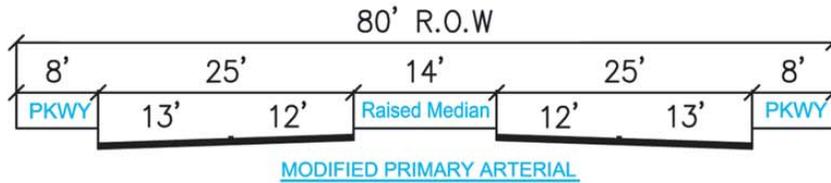
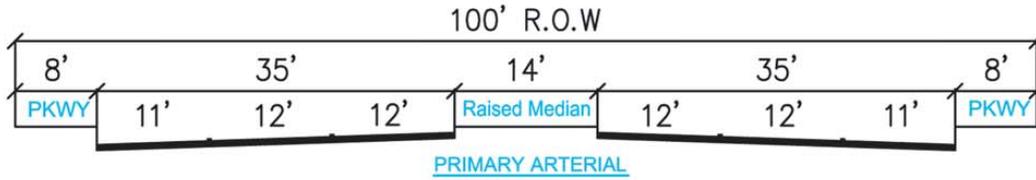
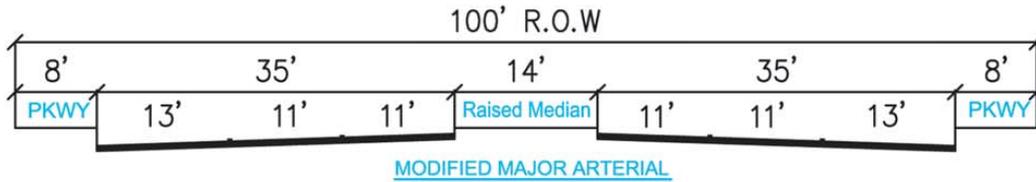
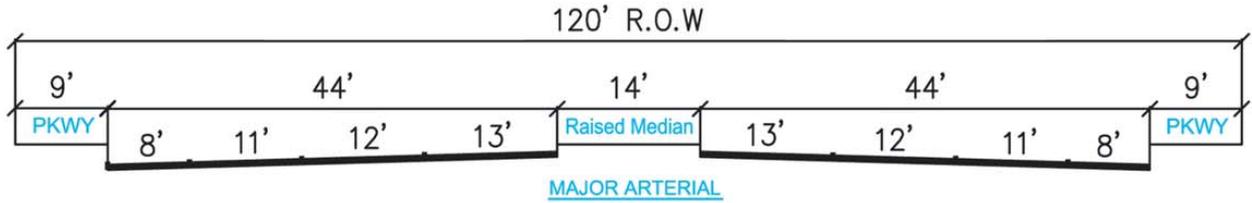
LEGEND

- Placentia City Limits
- ++++ Railroad
- Major
- - - Modified Major
- Primary
- - - Modified Primary
- Secondary
- - - Modified Secondary
- Divided Collector
- Collector



SOURCE: CITY OF PLACENTIA

**EXHIBIT 6: CITY OF PLACENTIA
GENERAL PLAN ROADWAY CROSS-SECTIONS**



SOURCE: CITY OF PLACENTIA

Exhibit 2 identifies the following study area intersection analysis locations:

- #1 – Rose Drive / Alta Vista Street
- #2 – Project Dwy. / Alta Vista Street
- #3 – Jefferson Street / Alta Vista Street

Alta Vista Street adjacent to the Project will also be evaluated in terms of roadway segment capacity.

PREFERRED ANALYSIS METHODOLOGY

Per the City of Placentia's [Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment](#) (January 2021), LOS D as the threshold for acceptable traffic conditions on the circulation network.

For the purposes of this analysis, signalized intersection operations analysis will be based on Intersection Capacity Utilization (ICU) methodology. Unsignalized intersections will be evaluated using the methodology described in the [Highway Capacity Manual](#) (6th Edition). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane.

TRAFFIC COUNTS

Traffic count data will be collected during the AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM within the next two weeks at the three study area intersections because schools are not in-session, Urban Crossroads, Inc. will adjust the July traffic counts via comparison to December 2021 data provided by City staff.

CUMULATIVE DEVELOPMENT TRAFFIC

It is requested that City staff review the list of cumulative development projects (shown on Exhibit 7 and listed on Table 2) for inclusion in the traffic study. Per the [Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment](#) (January 2021), an ambient traffic growth factor is used for annual increases in background traffic for projects with opening year more than 2 years from existing. Because the Project is anticipated to be implemented within 2 years, the background traffic increases from existing will include only known cumulative projects without an ambient growth factor.

SPECIAL ISSUES

Gate stacking/queuing analysis will be evaluated at the Project driveway. Sight distance at the Alta Vista Street driveway will be reviewed and addressed.

EXHIBIT 7: CUMULATIVE DEVELOPMENT LOCATION MAP

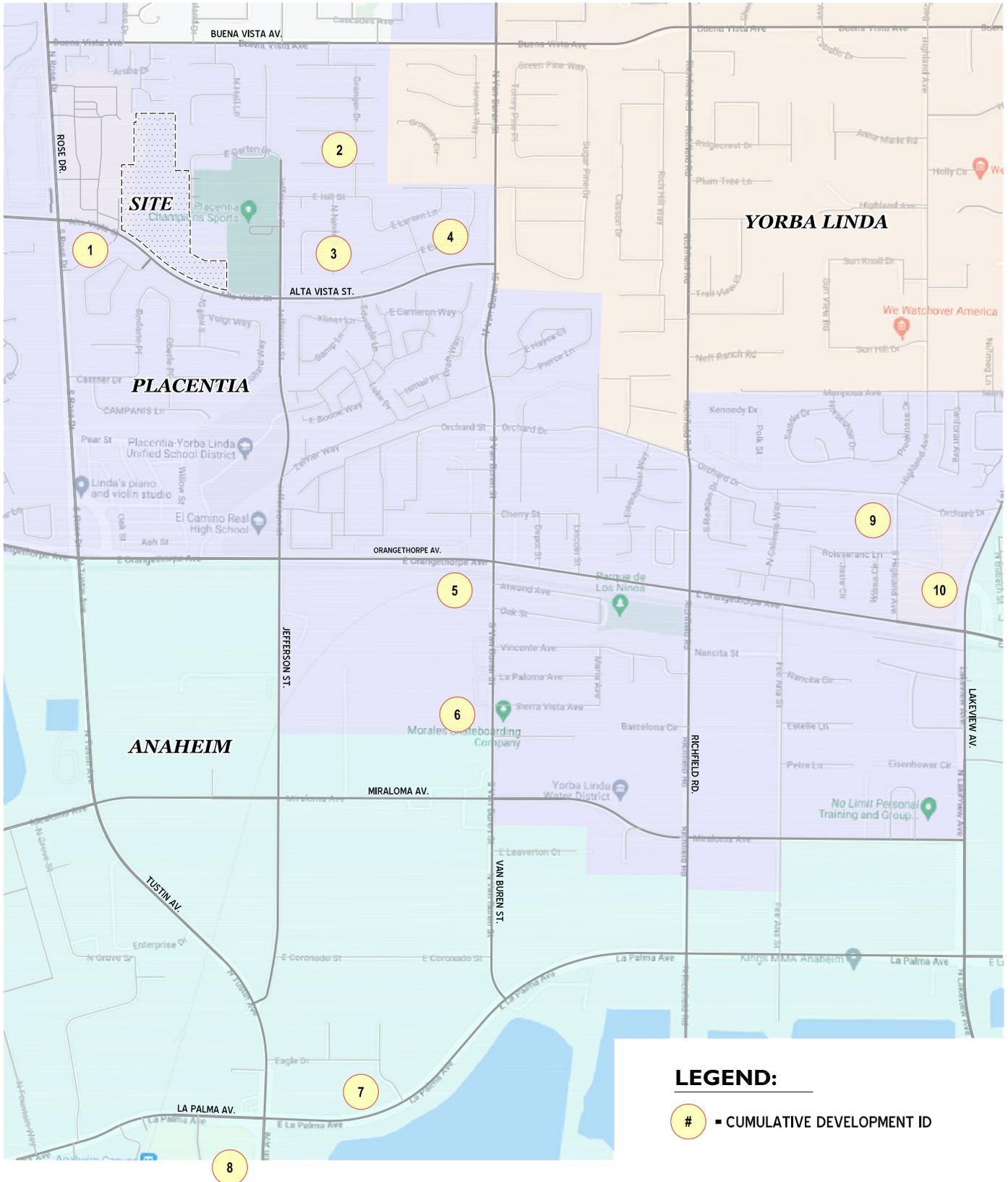


TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Land Use	Quantity	Units ¹
1	Alta Vista Commercial/Residential (ZCA 2017-09; DPR 2017-03; UP 2017-09;VTM 18176)	Fast Casual Restaurant	8.6	TSF
		Coffee Shop	2	TSF
		Single Family Residential <i>(remaining DU yet to be occupied)</i>	18	DU
2	TPM 2022-123 1451 Howard Place (APN: 341-431-01)	Single Family Residential	3	DU
3	TPM 2022-127 (1421 Cisneros) TTM 19233 (421 N. Nevin) TPM 2022-126 (412 Tidland) TPM 2022-125 (406 Nevin) TAZ 3 Total	Single Family Residential	2	DU
		Single Family Residential	7	DU
		Single Family Residential	2	DU
		Single Family Residential	2	DU
			13	DU
4	TPM 2022-124 502 Gerhold Ln. (APN: 341-421-33)	Single Family Residential	2	DU
5	Van Buren & Orantheorpe Residential (ZC 2018-01; DPR 2018-01; TTM 19104)	Multifamily Housing (Low-Rise)	139	DU
6	DPR 2017-02	General Light Industrial	118.410	TSF
7	La Palma Industrial	Office	20.16	TSF
		General Light Industrial	38.251	TSF
8	1011-1091 N. Tustin Av.	Multifamily Housing (Mid-Rise)	406	DU
		Retail	5.0	TSF
9	SWC of Orchard Dr. & Highland Av. (DPR 2018-03; UP 2018-04; TTM 18129)	Multifamily Housing (Low-Rise)	16	DU
10	NWC of E. Orangethorpe Av. & N. Lakeview (UP 2020-07; DPR 2020-02)	Commercial	4.311	TSF

¹ DU = Dwelling Units; TSF = Thousand Square Feet

VEHICLE MILES TRAVELED (VMT)

The VMT screening assessment will be prepared under separate cover, utilizing the City of Placentia's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (January 2021).

Please review this scoping agreement let us know if it is acceptable, or if the City requests any changes to this proposed scope of work. If you have any questions, please contact John Kain at (949) 375-2435 or Marlie Whiteman (714) 585-0574.

Respectfully submitted,

URBAN CROSSROADS, INC.



John Kain, AICP
Principal



Marlie Whiteman, PE
Senior Associate

APPENDIX 2.2: TRAFFIC COUNTS – DECEMBER 2021 AND JULY 2022

This Page Intentionally Left Blank



For Location City of Placentia Task Intersection Count
 Date 12/9/2021 Rose Dr Thursday And AM Alta Vista St Weather Cloudy

Main/Minor St.	Rose Dr					Rose Dr					Alta Vista St					Alta Vista St					TOTAL
	SOUTHBOUND					NORTHBOUND					WESTBOUND					EASTBOUND					
	SU	SL	ST	SR	App. Total	NU	NL	NT	NR	App. Total	WU	WL	WT	WR	App. Total	EU	EL	ET	ER	App. Total	
LANES	0	2	3	1		0	2	3	0		0	1	2	0		0	1	2	0		17
7:00 AM	1	8	307	27	343	0	10	65	7	82	0	16	18	9	43	0	29	19	40	88	556
7:15 AM	0	17	262	55	334	0	16	88	3	107	0	18	42	22	82	0	41	22	45	108	631
7:30 AM	0	23	307	65	395	0	18	116	4	138	0	19	80	49	148	0	71	63	47	181	862
7:45 AM	2	39	333	47	421	1	16	124	5	146	0	25	36	21	82	0	68	74	60	202	851
8:00 AM	0	19	280	46	345	0	27	101	4	132	0	22	47	16	85	0	55	46	35	136	698
8:15 AM	2	21	230	50	303	0	14	108	6	128	0	28	46	19	93	0	47	39	39	125	649
8:30 AM	0	13	191	49	253	0	14	113	6	133	0	22	48	22	92	0	50	45	31	126	604
8:45 AM	0	15	207	26	248	0	19	135	5	159	0	12	25	13	50	0	52	31	46	129	586

	SU	SL	ST	SR	App. Total	NU	NL	NT	NR	App. Total	WU	WL	WT	WR	App. Total	EU	EL	ET	ER	App. Total	TOTAL
TOTAL	5	155	2117	365	2642	1	134	850	40	1025	0	162	342	171	675	0	413	339	343	1095	5437
Approach %	0.2	5.9	80.1	13.8		0.1	13.1	82.9	3.9		0.0	24.0	50.7	25.3		0.0	37.7	31.0	31.3		
Total %	0.1	2.9	38.9	6.7	48.6	0.0	2.5	15.6	0.7	18.9	0.0	3.0	6.3	3.1	12.4	0.0	7.6	6.2	6.3	20.1	
Cars	5	152	2097	361	2615	1	131	835	38	1005	0	161	340	170	671	0	408	329	342	1079	5370
Cars %	100.0	98.1	99.1	98.9	99.0	100.0	97.8	98.2	95.0	98.0	0.0	99.4	99.4	99.4	99.4	0.0	98.8	97.1	99.7	98.5	98.8
Trucks	0	3	20	4	27	0	3	15	2	20	0	1	2	1	4	0	5	10	1	16	67
Trucks %	0.0	1.9	0.9	1.1	1.0	0.0	2.2	1.8	5.0	2.0	0.0	0.6	0.6	0.6	0.6	0.0	1.2	2.9	0.3	1.5	1.2

Morning Peak Hour Begins at: 7:30 AM

PH Start Time	7:30 AM																					TOTAL
	SU	SL	ST	SR	App. Total	NU	NL	NT	NR	App. Total	WU	WL	WT	WR	App. Total	EU	EL	ET	ER	App. Total		
PH VOL	4	102	1150	208	1464	1	75	449	19	544	0	94	209	105	408	0	241	222	181	644	3060	
PH App. %	0.3	7.0	78.6	14.2		0.2	13.8	82.5	3.5		0.0	23.0	51.2	25.7		0.0	37.4	34.5	28.1			
PH Factor	0.50	0.65	0.86	0.80	0.87	0.25	0.69	0.91	0.79	0.93	0.00	0.84	0.65	0.54	0.69	0.00	0.85	0.75	0.75	0.80	0.89	



