

Memorandum



**Kimley-Horn
and Associates, Inc.**

To: Dennis Ng, City of Santa Clara
From: Kevin Aguigui, P.E.
Re: Pruneridge Avenue Bicycle Lanes Installation
AM and PM Peak Hour Traffic Analysis
Date: July 12, 2010

INTRODUCTION

Kimley-Horn and Associates, Inc. (KHA) was retained by the City of Santa Clara to provide traffic engineering services for the design of the Pruneridge Avenue Bicycle Lanes Installation project. The goal of the project is to install bicycle lanes on Pruneridge Avenue from Pomeroy Avenue to the western City Limits. As part of this project, two conceptual alternative roadway lane geometries were evaluated to determine Level of Service (LOS), delay and queuing on Pruneridge Avenue. This memorandum summarizes intersection LOS and roadway segment analysis for the different project alternatives.

BICYCLE FACILITY CONCEPTUAL ALTERNATIVES

Kimley-Horn developed two conceptual alternatives for bike lane improvements along Pruneridge Avenue. The concept alternatives are organized by segment and listed below:

- Segment #1 - West City Limit to 525' west of Lawrence Expressway
 - Alternative 1 - Road Diet: Reduce four lane section with on street parking to three lanes with bike lanes and on-street parking.
 - Alternative 2 - Maintain existing travel lanes. Bike lanes installed in place of on-street parking.
- Segment #2 - 525' west of Lawrence Expressway to 525' east of Lawrence Expressway
 - Maintain existing travel lanes through Lawrence Expressway. Bike lanes will be provided where there is sufficient paved shoulder width available.
- Segment #3 - 525' east of Lawrence Expressway to Tracy Drive (Just west of Pomeroy)
 - Alternative 1 - Road Diet: Reduce four lane section with on street parking to three lanes with bike lanes and on street parking.
 - Alternative 2 - Maintain existing travel lanes. Bike lanes installed in place of on street parking.
- Segment #4 - Pruneridge Avenue at Pomeroy Avenue Intersection
 - Alternative 1 - Continue road diet through the intersection. Provide a dedicated left turn on to Pomeroy Avenue. Reduce eastbound and westbound approaches to one through lane. Bike lanes provided on both sides through the intersection.

- Alternative 2 - Maintain existing intersection lane configuration. Bike lanes will be provided through the intersection in place of on-street parking on paved shoulders.

It should be noted that this memorandum compares the two conceptual alternatives for the change in vehicular congestion along the corridor. Due to the single alternative presented for Segment 2, no change in conditions is reported.

TRAFFIC VOLUMES

As part of the data collection task, KHA surveyed AM and PM peak hour turning movement counts at the intersection of Pruneridge Avenue and Pomeroy Avenue. Vehicular turning movement counts were collected on Wednesday, May 6, 2010 between the hours of 7:00-9:00 AM and 4:00-6:00 PM. Directional 24-hour ADT counts were collected on Pruneridge Avenue between Pomeroy Avenue and Lawrence Expressway and between Lawrence Expressway and Tantau Avenue. The ADT counts were collected between Tuesday, May 5, 2010 and Thursday, May 7, 2010.

The traffic volume counts at Lawrence Expressway were conducted for the Santa Clara County Regional Signal Timing Program in March 2008. Through volumes along Pruneridge Avenue were based on the directional ADT counts taken east and west of Lawrence Expressway and compared to intersection counts. Volumes at Giannini Drive were estimated based on ADT counts collected between Giannini Drive and Hudson Drive.

All traffic volume data can be found in the Turning Movement Section of the Appendix.

BICYCLE ‘BEFORE’ STUDY COUNTS

In addition to vehicular turning movement counts, bicycle counts were conducted during the AM, Midday and PM peak hours during the weekday and weekend. Bicycle counts were collected at the intersection of Pruneridge Avenue and Pomeroy Avenue on Wednesday, May 6, 2010 and Saturday, May 8, 2010 between the hours of 7:30-8:30 AM, 11:45 AM-12:45 PM, and 5:00-6:00 PM. **Table 1** summarizes the results of the weekday and weekend bicycle counts entering the intersection.

Table 1 – Pruneridge Avenue and Pomeroy Avenue ‘Before’ Bicycle Counts

	Pruneridge Avenue		
	Pomeroy Avenue		
	AM	MID	PM
Weekday	5	14	3
Weekend	10	11	14

All bicycle count data can be found in the Turning Movement Section of the Appendix.

SIGNALIZED INTERSECTION LEVEL OF SERVICE ANALYSIS

KHA evaluated the operation of the Pruneridge Avenue and Pomeroy intersection (Segment 4) using the two alternative conditions during the AM and PM peak periods. **Table 2** summarizes the results below. At the intersection, the delay associated with Alternative 1 is larger than the delay associated with Alternative 2. The LOS is lower for Alternative 1 during the AM peak period, but is consistent for the two alternatives during the PM peak period.

Table 2 – Pruneridge Avenue and Pomeroy Avenue Intersection Delay and LOS

Segment #	Intersection	Alternative 1				Alternative 2			
		AM Peak		PM Peak		AM Peak		PM Peak	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
4	Pruneridge Avenue and Pomeroy Avenue	B	13.4	A	9.6	A	7.7	A	8.3

Analysis sheets can be found in the Synchro Worksheets Section of the Appendix.