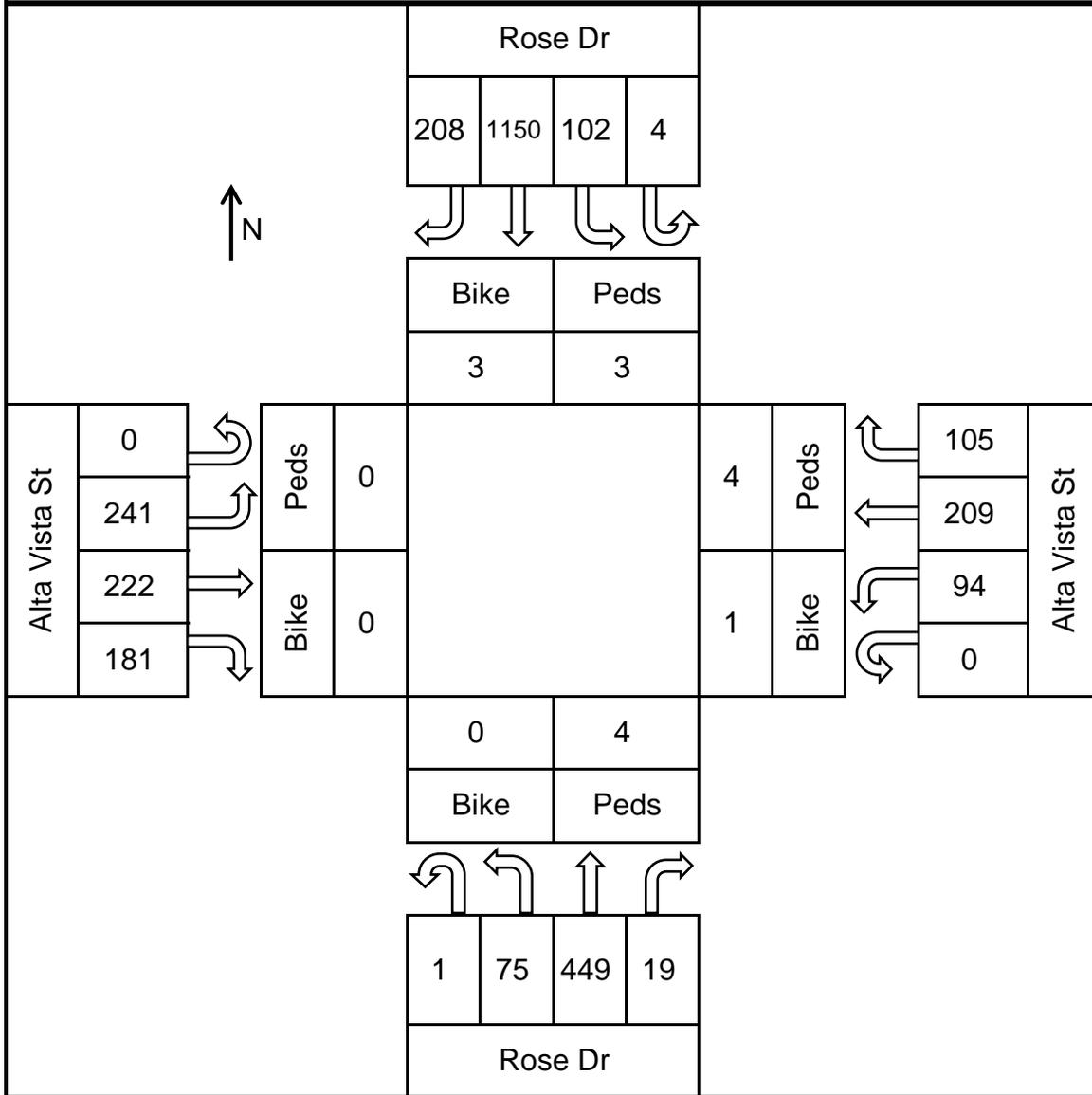
SurveyCount

Project: SC2021-1105-1

Contact: (949)-543-5767

For	City of Placentia		Task	Intersection Count
Location	Rose Dr		And	Alta Vista St
Date	12/9/2021	Thursday	AM	

N Rose Dr and Alta Vista St AM Peak Hour





For Location Date 12/9/2021 City of Placentia Rose Dr Thursday And PM Task Intersection Count Alta Vista St Weather Cloudy

Main/Minor St.	Rose Dr					Rose Dr					Alta Vista St					Alta Vista St					TOTAL
	SOUTHBOUND					NORTHBOUND					WESTBOUND					EASTBOUND					
	SU	SL	ST	SR	App. Total	NU	NL	NT	NR	App. Total	WU	WL	WT	WR	App. Total	EU	EL	ET	ER	App. Total	
LANES	0	2	3	1		0	2	3	0		0	1	2	0		0	1	2	0		
3:30 PM	1	16	162	51	230	1	31	182	7	221	0	20	66	18	104	0	57	49	18	124	679
3:45 PM	3	22	186	44	255	0	35	232	8	275	0	23	57	16	96	0	69	67	26	162	788
4:00 PM	3	33	169	44	249	0	43	223	8	274	0	20	46	15	81	0	52	35	16	103	707
4:15 PM	2	13	164	47	226	0	31	222	12	265	0	21	52	19	92	0	64	33	28	125	708
4:30 PM	0	27	168	38	233	0	29	230	8	267	0	27	54	24	105	0	58	51	33	142	747
4:45 PM	2	26	168	50	246	0	36	228	8	272	0	23	49	22	94	0	48	39	14	101	713
5:00 PM	5	19	185	64	273	0	40	243	12	295	0	26	40	24	90	0	66	37	15	118	776
5:15 PM	0	19	176	32	227	1	28	230	11	270	0	20	41	22	83	0	45	37	27	109	689

	SU	SL	ST	SR	App. Total	NU	NL	NT	NR	App. Total	WU	WL	WT	WR	App. Total	EU	EL	ET	ER	App. Total	TOTAL
TOTAL	16	175	1378	370	1939	2	273	1790	74	2139	0	180	405	160	745	0	459	348	177	984	5807
Approach %	0.8	9.0	71.1	19.1		0.1	12.8	83.7	3.5		0.0	24.2	54.4	21.5		0.0	46.6	35.4	18.0		
Total %	0.3	3.0	23.7	6.4	33.4	0.0	4.7	30.8	1.3	36.8	0.0	3.1	7.0	2.8	12.8	0.0	7.9	6.0	3.0	16.9	
Cars	16	170	1367	368	1921	2	273	1778	74	2127	0	179	403	160	742	0	458	344	175	977	5767
Cars %	100.0	97.1	99.2	99.5	99.1	100.0	100.0	99.3	100.0	99.4	0.0	99.4	99.5	100.0	99.6	0.0	99.8	98.9	98.9	99.3	99.3
Trucks	0	5	11	2	18	0	0	12	0	12	0	1	2	0	3	0	1	4	2	7	40
Trucks %	0.0	2.9	0.8	0.5	0.9	0.0	0.0	0.7	0.0	0.6	0.0	0.6	0.5	0.0	0.4	0.0	0.2	1.1	1.1	0.7	0.7

Afternoon Peak Hour Begins at: 3:45 PM

PH Start Time	3:45 PM																				TOTAL
	SU	SL	ST	SR	App. Total	NU	NL	NT	NR	App. Total	WU	WL	WT	WR	App. Total	EU	EL	ET	ER	App. Total	
PH VOL	8	95	687	173	963	0	138	907	36	1081	0	91	209	74	374	0	243	186	103	532	2950
PH App. %	0.8	9.9	71.3	18.0		0.0	12.8	83.9	3.3		0.0	24.3	55.9	19.8		0.0	45.7	35.0	19.4		
PH Factor	0.67	0.72	0.92	0.92	0.94	0.00	0.80	0.98	0.75	0.98	0.00	0.84	0.92	0.77	0.89	0.00	0.88	0.69	0.78	0.82	0.94



SurveyCount

Project: SC2021-1105-1

Contact: (949)-543-5767

For

City of Placentia

Task

Intersection Count

Location

Rose Dr

And

Alta Vista St

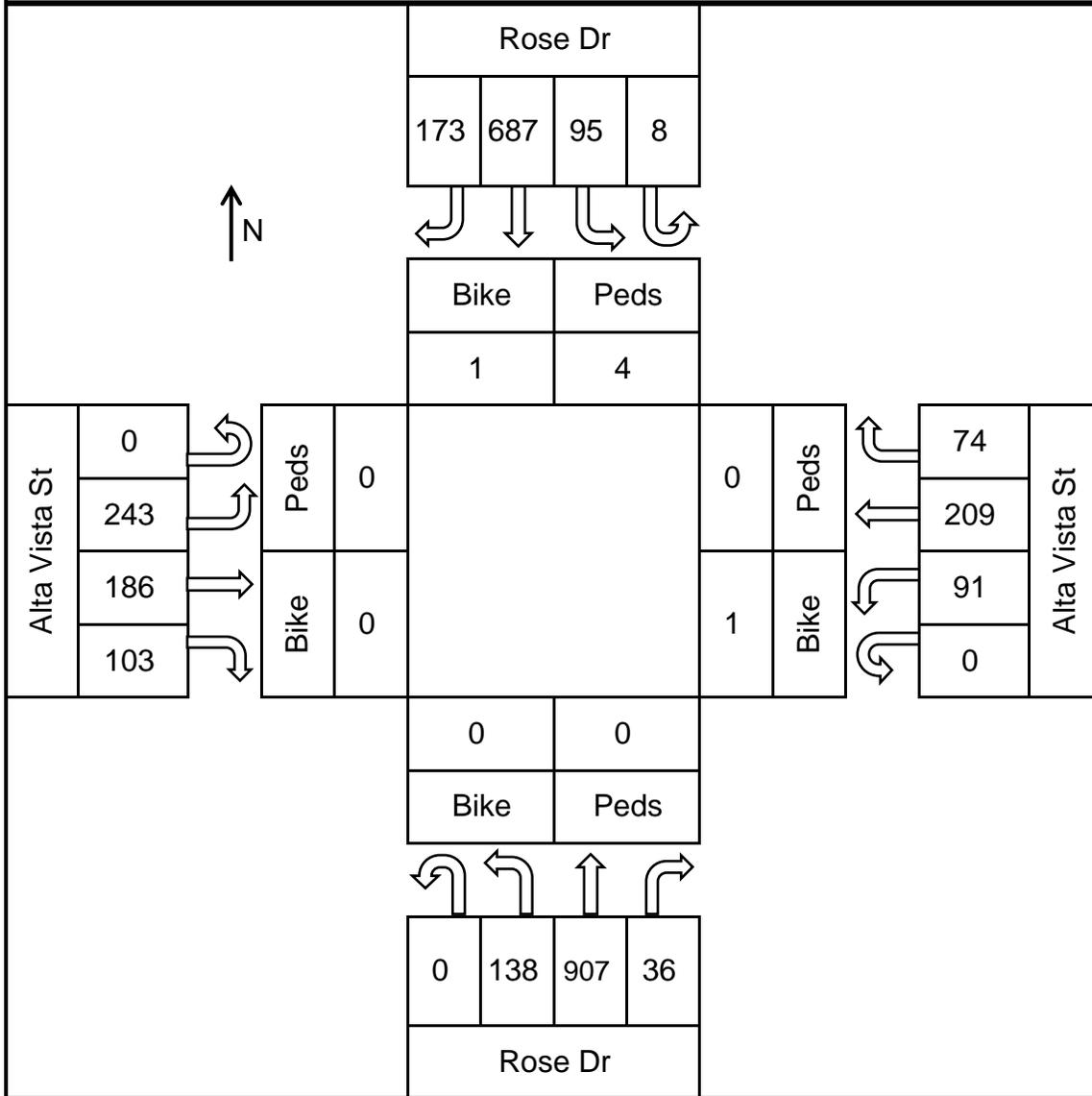
Date

12/9/2021

Thursday

PM

N Rose Dr and Alta Vista St PM Peak Hour



City of Placentia
 N/S: Rose Drive
 E/W: Alta Vista Street
 Weather: Clear

File Name : 01_PLA_Rose_Alta AM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 1

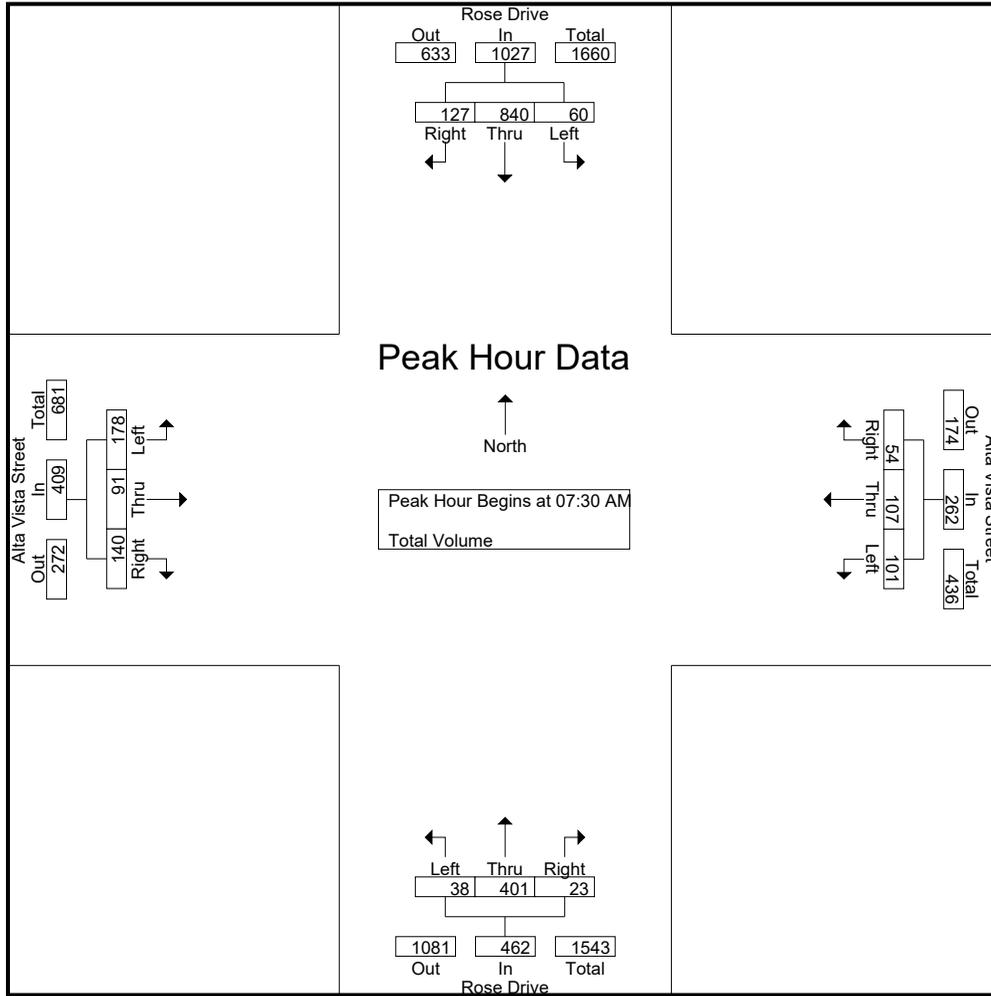
Groups Printed- Total Volume

Start Time	Rose Drive Southbound				Alta Vista Street Westbound				Rose Drive Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	8	186	15	209	20	8	18	46	11	52	7	70	17	9	23	49	374
07:15 AM	9	202	8	219	33	11	11	55	7	75	8	90	17	14	25	56	420
07:30 AM	14	221	20	255	23	34	11	68	4	89	6	99	43	20	35	98	520
07:45 AM	14	227	40	281	23	18	18	59	12	115	7	134	50	33	38	121	595
Total	45	836	83	964	99	71	58	228	34	331	28	393	127	76	121	324	1909
08:00 AM	13	191	43	247	31	23	12	66	14	92	6	112	41	22	33	96	521
08:15 AM	19	201	24	244	24	32	13	69	8	105	4	117	44	16	34	94	524
08:30 AM	9	161	34	204	25	25	13	63	11	92	11	114	51	28	28	107	488
08:45 AM	12	182	36	230	24	28	14	66	18	130	5	153	34	28	23	85	534
Total	53	735	137	925	104	108	52	264	51	419	26	496	170	94	118	382	2067
Grand Total	98	1571	220	1889	203	179	110	492	85	750	54	889	297	170	239	706	3976
Apprch %	5.2	83.2	11.6		41.3	36.4	22.4		9.6	84.4	6.1		42.1	24.1	33.9		
Total %	2.5	39.5	5.5	47.5	5.1	4.5	2.8	12.4	2.1	18.9	1.4	22.4	7.5	4.3	6	17.8	

Start Time	Rose Drive Southbound				Alta Vista Street Westbound				Rose Drive Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	221	20	255	23	34	11	68	4	89	6	99	43	20	35	98	520
07:45 AM	14	227	40	281	23	18	18	59	12	115	7	134	50	33	38	121	595
08:00 AM	13	191	43	247	31	23	12	66	14	92	6	112	41	22	33	96	521
08:15 AM	19	201	24	244	24	32	13	69	8	105	4	117	44	16	34	94	524
Total Volume	60	840	127	1027	101	107	54	262	38	401	23	462	178	91	140	409	2160
% App. Total	5.8	81.8	12.4		38.5	40.8	20.6		8.2	86.8	5		43.5	22.2	34.2		
PHF	.789	.925	.738	.914	.815	.787	.750	.949	.679	.872	.821	.862	.890	.689	.921	.845	.908

City of Placentia
 N/S: Rose Drive
 E/W: Alta Vista Street
 Weather: Clear

File Name : 01_PLA_Rose_Alta AM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				08:00 AM				07:45 AM			
+0 mins.	14	221	20	255	31	23	12	66	14	92	6	112	50	33	38	121
+15 mins.	14	227	40	281	24	32	13	69	8	105	4	117	41	22	33	96
+30 mins.	13	191	43	247	25	25	13	63	11	92	11	114	44	16	34	94
+45 mins.	19	201	24	244	24	28	14	66	18	130	5	153	51	28	28	107
Total Volume	60	840	127	1027	104	108	52	264	51	419	26	496	186	99	133	418
% App. Total	5.8	81.8	12.4		39.4	40.9	19.7		10.3	84.5	5.2		44.5	23.7	31.8	
PHF	.789	.925	.738	.914	.839	.844	.929	.957	.708	.806	.591	.810	.912	.750	.875	.864

City of Placentia
 N/S: Rose Drive
 E/W: Alta Vista Street
 Weather: Clear

File Name : 01_PLA_Rose_Alta PM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 1

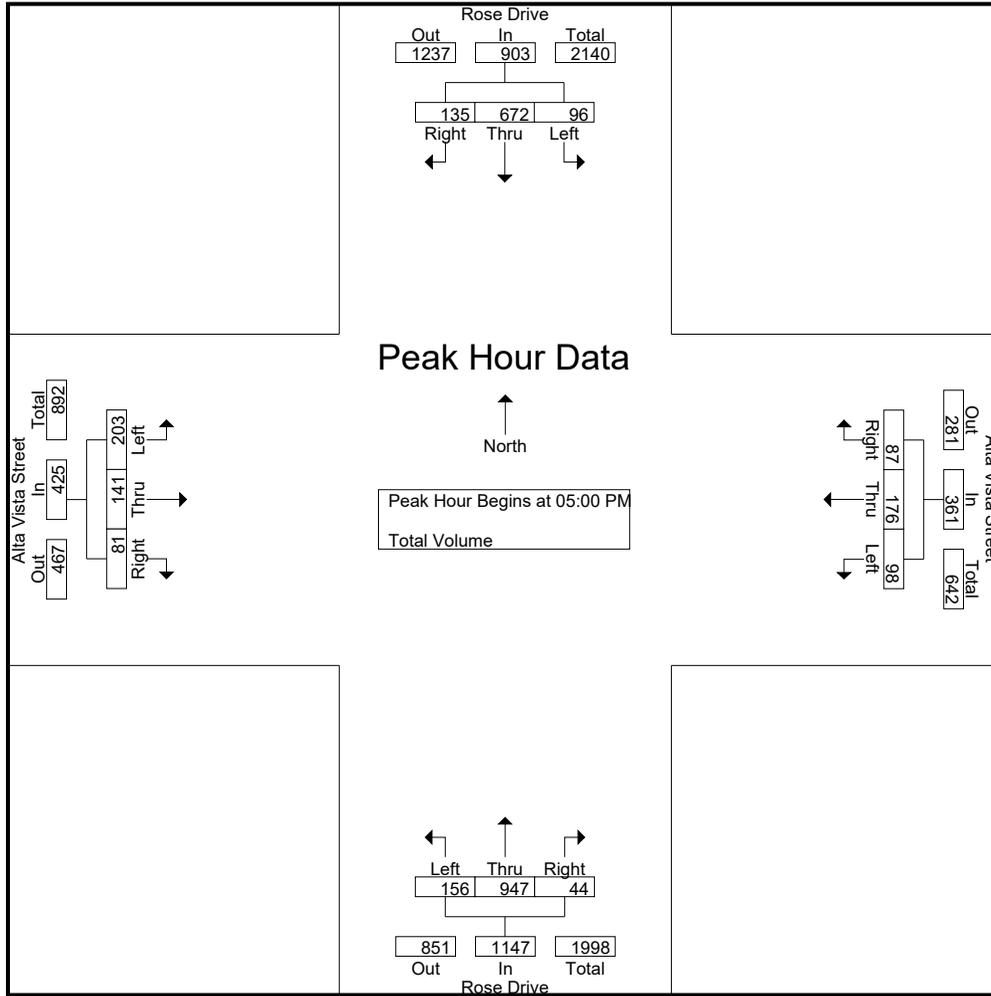
Groups Printed- Total Volume

Start Time	Rose Drive Southbound				Alta Vista Street Westbound				Rose Drive Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	25	151	49	225	15	34	20	69	36	187	8	231	35	36	23	94	619
04:15 PM	25	148	37	210	27	46	17	90	45	198	13	256	43	37	31	111	667
04:30 PM	20	159	36	215	25	50	19	94	37	243	8	288	49	33	21	103	700
04:45 PM	21	148	38	207	30	42	22	94	19	209	9	237	46	36	21	103	641
Total	91	606	160	857	97	172	78	347	137	837	38	1012	173	142	96	411	2627
05:00 PM	26	179	45	250	24	47	24	95	31	256	15	302	53	41	20	114	761
05:15 PM	27	181	36	244	20	50	22	92	32	207	13	252	52	35	25	112	700
05:30 PM	23	164	29	216	23	51	20	94	45	224	8	277	48	41	18	107	694
05:45 PM	20	148	25	193	31	28	21	80	48	260	8	316	50	24	18	92	681
Total	96	672	135	903	98	176	87	361	156	947	44	1147	203	141	81	425	2836
Grand Total	187	1278	295	1760	195	348	165	708	293	1784	82	2159	376	283	177	836	5463
Apprch %	10.6	72.6	16.8		27.5	49.2	23.3		13.6	82.6	3.8		45	33.9	21.2		
Total %	3.4	23.4	5.4	32.2	3.6	6.4	3	13	5.4	32.7	1.5	39.5	6.9	5.2	3.2	15.3	

Start Time	Rose Drive Southbound				Alta Vista Street Westbound				Rose Drive Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	26	179	45	250	24	47	24	95	31	256	15	302	53	41	20	114	761
05:15 PM	27	181	36	244	20	50	22	92	32	207	13	252	52	35	25	112	700
05:30 PM	23	164	29	216	23	51	20	94	45	224	8	277	48	41	18	107	694
05:45 PM	20	148	25	193	31	28	21	80	48	260	8	316	50	24	18	92	681
Total Volume	96	672	135	903	98	176	87	361	156	947	44	1147	203	141	81	425	2836
% App. Total	10.6	74.4	15		27.1	48.8	24.1		13.6	82.6	3.8		47.8	33.2	19.1		
PHF	.889	.928	.750	.903	.790	.863	.906	.950	.813	.911	.733	.907	.958	.860	.810	.932	.932

City of Placentia
 N/S: Rose Drive
 E/W: Alta Vista Street
 Weather: Clear

File Name : 01_PLA_Rose_Alta PM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				05:00 PM				04:45 PM			
+0 mins.	21	148	38	207	25	50	19	94	31	256	15	302	46	36	21	103
+15 mins.	26	179	45	250	30	42	22	94	32	207	13	252	53	41	20	114
+30 mins.	27	181	36	244	24	47	24	95	45	224	8	277	52	35	25	112
+45 mins.	23	164	29	216	20	50	22	92	48	260	8	316	48	41	18	107
Total Volume	97	672	148	917	99	189	87	375	156	947	44	1147	199	153	84	436
% App. Total	10.6	73.3	16.1		26.4	50.4	23.2		13.6	82.6	3.8		45.6	35.1	19.3	
PHF	.898	.928	.822	.917	.825	.945	.906	.987	.813	.911	.733	.907	.939	.933	.840	.956

City of Placentia
 N/S: Project Access Driveway
 E/W: Alta Vista Street
 Weather: Clear

File Name : 02_PLA_Proj_Alta AM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 1

Groups Printed- Total Volume

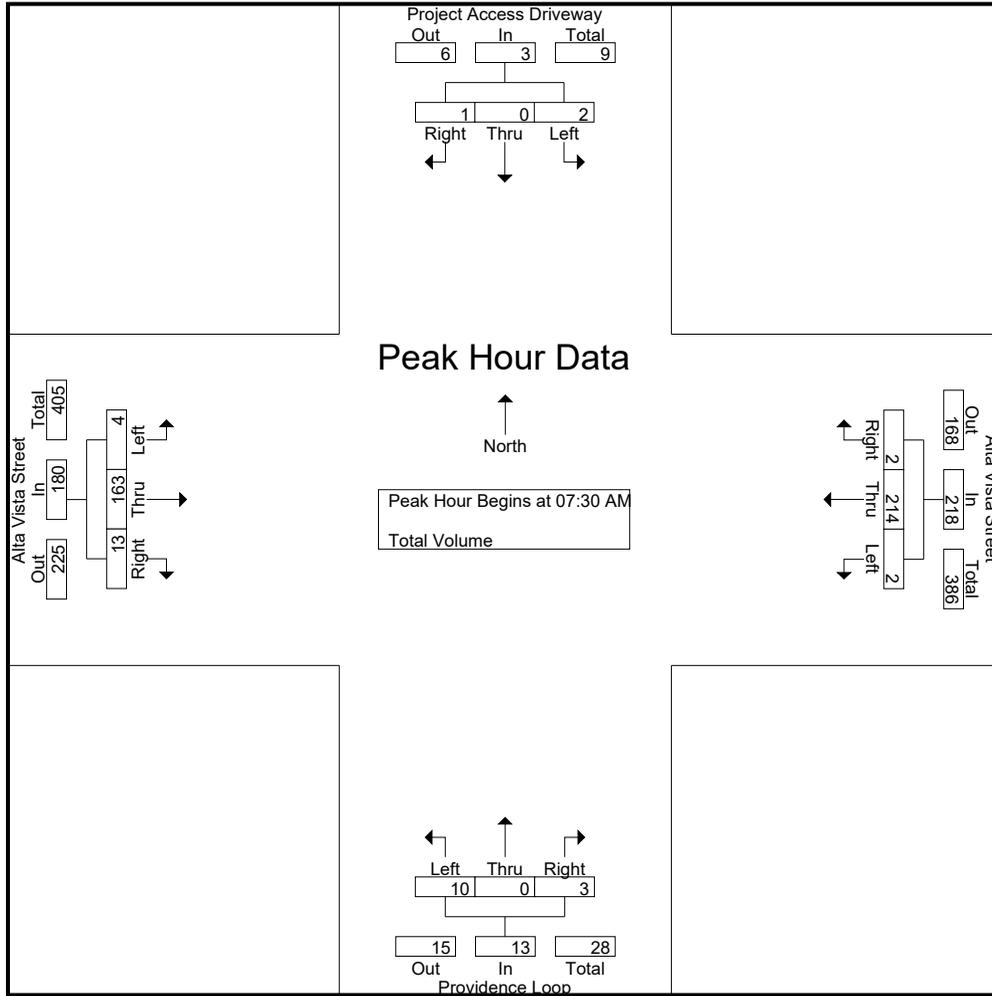
Start Time	Project Access Driveway Southbound				Alta Vista Street Westbound				Providence Loop Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	1	1	1	38	0	39	3	0	1	4	1	20	3	24	68
07:15 AM	0	0	1	1	0	35	0	35	5	0	1	6	1	22	6	29	71
07:30 AM	1	0	0	1	1	62	0	63	2	0	0	2	2	34	4	40	106
07:45 AM	1	0	0	1	0	52	0	52	4	0	1	5	1	54	3	58	116
Total	2	0	2	4	2	187	0	189	14	0	3	17	5	130	16	151	361
08:00 AM	0	0	1	1	0	49	2	51	4	0	2	6	0	40	3	43	101
08:15 AM	0	0	0	0	1	51	0	52	0	0	0	0	1	35	3	39	91
08:30 AM	0	0	0	0	0	52	0	52	5	0	0	5	0	42	3	45	102
08:45 AM	1	0	0	1	1	57	0	58	2	0	0	2	0	52	2	54	115
Total	1	0	1	2	2	209	2	213	11	0	2	13	1	169	11	181	409
Grand Total	3	0	3	6	4	396	2	402	25	0	5	30	6	299	27	332	770
Apprch %	50	0	50		1	98.5	0.5		83.3	0	16.7		1.8	90.1	8.1		
Total %	0.4	0	0.4	0.8	0.5	51.4	0.3	52.2	3.2	0	0.6	3.9	0.8	38.8	3.5	43.1	