ROADWAY SEGMENT ANALYSIS

KHA completed roadway segment analyses for Segments 1 and 3 along Pruneridge Avenue. **Table 3** summarizes the average speeds and LOS of the most congested direction for each roadway segment during the AM and PM peak periods. For both Segments 1 and 3, the average speed in the AM and PM peak periods are generally lower for Alternative 1. During the PM peak period, average speeds decrease more significantly than the AM peak period. In accordance with average speeds along Pruneridge Avenue, LOS is generally lower for Alternative 1. Specifically, during the PM peak period, LOS decreases by one level in both Segments for Alternative 1.

Table 3 – Pruneridge Avenue Roadway Segment Analysis

Segment #	Roadway Segment	Urban Street Class	Alternative 1				Alternative 2				Δ	
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak	PM Peak
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	Speed
1	Pruneridge Avenue between West City Limit and 525' West of Lawrence Expressway	III	15.3	D	11.2	E	15.3	D	14.6	D	0.0	-3.4
3	Pruneridge Avenue between Tracy Drive and 525' East of Lawrence Expressway	III	6.0	F	9.2	F	8.8	F	11.7	E	-2.8	-2.5

Analysis sheets can be found in the Synchro Worksheets Section of the Appendix.

QUEUING ANALYSIS

To determine if the conceptual alternatives would result in excess queuing, a queuing analysis was completed at the intersection of Pruneridge Avenue and Pomeroy Avenue (Segment 4) during the AM and PM peak periods. This intersection was evaluated for 95% queue length. **Table 4** shows the intersection queuing at the Pruneridge Avenue and Pomeroy Avenue intersection is not anticipated to create queuing issues.

Table 4 – Pruneridge Avenue and Pomeroy Avenue Intersection Queuing

Scenarios Analyzed	Turning Movement	Pruneridge Avenue		
		Pomeroy Avenue		
		Link	AM	PM
Alternative 1	EBL	100	69	77
	EBR			
	WBL			
	WBR			
	NBL			
	NBR			
	SBL	85	32	47
	SBR	85	25	<25
Alternative 2	EBL			
	EBR			
	WBL			
	WBR			
	NBL			
	NBR			
	SBL	85	31	47
	SBR	85	25	<25

Analysis sheets can be found in the Synchro Worksheets Section of the Appendix

CONCLUSION

As shown, an operational evaluation of Pruneridge Avenue under Alternative 1 and Alternative 2 design conditions yields a better operational result for Alternative 2. This finding is to be expected since Alternative 2 retains more lanes of travel for vehicles along Pruneridge Avenue and therefore more capacity for that travel. Unfortunately, a multi-modal modeling approach for construction of bike lane facilities or impacts of removing on-street parking are limited in adopted operational evaluations at this time. The upcoming release of the 2010 Highway Capacity Manual is planned to include this multi-modal evaluation procedure, but is not published at the time of this memorandum. Therefore, a balanced quantitative and qualitative approach is necessary to determine the recommended alternative for Pruneridge Avenue.

The three main factors not wholly recognized in the arterial operational evaluation are the increased safety for cyclists when adding a bike lane, the reduced through traffic delay due to elimination of left turning vehicles blocking traffic, and the potential issues connected with the removal of on-street parking. Although the removal of one through lane of traffic may result in slower travel speeds, as shown above, it does not indicate the increased safety for cyclists having a defined riding area in traffic. The bicycle counts included in this memorandum show a relatively moderate to high cycling volume on Pruneridge Avenue during weekday and weekend operations that would be aided by the inclusion of bike lanes. In addition, there is currently added delay for the through traffic on Pruneridge Avenue waiting behind left turning vehicles into driveway locations, resulting in delays and potential unsafe vehicular maneuvers such as abrupt stops on swerving to avoid the left turning vehicles. Relocation of these left turns to a dedicated two-way left-turn lane will increase the safety of these movements as well as the delay they cause to through traffic.

A previous project memorandum discussed the parking occupancy studied along each section of Pruneridge Avenue being studied for re-design. Some segments show high levels of parking activity and some a lower level. Despite the percentage of vehicular occupancy, the question must be asked where the current vehicles parked on-street would relocate should parking be removed? Residential driveways are available for some of these vehicles but likely not all of these vehicles and what would be the closest location to on-street parking now for the neighborhood.

Each of the issues above will be discussed with City staff and a ranking determined for its input into an overall evaluation of the Alternatives evaluated for design.

APPENDIX

Turning Movements

All Traffic Data

(916)771-8700

Santa Clara

File Name : Pruneridge Wday

Site Code : 00000000

Start Date : 5/6/2010

Page No : 1

Groups Printed- Unshifted

Start Time	POMEROY From North					PRUNERIDGE From East					POMEROY From South					PRUNERIDGE From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	3	0	13	0	16	0	66	6	0	72	0	0	0	0	0	6	27	0	0	33	121
07:15 AM	13	0	16	0	29	0	119	6	0	125	0	0	0	0	0	8	33	0	0	41	195
07:30 AM	15	0	21	0	36	0	169	18	0	187	0	0	0	0	0	6	53	0	0	59	282
07:45 AM	15	0	11	0	26	0	144	12	0	156	0	0	0	0	0	12	71	0	0	83	265
Total	46	0	61	0	107	0	498	42	0	540	0	0	0	0	0	32	184	0	0	216	863
08:00 AM	7	0	12	0	19	0	163	9	0	172	0	0	0	0	0	9	96	0	0	105	296
08:15 AM	23	0	20	0	43	0	223	35	0	258	0	0	0	0	0	12	132	0	0	144	445
08:30 AM	29	0	19	0	48	0	241	26	0	267	0	0	0	0	0	12	96	0	0	108	423
08:45 AM	25	0	23	0	48	0	181	9	0	190	0	0	0	0	0	15	108	0	0	123	361
Total	84	0	74	0	158	0	808	79	0	887	0	0	0	0	0	48	432	0	0	480	1525