Start Time	Project Access Driveway Southbound				Alta Vista Street Westbound				Providence Loop Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	1	0	0	1	1	62	0	63	2	0	0	2	2	34	4	40	106
07:45 AM	1	0	0	1	0	52	0	52	4	0	1	5	1	54	3	58	116
08:00 AM	0	0	1	1	0	49	2	51	4	0	2	6	0	40	3	43	101
08:15 AM	0	0	0	0	1	51	0	52	0	0	0	0	1	35	3	39	91
Total Volume	2	0	1	3	2	214	2	218	10	0	3	13	4	163	13	180	414
% App. Total	66.7	0	33.3		0.9	98.2	0.9		76.9	0	23.1		2.2	90.6	7.2		
PHF	.500	.000	.250	.750	.500	.863	.250	.865	.625	.000	.375	.542	.500	.755	.813	.776	.892

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Placentia
 N/S: Project Access Driveway
 E/W: Alta Vista Street
 Weather: Clear

File Name : 02_PLA_Proj_Alta AM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				07:15 AM				07:45 AM			
+0 mins.	0	0	1	1	1	62	0	63	5	0	1	6	1	54	3	58
+15 mins.	0	0	1	1	0	52	0	52	2	0	0	2	0	40	3	43
+30 mins.	1	0	0	1	0	49	2	51	4	0	1	5	1	35	3	39
+45 mins.	1	0	0	1	1	51	0	52	4	0	2	6	0	42	3	45
Total Volume	2	0	2	4	2	214	2	218	15	0	4	19	2	171	12	185
% App. Total	50	0	50		0.9	98.2	0.9		78.9	0	21.1		1.1	92.4	6.5	
PHF	.500	.000	.500	1.000	.500	.863	.250	.865	.750	.000	.500	.792	.500	.792	1.000	.797

City of Placentia
 N/S: Project Access Driveway
 E/W: Alta Vista Street
 Weather: Clear

File Name : 02_PLA_Proj_Alta PM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 1

Groups Printed- Total Volume

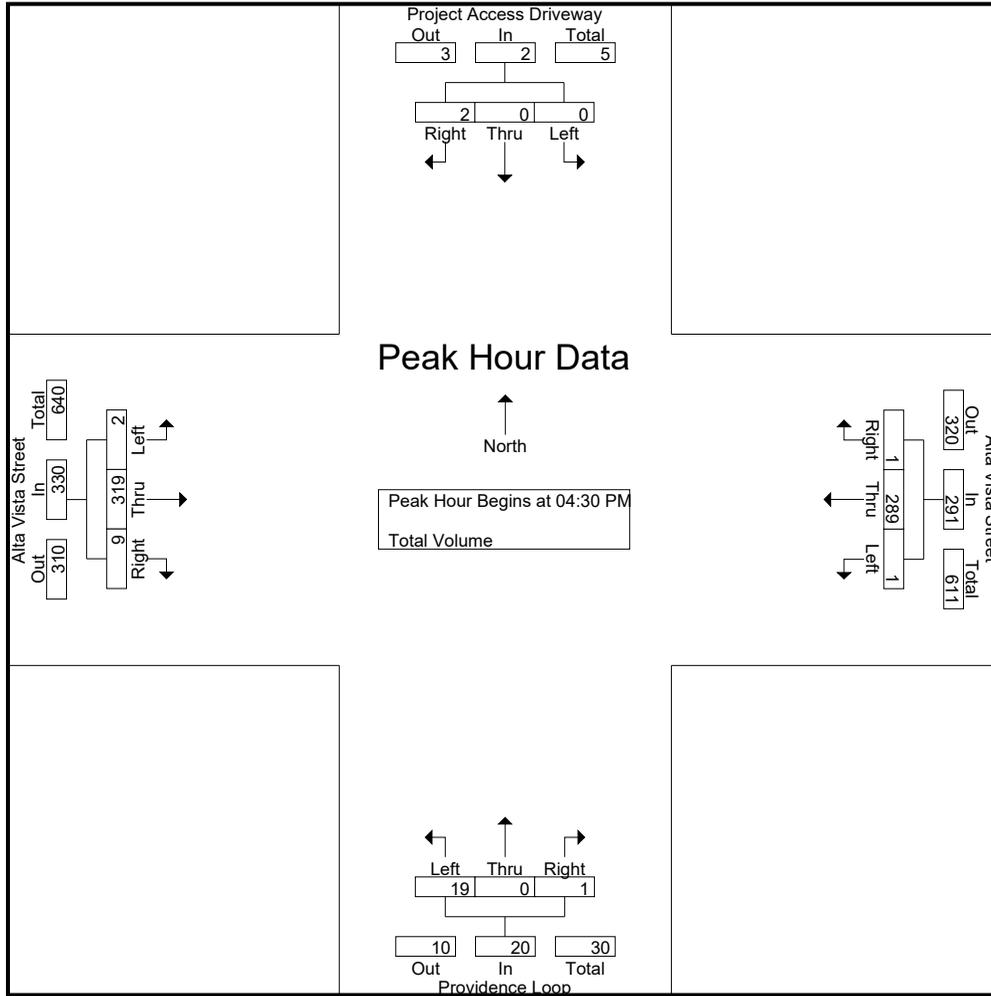
Start Time	Project Access Driveway Southbound				Alta Vista Street Westbound				Providence Loop Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	62	1	63	2	0	1	3	0	87	2	89	155
04:15 PM	0	0	1	1	0	51	0	51	5	0	0	5	1	76	0	77	134
04:30 PM	0	0	0	0	0	70	0	70	7	0	1	8	0	73	1	74	152
04:45 PM	0	0	2	2	1	63	1	65	5	0	0	5	1	74	2	77	149
Total	0	0	3	3	1	246	2	249	19	0	2	21	2	310	5	317	590
05:00 PM	0	0	0	0	0	80	0	80	6	0	0	6	0	90	4	94	180
05:15 PM	0	0	0	0	0	76	0	76	1	0	0	1	1	82	2	85	162
05:30 PM	0	0	0	0	1	61	1	63	2	0	1	3	1	83	1	85	151
05:45 PM	0	0	0	0	0	54	0	54	1	0	2	3	2	65	1	68	125
Total	0	0	0	0	1	271	1	273	10	0	3	13	4	320	8	332	618
Grand Total	0	0	3	3	2	517	3	522	29	0	5	34	6	630	13	649	1208
Apprch %	0	0	100		0.4	99	0.6		85.3	0	14.7		0.9	97.1	2		
Total %	0	0	0.2	0.2	0.2	42.8	0.2	43.2	2.4	0	0.4	2.8	0.5	52.2	1.1	53.7	

Start Time	Project Access Driveway Southbound				Alta Vista Street Westbound				Providence Loop Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	0	0	0	70	0	70	7	0	1	8	0	73	1	74	152
04:45 PM	0	0	2	2	1	63	1	65	5	0	0	5	1	74	2	77	149
05:00 PM	0	0	0	0	0	80	0	80	6	0	0	6	0	90	4	94	180
05:15 PM	0	0	0	0	0	76	0	76	1	0	0	1	1	82	2	85	162
Total Volume	0	0	2	2	1	289	1	291	19	0	1	20	2	319	9	330	643
% App. Total	0	0	100		0.3	99.3	0.3		95	0	5		0.6	96.7	2.7		
PHF	.000	.000	.250	.250	.250	.903	.250	.909	.679	.000	.250	.625	.500	.886	.563	.878	.893

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Placentia
 N/S: Project Access Driveway
 E/W: Alta Vista Street
 Weather: Clear

File Name : 02_PLA_Proj_Alta PM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:15 PM				04:45 PM			
+0 mins.	0	0	0	0	0	70	0	70	5	0	0	5	1	74	2	77
+15 mins.	0	0	1	1	1	63	1	65	7	0	1	8	0	90	4	94
+30 mins.	0	0	0	0	0	80	0	80	5	0	0	5	1	82	2	85
+45 mins.	0	0	2	2	0	76	0	76	6	0	0	6	1	83	1	85
Total Volume	0	0	3	3	1	289	1	291	23	0	1	24	3	329	9	341
% App. Total	0	0	100		0.3	99.3	0.3		95.8	0	4.2		0.9	96.5	2.6	
PHF	.000	.000	.375	.375	.250	.903	.250	.909	.821	.000	.250	.750	.750	.914	.563	.907

City of Placentia
 N/S: Jefferson Street
 E/W: Alta Vista Street
 Weather: Clear

File Name : 03_PLA_Jeff_Alta AM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 1

Groups Printed- Total Volume

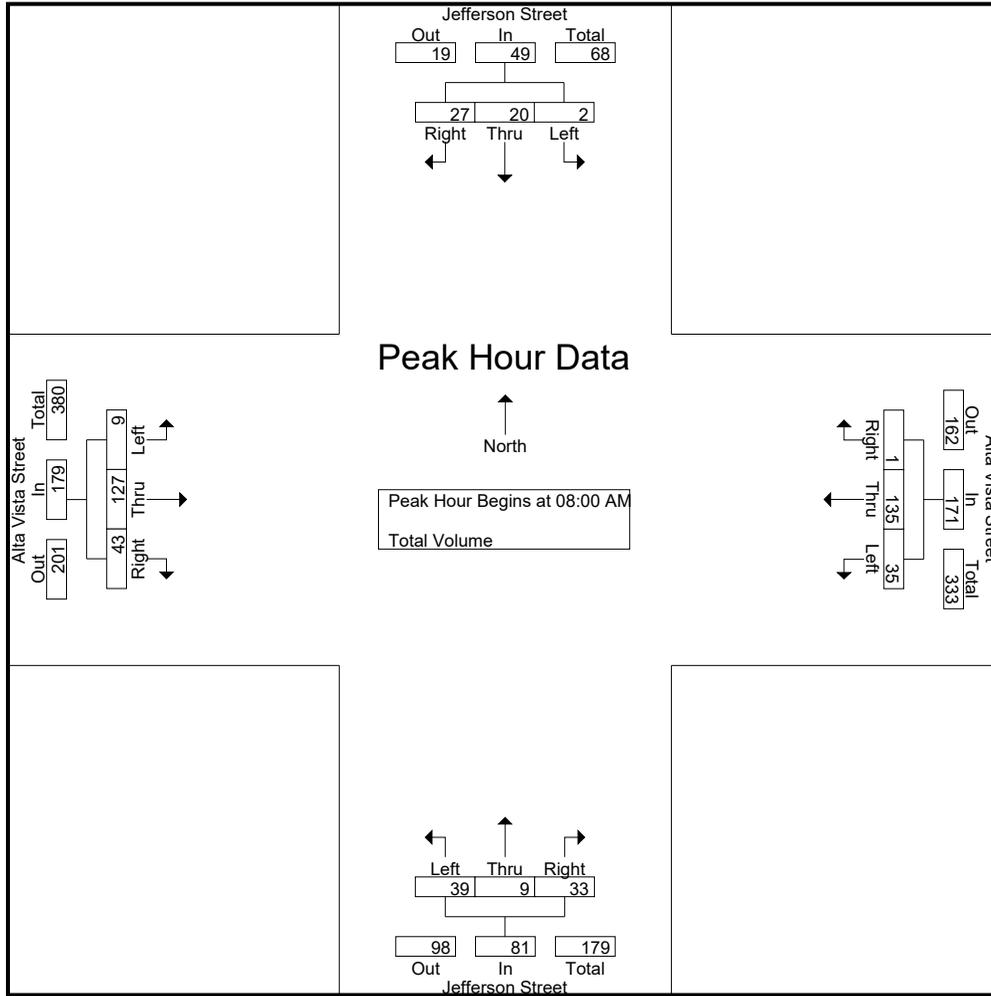
Start Time	Jefferson Street Southbound				Alta Vista Street Westbound				Jefferson Street Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	5	3	8	4	20	0	24	9	1	7	17	1	12	5	18	67
07:15 AM	0	8	2	10	3	26	0	29	8	2	3	13	2	10	9	21	73
07:30 AM	0	6	4	10	4	35	1	40	14	1	8	23	1	16	14	31	104
07:45 AM	1	4	4	9	11	32	2	45	17	5	12	34	4	39	15	58	146
Total	1	23	13	37	22	113	3	138	48	9	30	87	8	77	43	128	390
08:00 AM	0	7	6	13	5	31	0	36	10	2	6	18	3	22	16	41	108
08:15 AM	2	3	8	13	6	31	0	37	10	4	9	23	2	29	7	38	111
08:30 AM	0	4	7	11	6	34	0	40	9	0	8	17	3	31	8	42	110
08:45 AM	0	6	6	12	18	39	1	58	10	3	10	23	1	45	12	58	151
Total	2	20	27	49	35	135	1	171	39	9	33	81	9	127	43	179	480
Grand Total	3	43	40	86	57	248	4	309	87	18	63	168	17	204	86	307	870
Apprch %	3.5	50	46.5		18.4	80.3	1.3		51.8	10.7	37.5		5.5	66.4	28		
Total %	0.3	4.9	4.6	9.9	6.6	28.5	0.5	35.5	10	2.1	7.2	19.3	2	23.4	9.9	35.3	

Start Time	Jefferson Street Southbound				Alta Vista Street Westbound				Jefferson Street Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	7	6	13	5	31	0	36	10	2	6	18	3	22	16	41	108
08:15 AM	2	3	8	13	6	31	0	37	10	4	9	23	2	29	7	38	111
08:30 AM	0	4	7	11	6	34	0	40	9	0	8	17	3	31	8	42	110
08:45 AM	0	6	6	12	18	39	1	58	10	3	10	23	1	45	12	58	151
Total Volume	2	20	27	49	35	135	1	171	39	9	33	81	9	127	43	179	480
% App. Total	4.1	40.8	55.1		20.5	78.9	0.6		48.1	11.1	40.7		5	70.9	24		
PHF	.250	.714	.844	.942	.486	.865	.250	.737	.975	.563	.825	.880	.750	.706	.672	.772	.795

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Placentia
 N/S: Jefferson Street
 E/W: Alta Vista Street
 Weather: Clear