*** BREAK ***

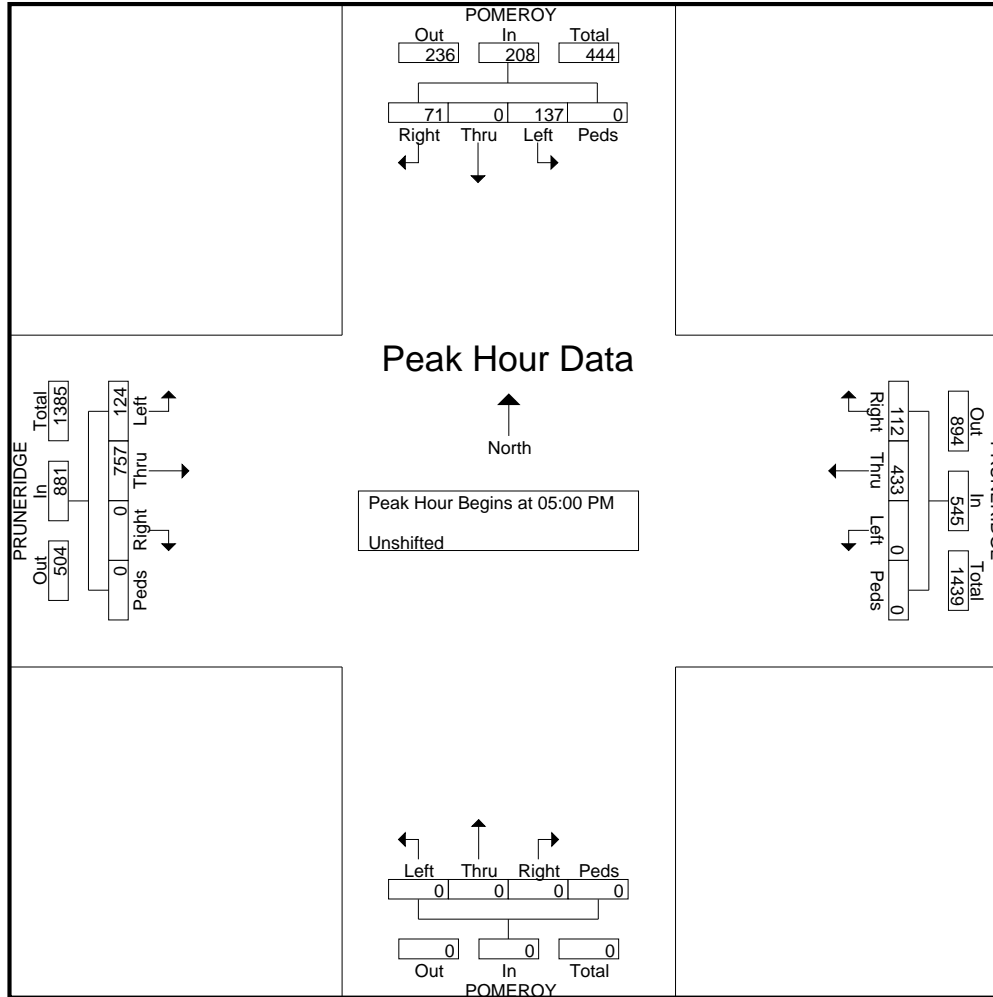
04:00 PM	13	0	10	0	23	0	89	15	0	104	0	0	0	0	0	19	104	0	0	123	250
04:15 PM	19	0	10	0	29	0	94	19	0	113	0	0	0	0	0	14	141	0	0	155	297
04:30 PM	15	0	9	0	24	0	75	22	0	97	0	0	0	0	0	10	144	0	0	154	275
04:45 PM	31	0	5	0	36	0	83	24	0	107	0	0	0	0	0	23	138	0	0	161	304
Total	78	0	34	0	112	0	341	80	0	421	0	0	0	0	0	66	527	0	0	593	1126
05:00 PM	30	0	18	0	48	0	95	22	0	117	0	0	0	0	0	30	179	0	0	209	374
05:15 PM	32	0	17	0	49	0	114	28	0	142	0	0	0	0	0	24	222	0	0	246	437
05:30 PM	45	0	20	0	65	0	96	27	0	123	0	0	0	0	0	28	192	0	0	220	408
05:45 PM	30	0	16	0	46	0	128	35	0	163	0	0	0	0	0	42	164	0	0	206	415
Total	137	0	71	0	208	0	433	112	0	545	0	0	0	0	0	124	757	0	0	881	1634
Grand Total	345	0	240	0	585	0	2080	313	0	2393	0	0	0	0	0	270	1900	0	0	2170	5148
Apprch %	59	0	41	0		0	86.9	13.1	0		0	0	0	0		12.4	87.6	0	0		
Total %	6.7	0	4.7	0	11.4	0	40.4	6.1	0	46.5	0	0	0	0	0	5.2	36.9	0	0	42.2	