File Name : 03_PLA_Jeff_Alta AM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:30 AM				07:45 AM			
+0 mins.	0	7	6	13	5	31	0	36	14	1	8	23	4	39	15	58
+15 mins.	2	3	8	13	6	31	0	37	17	5	12	34	3	22	16	41
+30 mins.	0	4	7	11	6	34	0	40	10	2	6	18	2	29	7	38
+45 mins.	0	6	6	12	18	39	1	58	10	4	9	23	3	31	8	42
Total Volume	2	20	27	49	35	135	1	171	51	12	35	98	12	121	46	179
% App. Total	4.1	40.8	55.1		20.5	78.9	0.6		52	12.2	35.7		6.7	67.6	25.7	
PHF	.250	.714	.844	.942	.486	.865	.250	.737	.750	.600	.729	.721	.750	.776	.719	.772

City of Placentia
 N/S: Jefferson Street
 E/W: Alta Vista Street
 Weather: Clear

File Name : 03_PLA_Jeff_Alta PM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 1

Groups Printed- Total Volume

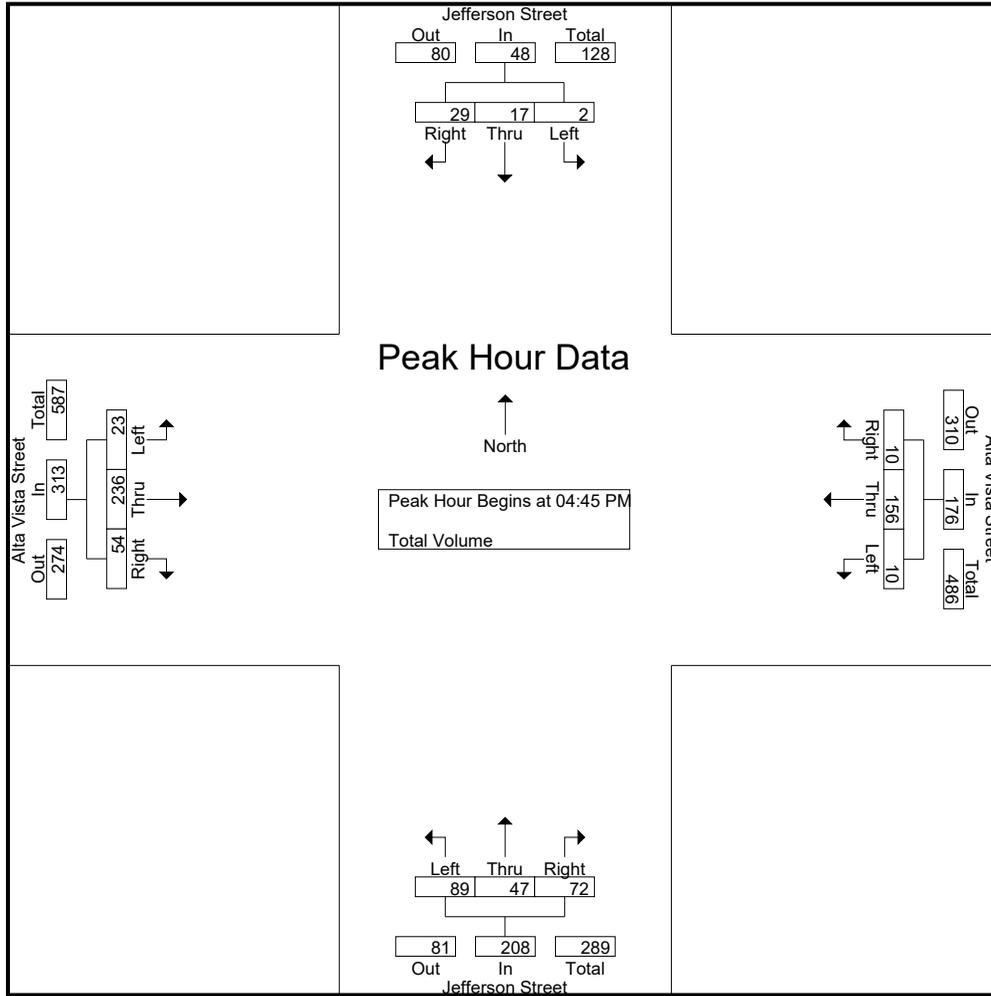
Start Time	Jefferson Street Southbound				Alta Vista Street Westbound				Jefferson Street Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	1	8	9	10	32	0	42	22	7	8	37	7	61	16	84	172
04:15 PM	0	2	6	8	1	29	1	31	17	5	17	39	3	54	13	70	148
04:30 PM	1	4	0	5	2	47	0	49	21	9	16	46	4	44	19	67	167
04:45 PM	1	3	8	12	2	37	3	42	14	16	20	50	7	54	10	71	175
Total	2	10	22	34	15	145	4	164	74	37	61	172	21	213	58	292	662
05:00 PM	0	6	7	13	5	43	4	52	30	12	18	60	3	67	14	84	209
05:15 PM	0	5	7	12	1	43	3	47	24	6	19	49	8	52	13	73	181
05:30 PM	1	3	7	11	2	33	0	35	21	13	15	49	5	63	17	85	180
05:45 PM	2	4	3	9	2	34	1	37	16	3	11	30	7	45	12	64	140
Total	3	18	24	45	10	153	8	171	91	34	63	188	23	227	56	306	710
Grand Total	5	28	46	79	25	298	12	335	165	71	124	360	44	440	114	598	1372
Apprch %	6.3	35.4	58.2		7.5	89	3.6		45.8	19.7	34.4		7.4	73.6	19.1		
Total %	0.4	2	3.4	5.8	1.8	21.7	0.9	24.4	12	5.2	9	26.2	3.2	32.1	8.3	43.6	

Start Time	Jefferson Street Southbound				Alta Vista Street Westbound				Jefferson Street Northbound				Alta Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	1	3	8	12	2	37	3	42	14	16	20	50	7	54	10	71	175
05:00 PM	0	6	7	13	5	43	4	52	30	12	18	60	3	67	14	84	209
05:15 PM	0	5	7	12	1	43	3	47	24	6	19	49	8	52	13	73	181
05:30 PM	1	3	7	11	2	33	0	35	21	13	15	49	5	63	17	85	180
Total Volume	2	17	29	48	10	156	10	176	89	47	72	208	23	236	54	313	745
% App. Total	4.2	35.4	60.4		5.7	88.6	5.7		42.8	22.6	34.6		7.3	75.4	17.3		
PHF	.500	.708	.906	.923	.500	.907	.625	.846	.742	.734	.900	.867	.719	.881	.794	.921	.891

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

City of Placentia
 N/S: Jefferson Street
 E/W: Alta Vista Street
 Weather: Clear

File Name : 03_PLA_Jeff_Alta PM
 Site Code : 05122659
 Start Date : 7/28/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:45 PM				04:45 PM			
+0 mins.	1	3	8	12	2	47	0	49	14	16	20	50	7	54	10	71
+15 mins.	0	6	7	13	2	37	3	42	30	12	18	60	3	67	14	84
+30 mins.	0	5	7	12	5	43	4	52	24	6	19	49	8	52	13	73
+45 mins.	1	3	7	11	1	43	3	47	21	13	15	49	5	63	17	85
Total Volume	2	17	29	48	10	170	10	190	89	47	72	208	23	236	54	313
% App. Total	4.2	35.4	60.4		5.3	89.5	5.3		42.8	22.6	34.6		7.3	75.4	17.3	
PHF	.500	.708	.906	.923	.500	.904	.625	.913	.742	.734	.900	.867	.719	.881	.794	.921

Counts Unlimited, Inc.

City of Placentia
 Alta Vista Street
 B/ Alta Vista Residential - Jefferson Street
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 (951) 268-6268
 email: counts@countsunlimited.com

PLA002
 Site Code: 051-22659

Start Time	7/28/22 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	64			5	64				
12:15		5	62			2	51				
12:30		3	49			4	53				
12:45		7	66	21	241	2	46	13	214	34	455
01:00		0	71			3	54				
01:15		4	64			3	47				
01:30		1	53			1	65				
01:45		3	69	8	257	2	54	9	220	17	477
02:00		0	68			0	62				
02:15		1	56			1	58				
02:30		1	56			0	54				
02:45		1	51	3	231	1	61	2	235	5	466
03:00		3	73			3	57				
03:15		0	64			3	63				
03:30		2	54			2	58				
03:45		2	62	7	253	1	52	9	230	16	483
04:00		0	82			1	61				
04:15		2	69			2	52				
04:30		1	66			4	69				
04:45		9	72	12	289	7	59	14	241	26	530
05:00		3	83			9	81				
05:15		9	77			11	73				
05:30		9	83			8	61				
05:45		28	64	49	307	16	54	44	269	93	576
06:00		15	81			11	74				
06:15		19	71			19	47				
06:30		14	75			29	50				
06:45		27	74	75	301	38	64	97	235	172	536
07:00		19	58			33	30				
07:15		22	58			36	37				
07:30		30	52			54	26				
07:45		59	46	130	214	54	34	177	127	307	341
08:00		40	51			49	28				
08:15		38	46			48	21				
08:30		45	41			49	24				
08:45		55	46	178	184	56	25	202	98	380	282
09:00		48	30			51	26				
09:15		31	31			47	29				
09:30		34	26			41	25				
09:45		43	33	156	120	49	16	188	96	344	216
10:00		34	26			54	10				
10:15		36	19			47	15				
10:30		45	22			55	16				
10:45		47	13	162	80	48	12	204	53	366	133
11:00		50	14			58	9				
11:15		49	12			50	2				
11:30		54	12			48	10				
11:45		54	5	207	43	57	5	213	26	420	69
Total		1008	2520	1008	2520	1172	2044	1172	2044	2180	4564
Combined Total		3528		3528		3216		3216		6744	
AM Peak	-	11:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	207	-	-	-	213	-	-	-	-	-
P.H.F.	-	0.958	-	-	-	0.918	-	-	-	-	-
PM Peak	-	-	04:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	315	-	-	-	282	-	-	-	-
P.H.F.	-	-	0.949	-	-	-	0.870	-	-	-	-
Percentage		28.6%	71.4%			36.4%	63.6%				
ADT/AADT		ADT 6,744		AADT 6,744							

Counts Unlimited, Inc.

City of Placentia
 Alta Vista Street
 B/ Rose Drive - Alta Vista Residential
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 (951) 268-6268
 email: counts@countsunlimited.com

PLA001
 Site Code: 051-22659

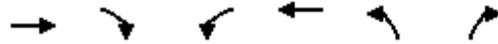
Start Time	7/28/22 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	57			6	66				
12:15		7	56			2	63				
12:30		3	48			6	61				
12:45		5	59	19	220	2	50	16	240	35	460
01:00		1	54			2	54				
01:15		2	50			3	57				
01:30		2	53			2	67				
01:45		3	61	8	218	2	53	9	231	17	449
02:00		0	62			0	64				
02:15		4	51			1	59				
02:30		1	60			1	66				
02:45		1	42	6	215	1	66	3	255	9	470
03:00		1	55			4	61				
03:15		1	45			3	69				
03:30		3	45			2	68				
03:45		2	60	7	205	1	57	10	255	17	460
04:00		2	66			1	61				
04:15		1	70			2	54				
04:30		0	60			5	75				
04:45		9	68	12	264	8	69	16	259	28	523
05:00		4	77			10	85				
05:15		7	78			12	74				
05:30		13	68			10	66				
05:45		29	53	53	276	19	54	51	279	104	555
06:00		17	63			13	75				
06:15		24	71			17	50				
06:30		21	60			32	60				
06:45		37	60	99	254	36	62	98	247	197	501
07:00		24	48			41	37				
07:15		32	37			44	42				
07:30		45	43			64	29				
07:45		54	38	155	166	59	36	208	144	363	310
08:00		43	41			54	34				
08:15		42	33			53	19				
08:30		50	37			57	33				
08:45		47	34	182	145	61	28	225	114	407	259
09:00		46	26			51	24				
09:15		39	30			54	31				
09:30		28	23			45	28				
09:45		50	26	163	105	49	14	199	97	362	202
10:00		38	28			62	12				
10:15		32	20			51	13				
10:30		41	20			71	19				
10:45		46	11	157	79	57	13	241	57	398	136
11:00		50	15			60	12				
11:15		46	8			58	3				
11:30		52	13			57	9				
11:45		45	4	193	40	63	6	238	30	431	70
Total		1054	2187	1054	2187	1314	2208	1314	2208	2368	4395
Combined Total		3241		3241		3522		3522		6763	
AM Peak	-	10:45	-	-	-	10:30	-	-	-	-	-
Vol.	-	194	-	-	-	246	-	-	-	-	-
P.H.F.	-	0.933	-	-	-	0.866	-	-	-	-	-
PM Peak	-	-	04:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	291	-	-	-	303	-	-	-	-
P.H.F.	-	-	0.933	-	-	-	0.891	-	-	-	-
Percentage		32.5%	67.5%			37.3%	62.7%				
ADT/AADT		ADT 6,763		AADT 6,763							

APPENDIX 4.1: EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Lanes, Volumes, Timings
 2: Alta Vista Residential & Alta Vista St.

Existing (2022) AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Traffic Volume (vph)	297	23	4	385	18	5
Future Volume (vph)	297	23	4	385	18	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		90	0
Storage Lanes		0	1		0	0
Taper Length (ft)			90		90	
Link Speed (mph)	45			45	30	
Link Distance (ft)	832			1183	173	
Travel Time (s)	12.6			17.9	3.9	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	297	23	4	385	18	5
Future Vol, veh/h	297	23	4	385	18	5
Conflicting Peds, #/hr	0	5	5	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	334	26	4	433	20	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	365	0	582
Stage 1	-	-	-	-	352
Stage 2	-	-	-	-	230
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1190	-	444
Stage 1	-	-	-	-	683
Stage 2	-	-	-	-	786
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1184	-	438
Mov Cap-2 Maneuver	-	-	-	-	529
Stage 1	-	-	-	-	680
Stage 2	-	-	-	-	780

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	572	-	-	1184	-
HCM Lane V/C Ratio	0.045	-	-	0.004	-
HCM Control Delay (s)	11.6	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Jefferson St. (NS) / Alta Vista (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.293
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 17 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	69	16	59	4	35	48	16	225	76	63	240	1
Growth 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
Initial Bse:	69	16	59	4	35	48	16	225	76	63	240	1
User 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
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	86	20	74	5	44	60	20	281	95	79	300	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	20	74	5	44	60	20	281	95	79	300	1
PCE 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
MLF 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
FinalVolume:	86	20	74	5	44	60	20	281	95	79	300	1

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	0.50	1.00	1.99	0.01
Final Sat.:	1700	1700	1700	1700	1700	1700	1700	2542	858	1700	3386	14

Capacity Analysis Module:

Vol/Sat:	0.05	0.01	0.04	0.00	0.03	0.04	0.01	0.11	0.11	0.05	0.09	0.09
Crit Moves:	****			****			****			****		

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Rose Dr. (NS) / Alta Vista St. (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.637
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	2	1	0	0	2	0	3	0	1	0	1	0	1	1	1	0

Volume Module:

Base Vol:	173	1134	45	129	859	216	304	233	129	114	261	93
Growth 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
Initial Bse:	173	1134	45	129	859	216	304	233	129	114	261	93
User 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
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	184	1206	48	137	914	230	323	248	137	121	278	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	1206	48	137	914	230	323	248	137	121	278	99
PCE 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
MLF 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
FinalVolume:	184	1206	48	137	914	230	323	248	137	121	278	99

Saturation Flow Module:

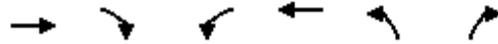
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	3.00	1.00	1.00	1.29	0.71	1.00	1.47	0.53
Final Sat.:	3400	4905	195	3400	5100	1700	1700	2188	1212	1700	2507	893

Capacity Analysis Module:

Vol/Sat:	0.05	0.25	0.25	0.04	0.18	0.14	0.19	0.11	0.11	0.07	0.11	0.11
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 2: Alta Vista Residential & Alta Vista St.