Start Time	POMEROY From North					PRUNERIDGE From East					POMEROY From South					PRUNERIDGE From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 07:00 AM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	30	0	18	0	48	0	95	22	0	117	0	0	0	0	0	30	179	0	0	209	374
05:15 PM	32	0	17	0	49	0	114	28	0	142	0	0	0	0	0	24	222	0	0	246	437
05:30 PM	45	0	20	0	65	0	96	27	0	123	0	0	0	0	0	28	192	0	0	220	408
05:45 PM	30	0	16	0	46	0	128	35	0	163	0	0	0	0	0	42	164	0	0	206	415
Total Volume	137	0	71	0	208	0	433	112	0	545	0	0	0	0	0	124	757	0	0	881	1634



All Traffic Data

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Santa Clara

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Site Code : 00000000

Start Date : 5/6/2010

Page No : 1

Groups Printed- Bank 1

Start Time	POMEROY From North					PRUNERIDGE From East					POMEROY From South					PRUNERIDGE From West					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
07:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																						
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
Total	2	0	0	0	2	0	0	2	0	2	0	0	0	0	0	2	0	0	0	0	2	6
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
08:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Total	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	6
*** BREAK ***																						
11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	0	2	3
12:15 PM	1	0	0	0	1	0	1	2	0	3	0	0	0	0	0	1	0	0	0	0	1	5
12:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	2	1	0	0	0	3	5
*** BREAK ***																						
Total	1	0	1	0	2	0	1	4	0	5	0	0	0	0	0	4	2	0	0	0	6	13
*** BREAK ***																						
04:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
*** BREAK ***																						
04:45 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	3
Total	3	0	1	0	4	0	0	1	0	1	0	0	0	0	0	2	0	0	0	0	2	7
*** BREAK ***																						
05:30 PM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	9	0	6	0	15	0	1	8	0	9	0	0	0	0	0	10	2	0	0	0	12	36
Apprch %	60	0	40	0		0	11.1	88.9	0		0	0	0	0		83.3	16.7	0	0			
Total %	25	0	16.7	0	41.7	0	2.8	22.2	0	25	0	0	0	0		27.8	5.6	0	0		33.3	

All Traffic Data

(916)771-8700

Santa Clara

File Name : Pruneridge Wday

Site Code : 00000000

Start Date : 5/6/2010

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Start Time	POMEROY From North					PRUNERIDGE From East					POMEROY From South					PRUNERIDGE From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2	3
12:15 PM	1	0	0	0	1	0	1	2	0	3	0	0	0	0	0	1	0	0	0	1	5
12:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	2	1	0	0	3	5
Total Volume	1	0	2	0	3	0	1	4	0	5	0	0	0	0	0	4	2	0	0	6	14
% App. Total	33.3	0	66.7	0		0	20	80	0		0	0	0	0		66.7	33.3	0	0		
PHF	.250	.000	.500	.000	.750	.000	.250	.500	.000	.417	.000	.000	.000	.000	.000	.500	.500	.000	.000	.500	.700

All Traffic Data

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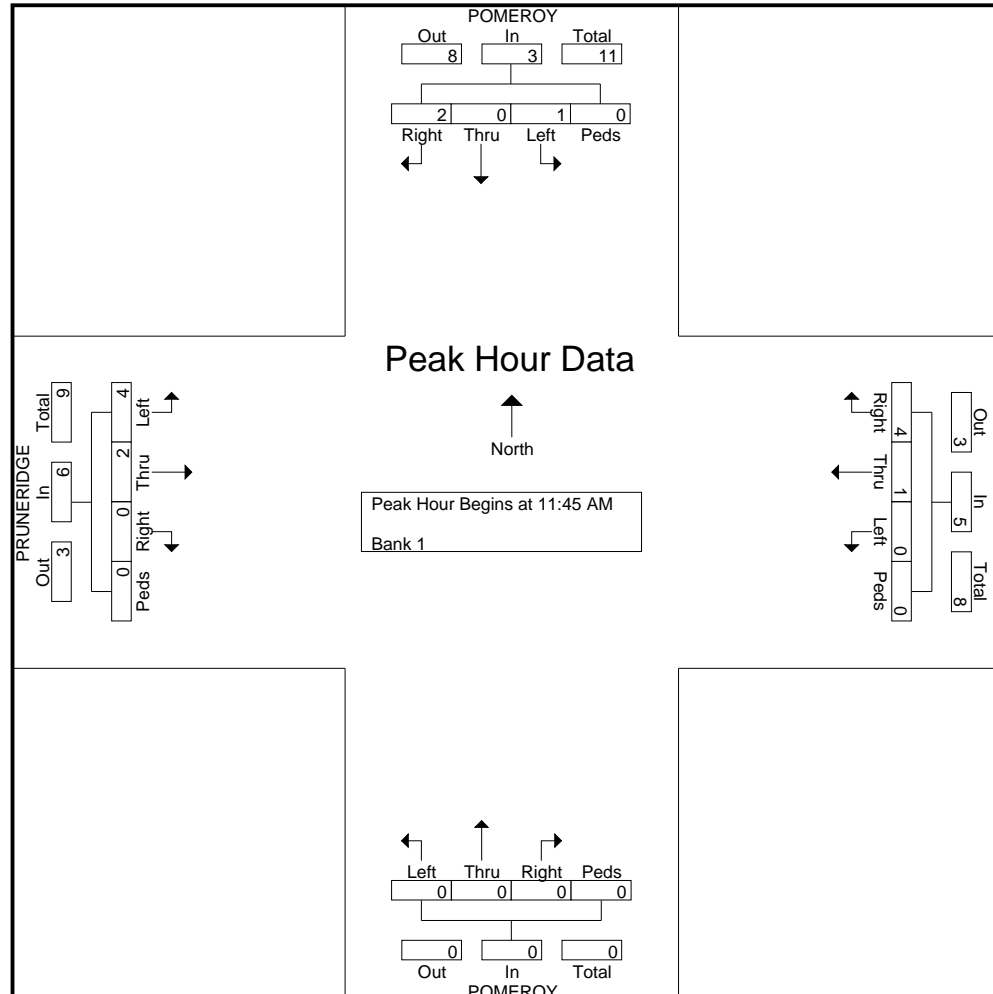
Santa Clara