Existing (2022) PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Traffic Volume (vph)	418	11	1	380	25	1
Future Volume (vph)	418	11	1	380	25	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		90	0
Storage Lanes		0	1		0	0
Taper Length (ft)			90		90	
Link Speed (mph)	45			45	30	
Link Distance (ft)	832			1183	173	
Travel Time (s)	12.6			17.9	3.9	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	418	11	1	380	25	1
Future Vol, veh/h	418	11	1	380	25	1
Conflicting Peds, #/hr	0	5	5	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	470	12	1	427	28	1

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	487	0	702
Stage 1	-	-	-	-	481
Stage 2	-	-	-	-	221
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1072	-	372
Stage 1	-	-	-	-	588
Stage 2	-	-	-	-	795
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1067	-	368
Mov Cap-2 Maneuver	-	-	-	-	467
Stage 1	-	-	-	-	585
Stage 2	-	-	-	-	790

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	474	-	-	1067	-
HCM Lane V/C Ratio	0.062	-	-	0.001	-
HCM Control Delay (s)	13.1	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Jefferson St. (NS) / Alta Vista (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.285
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 17 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	116	61	94	3	23	38	30	306	70	13	203	13
Growth 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
Initial Bse:	116	61	94	3	23	38	30	306	70	13	203	13
User 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
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	130	69	106	3	26	43	34	344	79	15	228	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	69	106	3	26	43	34	344	79	15	228	15
PCE 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
MLF 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
FinalVolume:	130	69	106	3	26	43	34	344	79	15	228	15

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.63	0.37	1.00	1.88	0.12
Final Sat.:	1700	1700	1700	1700	1700	1700	1700	2767	633	1700	3195	205

Capacity Analysis Module:

Vol/Sat:	0.08	0.04	0.06	0.00	0.02	0.03	0.02	0.12	0.12	0.01	0.07	0.07
Crit Moves:	****					****	****			****		

**APPENDIX 4.2: EXISTING PLUS APPROVED AND PENDING PROJECTS
CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

This Page Intentionally Left Blank

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Rose Dr. (NS) / Alta Vista St. (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.736
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 41 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	2	1	0	0	2	0	3	0	1	0	1	0	1	1	1	0

Volume Module:

Base Vol:	95	583	34	141	1456	260	301	284	226	155	268	141
Growth 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
Initial Bse:	95	583	34	141	1456	260	301	284	226	155	268	141
User 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
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	107	655	38	158	1636	292	338	319	254	174	301	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	655	38	158	1636	292	338	319	254	174	301	158
PCE 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
MLF 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
FinalVolume:	107	655	38	158	1636	292	338	319	254	174	301	158

Saturation Flow Module:

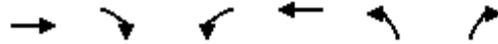
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.83	0.17	2.00	3.00	1.00	1.00	1.11	0.89	1.00	1.31	0.69
Final Sat.:	3400	4819	281	3400	5100	1700	1700	1893	1507	1700	2228	1172

Capacity Analysis Module:

Vol/Sat:	0.03	0.14	0.14	0.05	0.32	0.17	0.20	0.17	0.17	0.10	0.14	0.14
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 2: Alta Vista Residential & Alta Vista St.

Existing + Approved & Pending AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Traffic Volume (vph)	304	26	4	397	26	6
Future Volume (vph)	304	26	4	397	26	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		90	0
Storage Lanes		0	1		0	0
Taper Length (ft)			90		90	
Link Speed (mph)	45			45	30	
Link Distance (ft)	832			1183	173	
Travel Time (s)	12.6			17.9	3.9	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

HCM 6th TWSC
2: Alta Vista Residential & Alta Vista St.

Existing + Approved & Pending AM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Traffic Vol, veh/h	304	26	4	397	26	6
Future Vol, veh/h	304	26	4	397	26	6
Conflicting Peds, #/hr	0	5	5	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	342	29	4	446	29	7

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	376	0	598
Stage 1	-	-	-	-	362
Stage 2	-	-	-	-	236
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1179	-	434
Stage 1	-	-	-	-	675
Stage 2	-	-	-	-	781
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1173	-	428
Mov Cap-2 Maneuver	-	-	-	-	521
Stage 1	-	-	-	-	672
Stage 2	-	-	-	-	775

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	558	-	-	1173	-
HCM Lane V/C Ratio	0.064	-	-	0.004	-
HCM Control Delay (s)	11.9	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Jefferson St. (NS) / Alta Vista (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.300
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 17 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	69	17	59	5	37	54	18	231	76	63	247	2
Growth 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
Initial Bse:	69	17	59	5	37	54	18	231	76	63	247	2
User 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
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	86	21	74	6	46	68	23	289	95	79	309	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	21	74	6	46	68	23	289	95	79	309	3
PCE 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
MLF 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
FinalVolume:	86	21	74	6	46	68	23	289	95	79	309	3

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	0.50	1.00	1.98	0.02
Final Sat.:	1700	1700	1700	1700	1700	1700	1700	2558	842	1700	3373	27

Capacity Analysis Module:

Vol/Sat:	0.05	0.01	0.04	0.00	0.03	0.04	0.01	0.11	0.11	0.05	0.09	0.09
Crit Moves:	****			****			****			****		

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Rose Dr. (NS) / Alta Vista St. (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.654
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	2	1	0	0	2	0	3	0	1	0	1	0	1	1	1	0

Volume Module:

Base Vol:	173	1157	63	141	886	216	304	241	129	151	267	102
Growth 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
Initial Bse:	173	1157	63	141	886	216	304	241	129	151	267	102
User 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
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	184	1231	67	150	943	230	323	256	137	161	284	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	1231	67	150	943	230	323	256	137	161	284	109
PCE 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
MLF 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
FinalVolume:	184	1231	67	150	943	230	323	256	137	161	284	109

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.85	0.15	2.00	3.00	1.00	1.00	1.30	0.70	1.00	1.45	0.55
Final Sat.:	3400	4837	263	3400	5100	1700	1700	2215	1185	1700	2460	940

Capacity Analysis Module:

Vol/Sat:	0.05	0.25	0.25	0.04	0.18	0.14	0.19	0.12	0.12	0.09	0.12	0.12
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
2: Alta Vista Residential & Alta Vista St.

Existing + Approved & Pending PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Traffic Volume (vph)	430	21	2	391	30	2
Future Volume (vph)	430	21	2	391	30	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		90	0
Storage Lanes		0	1		0	0
Taper Length (ft)			90		90	
Link Speed (mph)	45			45	30	
Link Distance (ft)	832			1183	173	
Travel Time (s)	12.6			17.9	3.9	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
2: Alta Vista Residential & Alta Vista St.

Existing + Approved & Pending PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	430	21	2	391	30	2
Future Vol, veh/h	430	21	2	391	30	2
Conflicting Peds, #/hr	0	5	5	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	483	24	2	439	34	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	512	0	729 264
Stage 1	-	-	-	-	500 -
Stage 2	-	-	-	-	229 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1050	-	358 734
Stage 1	-	-	-	-	575 -
Stage 2	-	-	-	-	787 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1045	-	354 727
Mov Cap-2 Maneuver	-	-	-	-	455 -
Stage 1	-	-	-	-	572 -
Stage 2	-	-	-	-	781 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	466	-	-	1045	-
HCM Lane V/C Ratio	0.077	-	-	0.002	-
HCM Control Delay (s)	13.4	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Jefferson St. (NS) / Alta Vista (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.289
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 17 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	116	63	94	4	24	42	37	312	70	13	210	14
Growth 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
Initial Bse:	116	63	94	4	24	42	37	312	70	13	210	14
User 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
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	130	71	106	4	27	47	42	351	79	15	236	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	71	106	4	27	47	42	351	79	15	236	16
PCE 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
MLF 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
FinalVolume:	130	71	106	4	27	47	42	351	79	15	236	16

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.63	0.37	1.00	1.87	0.13
Final Sat.:	1700	1700	1700	1700	1700	1700	1700	2777	623	1700	3187	213

Capacity Analysis Module:

Vol/Sat:	0.08	0.04	0.06	0.00	0.02	0.03	0.02	0.13	0.13	0.01	0.07	0.07
Crit Moves:	****					****	****			****		

**APPENDIX 4.3: EXISTING PLUS APPROVED AND PENDING PROJECTS
PLUS PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS
WORKSHEETS**

This Page Intentionally Left Blank

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects Plus Project
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Rose Dr. (NS) / Alta Vista St. (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.785
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 49 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	2	1	0	0	2	0	3	0	1	0	1	0	1	1	1	0

Volume Module:

Base Vol:	95	583	39	146	1456	260	301	286	226	171	273	154
Growth 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
Initial Bse:	95	583	39	146	1456	260	301	286	226	171	273	154
User 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
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	107	655	44	164	1636	292	338	321	254	192	307	173
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	655	44	164	1636	292	338	321	254	192	307	173
PCE 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
MLF 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
FinalVolume:	107	655	44	164	1636	292	338	321	254	192	307	173

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.81	0.19	2.00	3.00	1.00	1.00	1.12	0.88	1.00	1.28	0.72
Final Sat.:	3200	4499	301	3200	4800	1600	1600	1788	1413	1600	2046	1154

Capacity Analysis Module:

Vol/Sat:	0.03	0.15	0.15	0.05	0.34	0.18	0.21	0.18	0.18	0.12	0.15	0.15
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings

Existing + Approved & Pending + Project AM Peak Hour

2: Alta Vista Residential/Project Access & Alta Vista St.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	 
Traffic Volume (vph)	12	304	26	4	397	6	26	1	6	18	1	34
Future Volume (vph)	12	304	26	4	397	6	26	1	6	18	1	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	90		0	75		50
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	90			90			90			60		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		832			1183			173			214	
Travel Time (s)		12.6			17.9			3.9			4.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2: Alta Vista Residential/Project Access & Alta Vista St.

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	304	26	4	397	6	26	1	6	18	1	34
Future Vol, veh/h	12	304	26	4	397	6	26	1	6	18	1	34
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	150	-	-	150	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	342	29	4	446	7	29	1	7	20	1	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	376	0	0	625	854	196	666	865	237
Stage 1	-	-	-	-	-	-	388	388	-	463	463	-
Stage 2	-	-	-	-	-	-	237	466	-	203	402	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1099	-	-	1179	-	-	369	294	812	345	290	764
Stage 1	-	-	-	-	-	-	607	607	-	548	562	-
Stage 2	-	-	-	-	-	-	745	561	-	780	599	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1094	-	-	1173	-	-	342	287	804	334	283	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	287	-	334	283	-
Stage 1	-	-	-	-	-	-	597	597	-	539	558	-
Stage 2	-	-	-	-	-	-	700	557	-	759	589	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			15.5			12.4		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	379	1094	-	-	1173	-	-	331	757
HCM Lane V/C Ratio	0.098	0.012	-	-	0.004	-	-	0.064	0.05
HCM Control Delay (s)	15.5	8.3	-	-	8.1	-	-	16.6	10
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2	0.2

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects Plus Project
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Jefferson St. (NS) / Alta Vista (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.325
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 18 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	73	17	59	5	37	54	18	239	86	63	250	2
Growth 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
Initial Bse:	73	17	59	5	37	54	18	239	86	63	250	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	17	59	5	37	54	18	239	86	63	250	2
User 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
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	91	21	74	6	46	68	23	299	108	79	313	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	21	74	6	46	68	23	299	108	79	313	3
PCE 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
MLF 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
FinalVolume:	91	21	74	6	46	68	23	299	108	79	313	3

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.47	0.53	1.00	1.98	0.02
Final Sat.:	1600	1600	1600	1600	1600	1600	1600	2353	847	1600	3175	25

Capacity Analysis Module:

Vol/Sat:	0.06	0.01	0.05	0.00	0.03	0.04	0.01	0.13	0.13	0.05	0.10	0.10
Crit Moves:	****					****		****		****		

Lanes, Volumes, Timings

Existing + Approved & Pending + Project PM Peak Hour

2: Alta Vista Residential/Project Access & Alta Vista St.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	38	430	21	2	391	21	30	1	2	12	1	23
Future Volume (vph)	38	430	21	2	391	21	30	1	2	12	1	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	90		0	75		50
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	90			90			90			60		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		832			1183			173			214	
Travel Time (s)		12.6			17.9			3.9			4.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2: Alta Vista Residential/Project Access & Alta Vista St.