File Name : Pruneridge Wday

Site Code : 00000000

Start Date : 5/6/2010

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All Traffic Data

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File Name : Pruneridge Saturday

Site Code : 00000000

Start Date : 5/8/2010

Page No : 1

Groups Printed- Unshifted

Start Time	POMEROY From North					PRUNERIDGE From East					POMEROY From South					PRUNERIDGE From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
*** BREAK ***																					
07:45 AM	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	5
Total	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
08:15 AM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
*** BREAK ***																					
Total	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
*** BREAK ***																					
11:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
12:00 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
12:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
Total	4	0	0	0	4	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	8
*** BREAK ***																					
05:00 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	4
05:15 PM	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	5
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
Total	3	0	3	0	6	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	14
Grand Total	10	0	5	0	15	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9	35
Apprch %	66.7	0	33.3	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	28.6	0	14.3	0	42.9	0	31.4	0	0	31.4	0	0	0	0		0	25.7	0	0	25.7	

All Traffic Data

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Santa Clara

File Name : Pruneridge Saturday

Site Code : 00000000

Start Date : 5/8/2010

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Start Time	POMEROY From North					PRUNERIDGE From East					POMEROY From South					PRUNERIDGE From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:30 AM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	4
05:15 PM	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	5
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
Total Volume	3	0	3	0	6	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	14
% App. Total	50	0	50	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.375	.000	.375	.000	.750	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.700

All Traffic Data

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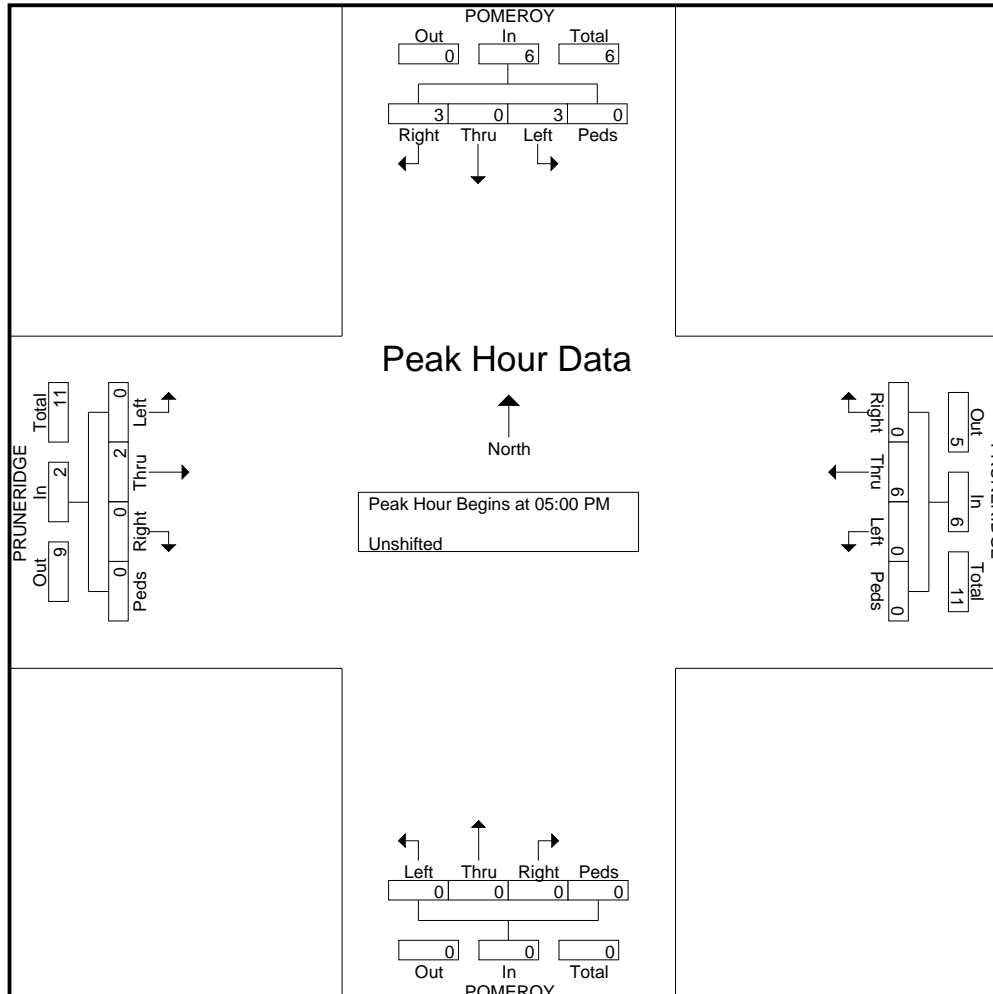
Santa Clara

File Name : Pruneridge Saturday

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City of Santa Clara - Pruneridge Bike Lanes

Corridor: Pruneridge Avenue

Location: Between Tantau Ave and Lawrence Expressway

Date: 05/11/10

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Weekday		
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	Total
0:00			8	3	8	3	7	1							8	2	10
0:15			6	1	2	2	6	5							5	3	8
0:30			4	6	7	5	2	2							4	4	8
0:45			4	2	3	1	4	3							4	2	6
1:00			3	3	0	3	3	0							2	2	4
1:15			2	0	0	3	5	5							2	3	5
1:30			0	0	2	2	1	3							1	2	3
1:45			2	0	1	3	2	0							2	1	3
2:00			2	2	0	0	3	1							2	1	3
2:15			0	2	1	0	1	0							1	1	2
2:30			2	0	0	0	1	0							1	0	1
2:45			2	2	1	0	1	0							1	1	2
3:00			1	0	1	2	1	1							1	1	2
3:15			2	0	0	0	2	0							1	0	1
3:30			1	0	0	0	3	5							1	2	3
3:45			0	0	1	0	1	2							1	1	2
4:00			5	2	0	2	2	3							2	2	4
4:15			1	1	0	1	1	2							1	1	2
4:30			1	1	1	2	2	0							1	1	2
4:45			3	2	0	2	0	6							1	3	4
5:00			2	2	1	4	1	4							1	3	4
5:15			0	1	3	0	0	1							1	1	2
5:30			0	4	0	6	2	7							1	6	7
5:45			1	17	4	12	2	11							2	13	15
6:00			8	10	1	13	6	9							5	11	16
6:15			7	6	11	22	7	20							8	16	24
6:30			7	34	9	24	9	31							8	30	38
6:45			12	35	7	39	7	41							9	38	47
7:00			14	47	16	40	17	54							16	47	63
7:15			26	78	17	65	34	97							26	80	106
7:30			50	82	26	78	48	90							41	83	124
7:45			47	80	47	80	43	91							46	84	130
8:00			39	109	32	121	39	115							37	115	152
8:15			42	120	46	126	37	124							42	123	165
8:30			55	106	59	119	53	127							56	117	173
8:45			53	102	69	189	59	131							60	141	201
9:00			54	108	73	140	54	140							60	129	189
9:15			44	108	69	108	45	93							53	103	156
9:30			35	87	42	92	50	78							42	86	128
9:45			38	90	38	75	34	71							37	79	116
10:00			39	64	48	78	41	62							43	68	111
10:15			40	48	42	65	47	57							43	57	100
10:30			37	48	33	51	47	66							39	55	94
10:45			27	51	41	50	42	40							37	47	84
11:00			31	38	47	48	37	39							38	42	80
11:15			48	40	43	47	43	51							45	46	91
11:30			63	46	58	40	65	44							62	43	105
11:45			57	51	64	47	53	58							58	52	110
12:00			59	38	63	47	77	50							66	45	111

City of Santa Clara - Pruneridge Bike Lanes

Corridor: Pruneridge Avenue

Location: Between Tantau Ave and Lawrence Expressway

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Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Weekday		
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	Total
12:15			63	48	53	37	55	58							57	48	105
12:30			61	67	69	50	57	44							62	54	116
12:45			46	61	59	56	67	75							57	64	121
13:00			50	67	44	61	57	79							50	69	119
13:15			46	66	66	74	53	68							55	69	124
13:30			46	58	62	71	53	70							54	66	120
13:45			54	74	44	72	37	66							45	71	116
14:00			59	63	52	58	54	48							55	56	111
14:15			59	55	64	48	61	44							61	49	110
14:30			58	56	56	53	55	62							56	57	113
14:45			57	62	50	82	63	58							57	67	124
15:00			78	69	74	53	76	62							76	61	137
15:15			102	49	88	50	107	62							99	54	153
15:30			58	61	70	46	68	56							65	54	119
15:45			64	54	64	60	57	58							62	57	119
16:00			74	59	76	48	80	46							77	51	128
16:15			97	52	86	44	84	58							89	51	140
16:30			77	49	101	56	90	42							89	49	138
16:45			101	59	92	59	100	54							98	57	155
17:00			144	45	138	47	141	62							141	51	192
17:15			142	60	163	67	135	66							147	64	211
17:30			158	80	150	83	172	85							160	83	243
17:45			155	73	155	64	156	83							155	73	228
18:00			142	76	131	78	130	68							134	74	208
18:15			114	77	117	62	135	73							122	71	193
18:30			111	55	112	71	136	74							120	67	187
18:45			96	60	84	60	99	73							93	64	157
19:00			85	42	82	48	70	34							79	41	120
19:15			68	40	70	52	78	42							72	45	117
19:30			62	33	60	38	47	46							56	39	95
19:45			51	48	50	42	36	39							46	43	89
20:00			55	39	42	43	46	33							48	38	86
20:15			37	33	44	32	51	38							44	34	78
20:30			32	32	41	28	51	26							41	29	70
20:45			35	16	42	26	40	24							39	22	61
21:00			35	24	29	18	36	23							33	22	55
21:15			36	13	26	24	28	16							30	18	48
21:30			19	13	27	19	22	12							23	15	38
21:45			13	22	29	12	19	11							20	15	35
22:00			14	8	13	7	21	8							16	8	24
22:15			12	7	18	16	22	17							17	13	30
22:30			18	9	15	3	4	9							12	7	19
22:45			6	10	12	5	12	3							10	6	16
23:00			10	1	10	6	3	11							8	6	14
23:15			8	3	11	8	4	6							8	6	14
23:30			8	8	10	4	12	0							10	4	14
23:45			12	0	9	2	4	7							8	3	11