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↘		↙	↑↘			↕			↕	↗
Traffic Vol, veh/h	38	430	21	2	391	21	30	1	2	12	1	23
Future Vol, veh/h	38	430	21	2	391	21	30	1	2	12	1	23
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	150	-	-	150	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	483	24	2	439	24	34	1	2	13	1	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	468	0	0	512	0	0	815	1058	264	793	1058	242
Stage 1	-	-	-	-	-	-	586	586	-	460	460	-
Stage 2	-	-	-	-	-	-	229	472	-	333	598	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1090	-	-	1050	-	-	269	223	734	279	223	759
Stage 1	-	-	-	-	-	-	463	495	-	551	564	-
Stage 2	-	-	-	-	-	-	753	557	-	654	489	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1085	-	-	1045	-	-	248	212	727	266	212	752
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	212	-	266	212	-
Stage 1	-	-	-	-	-	-	443	473	-	527	560	-
Stage 2	-	-	-	-	-	-	721	553	-	622	467	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	21.4	13.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	257	1085	-	-	1045	-	-	261	752
HCM Lane V/C Ratio	0.144	0.039	-	-	0.002	-	-	0.056	0.034
HCM Control Delay (s)	21.4	8.5	-	-	8.5	-	-	19.6	10
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.2	0.1

 Alta Vista Residential - North Parcel Traffic Analysis
 Existing Plus Approved and Pending Projects Plus Project
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Jefferson St. (NS) / Alta Vista (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.317
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 18 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	128	63	94	4	24	42	37	318	77	13	219	14
Growth 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
Initial Bse:	128	63	94	4	24	42	37	318	77	13	219	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	128	63	94	4	24	42	37	318	77	13	219	14
User 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
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	144	71	106	4	27	47	42	357	87	15	246	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	71	106	4	27	47	42	357	87	15	246	16
PCE 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
MLF 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
FinalVolume:	144	71	106	4	27	47	42	357	87	15	246	16

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.61	0.39	1.00	1.88	0.12
Final Sat.:	1600	1600	1600	1600	1600	1600	1600	2576	624	1600	3008	192

Capacity Analysis Module:

Vol/Sat:	0.09	0.04	0.07	0.00	0.02	0.03	0.03	0.14	0.14	0.01	0.08	0.08
Crit Moves:	****					****		****		****		

Queuing and Blocking Report Existing + Approved & Pending + Project AM Peak Hour
 Existing + Approved & Pending + Project AM Peak Hour

Intersection: 2: Alta Vista Residential/Project Access & Alta Vista St.

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	11	4	11	10	6	57	29	42
Average Queue (ft)	2	0	2	1	1	32	10	21
95th Queue (ft)	13	5	13	11	11	61	33	48
Link Distance (ft)		719	719		1105	126	131	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150			150				50
Storage Blk Time (%)								1
Queuing Penalty (veh)								0

Intersection: 12: Project Access & Gate

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	31	44
Average Queue (ft)	14	23
95th Queue (ft)	39	50
Link Distance (ft)	131	120
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0

Queuing and Blocking Report Existing + Approved & Pending + Project PM Peak Hour
 Existing + Approved & Pending + Project PM Peak Hour

Intersection: 2: Alta Vista Residential/Project Access & Alta Vista St.

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	23	12	11	5	10	15	49	34	44
Average Queue (ft)	6	2	2	1	1	2	27	11	18
95th Queue (ft)	20	16	15	8	15	14	58	36	48
Link Distance (ft)		719	719		1105	1105	126	131	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			150					50
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	

Intersection: 12: Project Access & Gate

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	35	40
Average Queue (ft)	27	22
95th Queue (ft)	45	50
Link Distance (ft)	131	120
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0

APPENDIX 5.1: TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

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) AM PEAK HOUR WARRANTS**

Major Street Name = **Alta Vista St.**

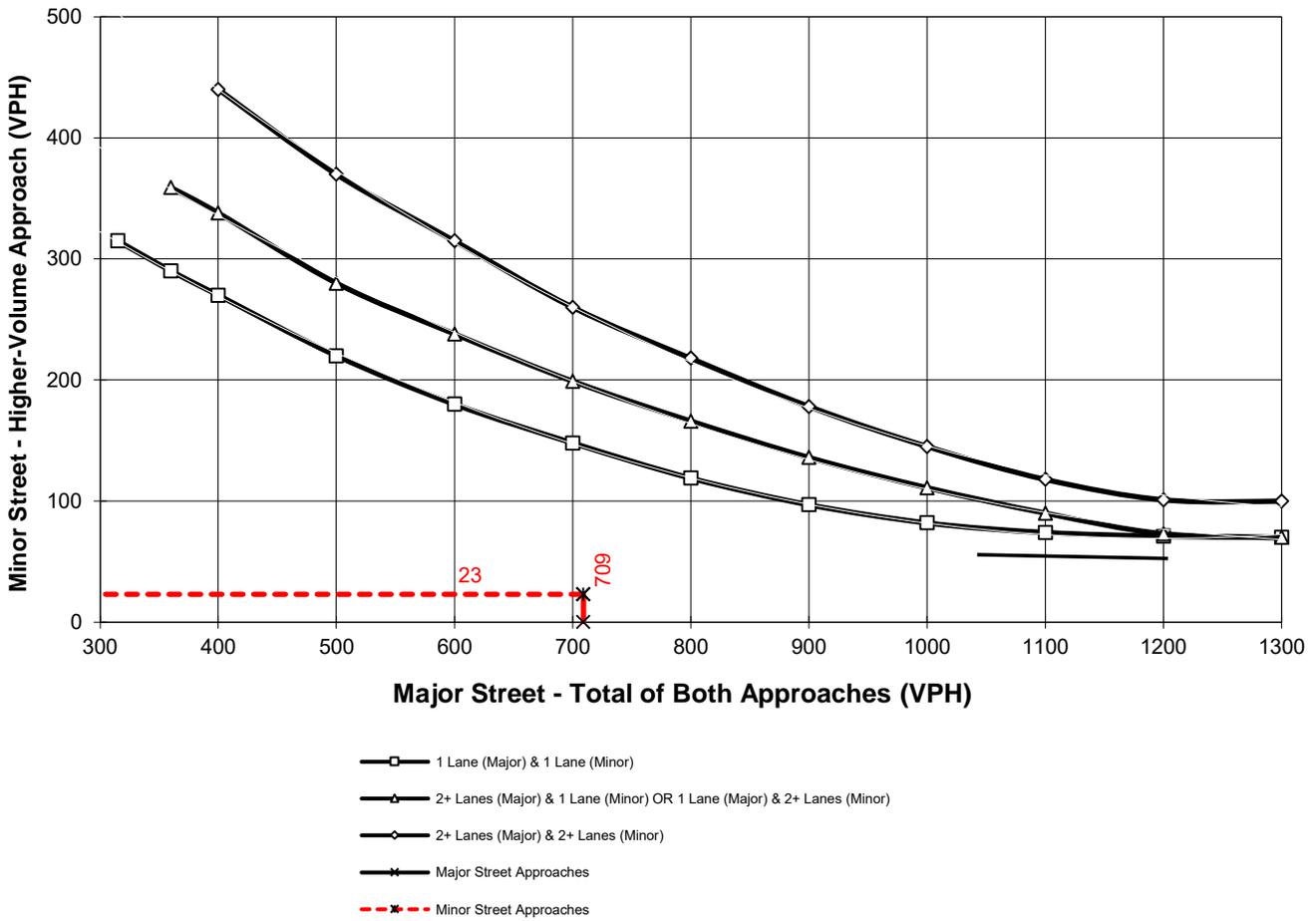
Total of Both Approaches (VPH) = **709**
 Number of Approach Lanes Major Street = **2**

Alta Vista Residential - Project

Minor Street Name = **Access**

High Volume Approach (VPH) = **23**
 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

Intersection ID: #2

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) PM PEAK HOUR WARRANTS**

Major Street Name = **Alta Vista St.**

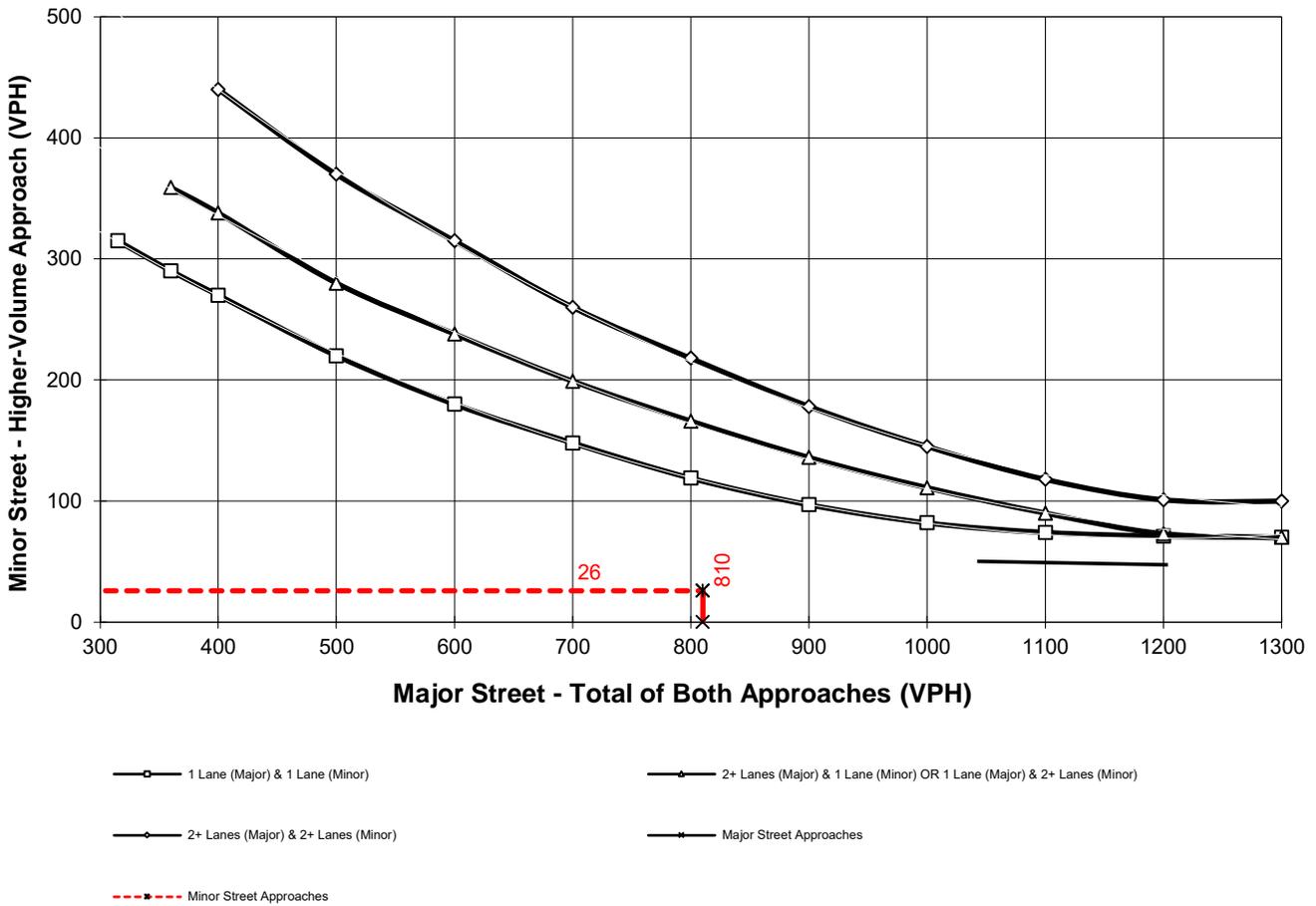
Total of Both Approaches (VPH) = **810**
 Number of Approach Lanes Major Street = **2**

Alta Vista Residential - Project

Minor Street Name = **Access**

High Volume Approach (VPH) = **26**
 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

Intersection ID: #2

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 Plus Approved & Pending AM Peak Hour Warrants**

Major Street Name = **Alta Vista St.**

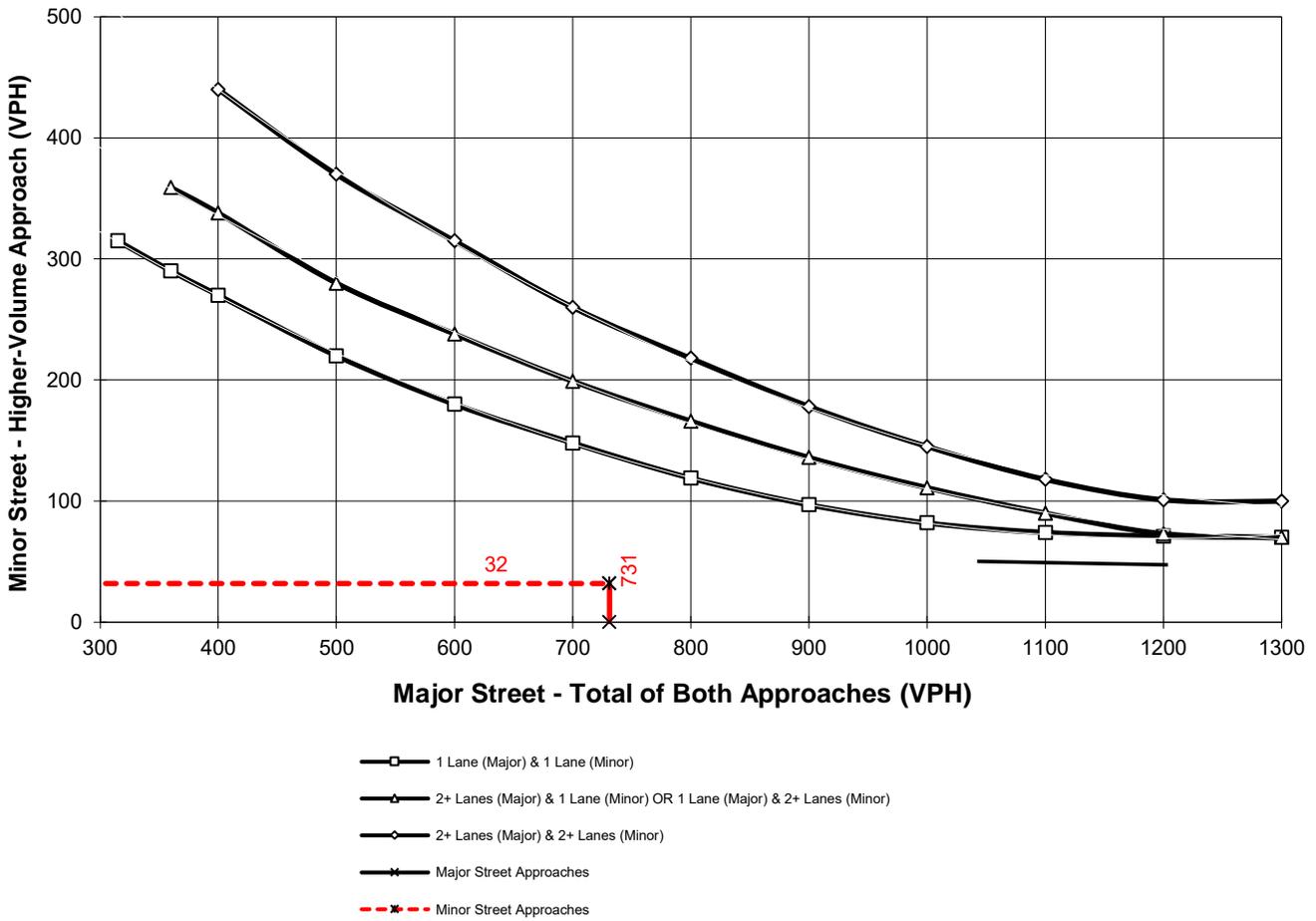
Total of Both Approaches (VPH) = **731**
 Number of Approach Lanes Major Street = **2**