City of Santa Clara - Pruneridge Bike Lanes

Corridor: Pruneridge Avenue

Location: Between Lawrence Expressway and Pomeroy Avenue

Date: 05/11/10

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Weekday		
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	Total
0:00			7	6	9	7	21	5							12	6	18
0:15			10	4	9	3	15	0							11	2	13
0:30			8	5	9	5	7	2							8	4	12
0:45			1	3	1	3	9	2							4	3	7
1:00			1	4	3	3	8	5							4	4	8
1:15			8	2	8	1	9	0							8	1	9
1:30			1	0	5	2	4	4							3	2	5
1:45			5	4	6	1	4	1							5	2	7
2:00			8	1	6	2	11	0							8	1	9
2:15			7	4	4	2	3	2							5	3	8
2:30			2	2	4	0	2	1							3	1	4
2:45			5	3	5	6	2	2							4	4	8
3:00			3	2	2	0	4	1							3	1	4
3:15			2	1	4	0	0	0							2	0	2
3:30			5	1	4	0	4	1							4	1	5
3:45			1	0	5	0	4	2							3	1	4
4:00			1	1	3	0	9	1							4	1	5
4:15			9	2	5	1	10	4							8	2	10
4:30			2	2	4	3	4	3							3	3	6
4:45			9	5	10	7	9	4							9	5	14
5:00			9	7	9	14	12	7							10	9	19
5:15			12	9	11	10	10	12							11	10	21
5:30			16	15	14	20	18	21							16	19	35
5:45			15	16	17	27	14	22							15	22	37
6:00			26	16	25	27	23	21							25	21	46
6:15			22	39	21	42	23	45							22	42	64
6:30			32	47	36	53	30	46							33	49	82
6:45			41	73	37	77	56	77							45	76	121
7:00			56	97	56	81	78	111							63	96	159
7:15			80	137	88	127	82	167							83	144	227
7:30			112	184	123	161	139	172							125	172	297
7:45			187	159	156	191	188	180							177	177	354
8:00			124	178	122	190	119	219							122	196	318
8:15			129	240	131	259	143	250							134	250	384
8:30			109	204	122	257	130	238							120	233	353
8:45			93	165	100	233	73	186							89	195	284
9:00			103	153	98	165	99	159							100	159	259
9:15			71	162	57	146	59	144							62	151	213
9:30			60	118	52	115	71	114							61	116	177
9:45			54	121	53	92	83	118							63	110	173
10:00			45	111	52	106	81	81							59	99	158
10:15			47	94	57	65	73	69							59	76	135
10:30			55	86	59	72	45	79							53	79	132
10:45			75	73	69	104	56	69							67	82	149
11:00			45	79	53	89	40	86							46	85	131
11:15			47	70	54	77	49	88							50	78	128
11:30			68	67	68	64	82	81							73	71	144
11:45			54	78	54	87	69	91							59	85	144
12:00			52	66	58	68	65	82							58	72	130