Alta Vista Residential - Project

Minor Street Name = **Access**

High Volume Approach (VPH) = **32**
 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

Intersection ID: #2

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 Plus Approved & Pending PM Peak Hour Warrants**

Major Street Name = **Alta Vista St.**

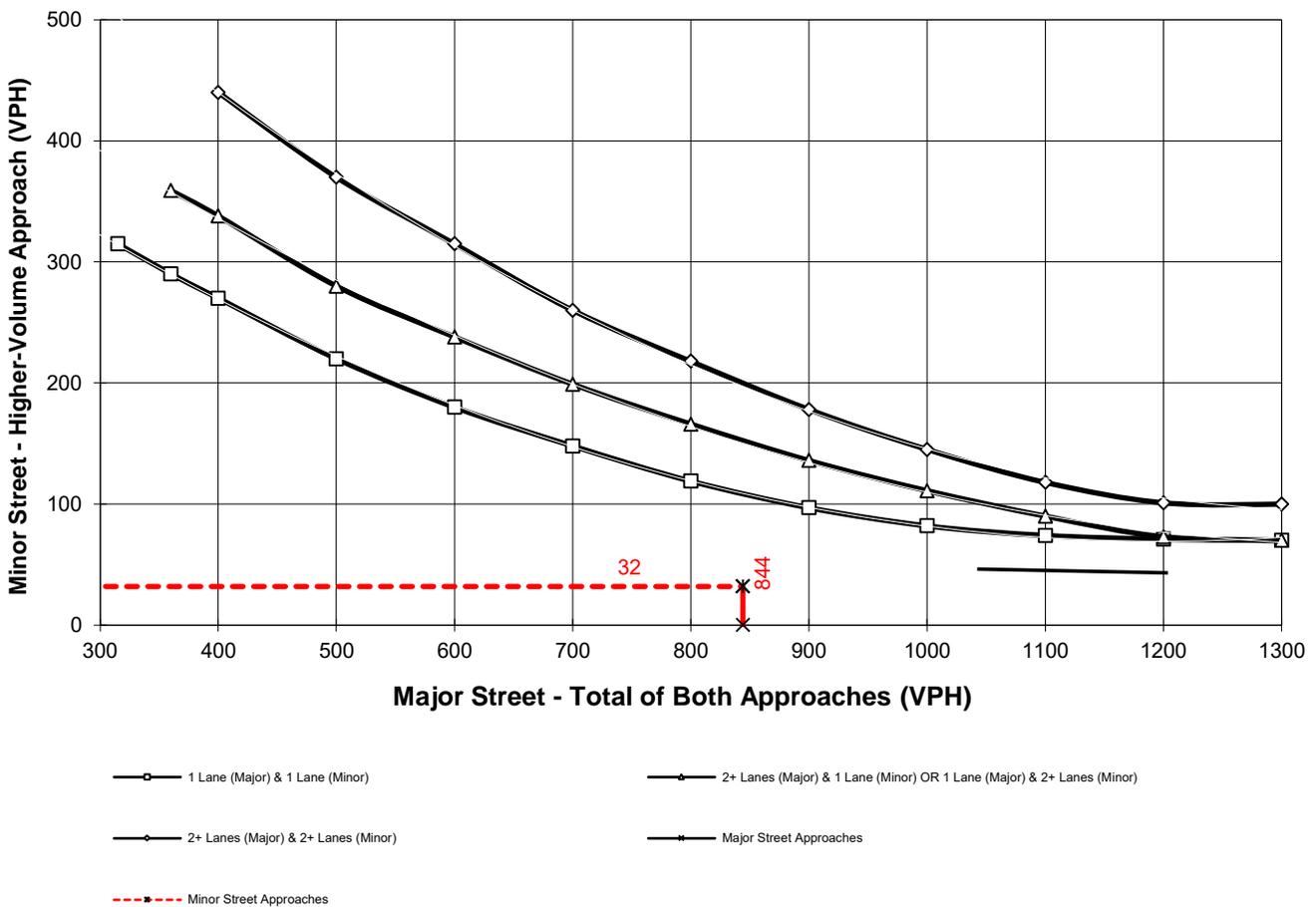
Total of Both Approaches (VPH) = **844**
 Number of Approach Lanes Major Street = **2**

Alta Vista Residential - Project

Minor Street Name = **Access**

High Volume Approach (VPH) = **32**
 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

Intersection ID: #2

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 Plus Approved & Pending Plus Project AM Peak Hour Warrants**

Major Street Name = **Alta Vista St.**

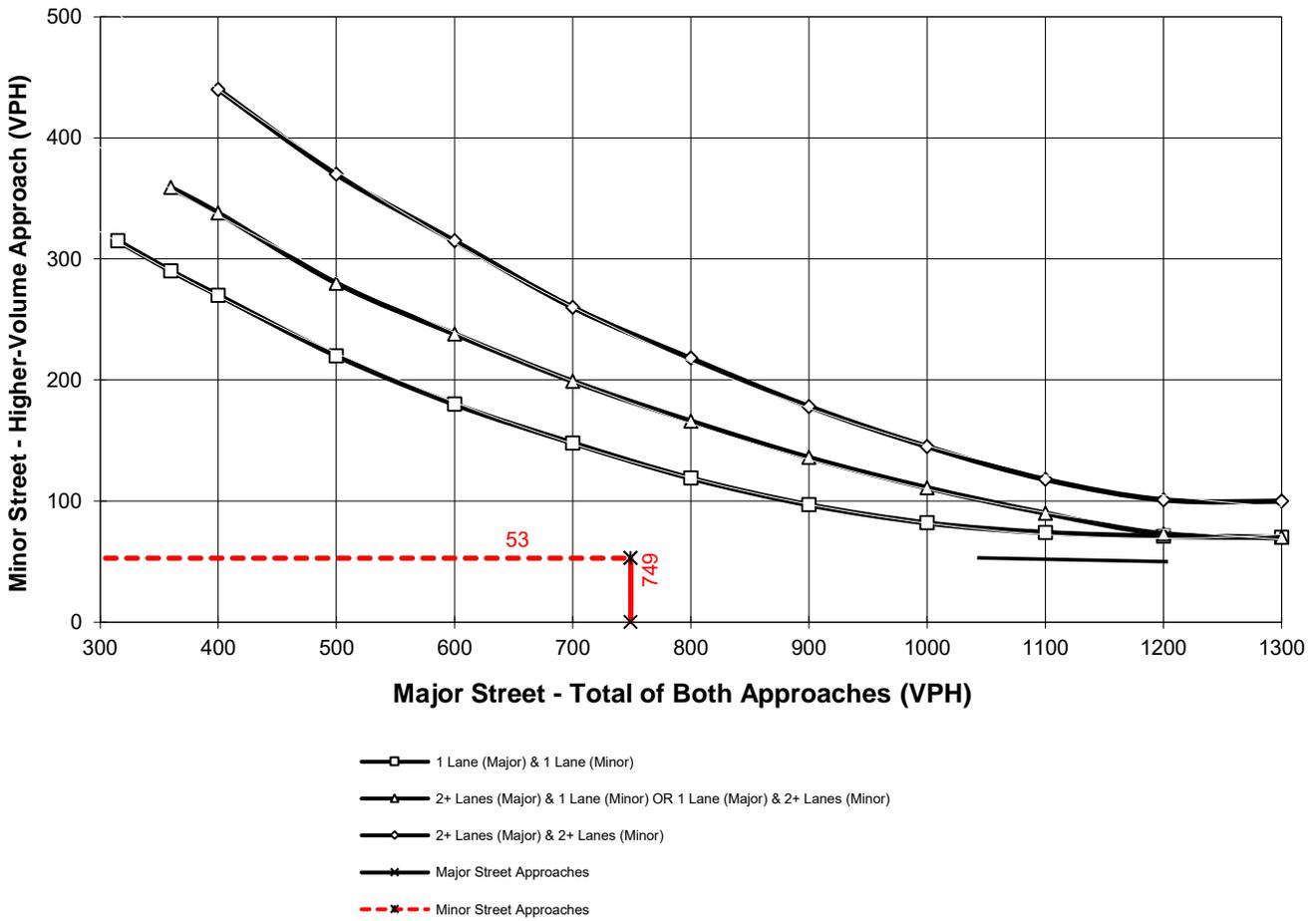
Total of Both Approaches (VPH) = **749**
 Number of Approach Lanes Major Street = **2**

Alta Vista Residential - Project

Minor Street Name = **Access**

High Volume Approach (VPH) = **53**
 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

Intersection ID: #2

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 Plus Approved & Pending Plus Project PM Peak Hour Warrants**

Major Street Name = **Alta Vista St.**

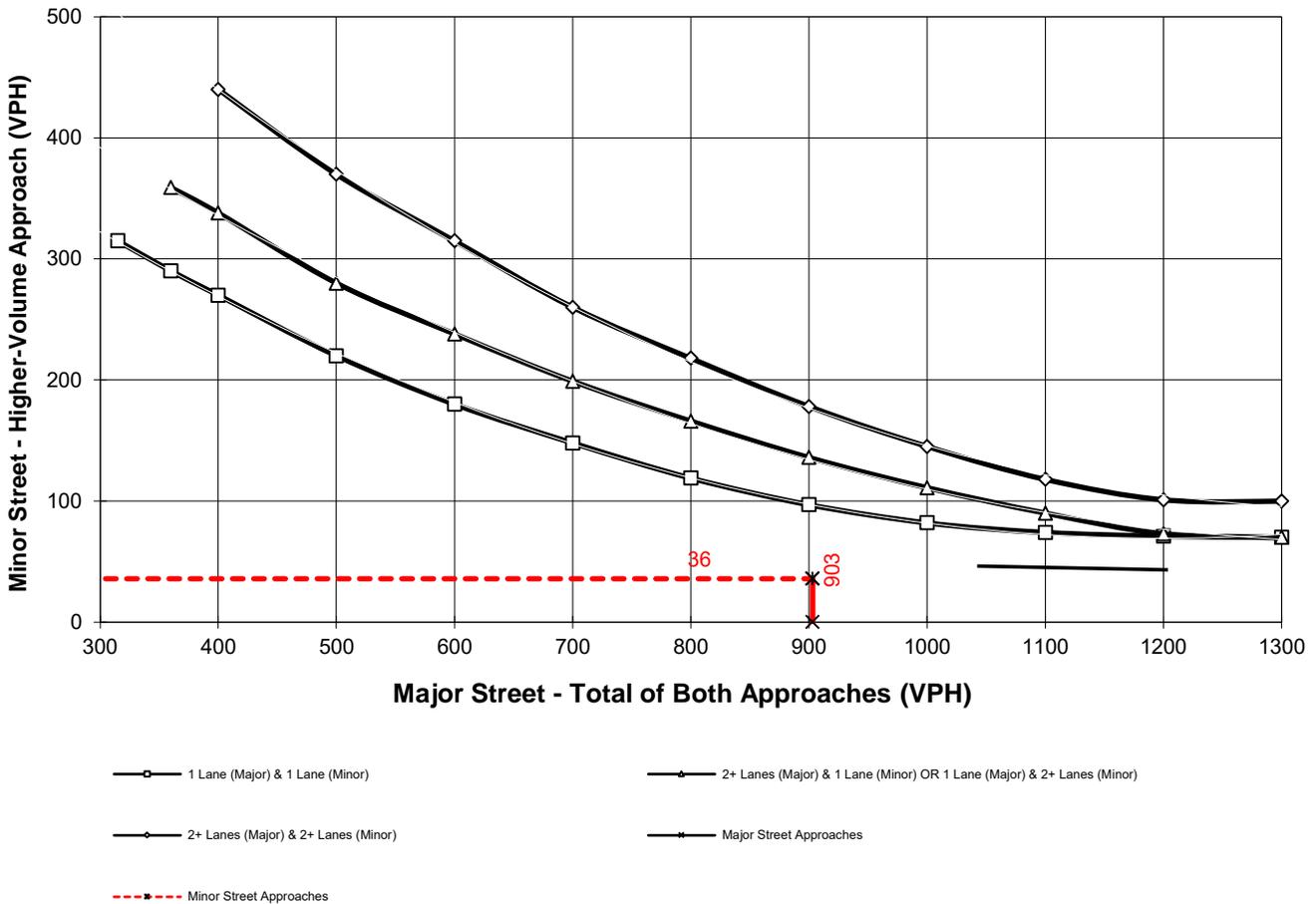
Total of Both Approaches (VPH) = **903**
 Number of Approach Lanes Major Street = **2**

Alta Vista Residential - Project

Minor Street Name = **Access**

High Volume Approach (VPH) = **36**
 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

Intersection ID: #2

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>E+C</u>
Jurisdiction: <u>City of Placentia</u>				CALC <u>JC</u>	DATE <u>08/08/22</u>
Major Street: <u>Alta Vista St.</u>				CHK _____	DATE _____
Minor Street: <u>Alta Vista Residential - Project Access</u>				Critical Approach Speed (Major) _____	<u>45</u> mph
				Critical Approach Speed (Minor) _____	<u>35</u> mph
Major Street Approach Lanes =		<u>2</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =		<u>11,934</u>	vpd	Minor Street Future ADT =	<u>377</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements ADT			
CONDITION A - Minimum Vehicular Volume	XX	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1</u>	<u>1</u>	8,000	5,600	2,400	1,680
<u>2 + 11,934</u>	<u>1 377</u>	9,600	6,720 *	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1</u>	<u>1</u>	12,000	8,400	1,200	850
<u>2 + 11,934</u>	<u>1 377</u>	14,400	10,080 *	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	22%				
	B				
	44%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>E+C+P</u>
Jurisdiction: <u>City of Placentia</u>				CALC <u>JC</u>	DATE <u>08/08/22</u>
Major Street: <u>Alta Vista St.</u>				CHK _____	DATE _____
Minor Street: <u>Alta Vista Residential - Project Access</u>				Critical Approach Speed (Major) <u>45</u> mph	Critical Approach Speed (Minor) <u>30</u> mph
Major Street Approach Lanes = <u>2</u> lane				Minor Street Approach Lanes: <u>1</u> lane	
Major Street Future ADT = <u>12,406</u> vpd				Minor Street Future ADT = <u>472</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);				<input checked="" type="checkbox"/>	RURAL (R)
In built up area of isolated community of < 10,000 population				<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements ADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1	1	8,000	5,600	2,400	1,680
2 + 12,406	1 472	9,600	6,720 *	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>	12,000	8,400	1,200	850
1	1	14,400	10,080 *	1,200	850
2 + 12,406	1 472	14,400	10,080	1,600	1,120
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	<u>A</u>				
	28%				
	<u>B</u>				
	56%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.