City of Santa Clara - Pruneridge Bike Lanes

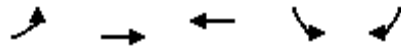
Corridor: Pruneridge Avenue

Location: Between Lawrence Expressway and Pomeroy Avenue

Date: 05/11/10

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Weekday		
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	Total
12:15			84	68	86	69	62	89							77	75	152
12:30			91	72	103	66	91	74							95	71	166
12:45			103	83	112	91	119	75							111	83	194
13:00			81	88	89	83	102	79							91	83	174
13:15			79	82	76	78	65	76							73	79	152
13:30			71	85	88	83	74	77							78	82	160
13:45			103	96	99	95	62	77							88	89	177
14:00			72	84	78	90	94	98							81	91	172
14:15			86	103	98	83	113	96							99	94	193
14:30			80	95	93	108	119	111							97	105	202
14:45			86	116	90	125	80	140							85	127	212
15:00			92	94	95	103	87	104							91	100	191
15:15			105	108	81	89	100	91							95	96	191
15:30			165	79	92	99	82	79							113	86	199
15:45			136	69	99	83	89	84							108	79	187
16:00			177	103	102	82	89	79							123	88	211
16:15			126	73	134	95	143	101							134	90	224
16:30			117	91	166	110	182	96							155	99	254
16:45			124	109	154	105	164	110							147	108	255
17:00			167	90	201	130	214	114							194	111	305
17:15			188	121	213	116	208	119							203	119	322
17:30			201	152	255	139	222	140							226	144	370
17:45			221	129	211	136	241	155							224	140	364
18:00			199	149	198	150	197	127							198	142	340
18:15			133	118	109	131	104	171							115	140	255
18:30			134	122	117	119	129	135							127	125	252
18:45			95	116	105	121	89	139							96	125	221
19:00			90	89	107	107	101	102							99	99	198
19:15			99	91	108	116	108	88							105	98	203
19:30			80	79	87	75	65	91							77	82	159
19:45			60	72	76	60	59	64							65	65	130
20:00			84	46	71	55	54	46							70	49	119
20:15			62	43	49	46	29	62							47	50	97
20:30			51	49	52	46	57	52							53	49	102
20:45			41	41	42	33	31	42							38	39	77
21:00			56	34	45	44	35	56							45	45	90
21:15			38	34	48	36	67	36							51	35	86
21:30			48	29	51	25	72	30							57	28	85
21:45			42	27	36	18	45	26							41	24	65
22:00			38	25	49	36	50	26							46	29	75
22:15			35	20	48	24	50	27							44	24	68
22:30			28	16	34	20	38	18							33	18	51
22:45			22	25	21	22	22	17							22	21	43
23:00			30	10	25	17	33	19							29	15	44
23:15			16	7	21	9	20	6							19	7	26
23:30			20	8	12	9	14	9							15	9	24
23:45			18	7	21	3	33	5							24	5	29

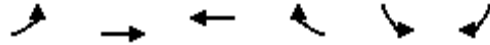
Synchro Worksheets



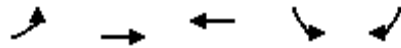
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	58	520	1068	102	90
v/c Ratio	0.52	0.40	0.83	0.13	0.21
Control Delay	31.5	7.9	20.0	20.9	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	7.9	20.0	20.9	6.4
Queue Length 50th (ft)	14	113	393	18	0
Queue Length 95th (ft)	#69	156	#614	32	25
Internal Link Dist (ft)		1165	170	1191	
Turn Bay Length (ft)	100			85	85
Base Capacity (vph)	112	1293	1280	1140	586
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	0.52	0.40	0.83	0.09	0.15

Intersection Summary

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

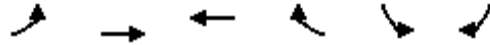


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		0.97	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1840		3433	1583
Flt Permitted	0.11	1.00	1.00		0.95	1.00
Satd. Flow (perm)	204	1863	1840		3433	1583
Volume (vph)	48	432	808	79	84	74
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.82	0.82
Adj. Flow (vph)	58	520	973	95	102	90
RTOR Reduction (vph)	0	0	3	0	0	70
Lane Group Flow (vph)	58	520	1065	0	102	20
Turn Type	Perm			custom		
Protected Phases	2		6			
Permitted Phases	2				7 7	
Actuated Green, G (s)	53.5	53.5	53.5		17.4	17.4
Effective Green, g (s)	54.0	54.0	54.0		17.4	17.4
Actuated g/C Ratio	0.68	0.68	0.68		0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.0	4.0
Vehicle Extension (s)	2.5	2.5	2.5		2.0	2.0
Lane Grp Cap (vph)	139	1267	1251		752	347
v/s Ratio Prot	0.28		c0.58			
v/s Ratio Perm	0.28				c0.03 0.01	
v/c Ratio	0.42	0.41	0.85		0.14	0.06
Uniform Delay, d1	5.7	5.6	9.7		24.9	24.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5	0.2	5.7		0.0	0.0
Delay (s)	7.1	5.8	15.3		25.0	24.5
Level of Service	A	A	B		C	C
Approach Delay (s)	5.9		15.3		24.8	
Approach LOS	A		B		C	
Intersection Summary						
HCM Average Control Delay			13.4		HCM Level of Service B	
HCM Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			79.4		Sum of lost time (s) 8.0	
Intersection Capacity Utilization			59.0%		ICU Level of Service B	
Analysis Period (min)			15			
c Critical Lane Group						

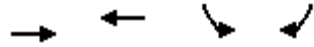


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	138	841	648	171	89
v/c Ratio	0.41	0.65	0.51	0.21	0.20
Control Delay	12.4	12.2	9.2	21.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	12.2	9.2	21.6	6.5
Queue Length 50th (ft)	30	240	150	30	0
Queue Length 95th (ft)	77	382	210	47	24
Internal Link Dist (ft)		1165	170	1191	
Turn Bay Length (ft)	100			85	85
Base Capacity (vph)	337	1293	1264	1196	610
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	0.41	0.65	0.51	0.14	0.15

Intersection Summary

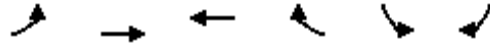


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		0.97	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1811		3433	1583
Flt Permitted	0.34	1.00	1.00		0.95	1.00
Satd. Flow (perm)	629	1863	1811		3433	1583
Volume (vph)	124	757	433	112	137	71
Peak-hour factor, PHF	0.90	0.90	0.84	0.84	0.80	0.80
Adj. Flow (vph)	138	841	515	133	171	89
RTOR Reduction (vph)	0	0	8	0	0	69
Lane Group Flow (vph)	138	841	640	0	171	20
Turn Type	Perm			custom		
Protected Phases	2		6			
Permitted Phases	2				7 7	
Actuated Green, G (s)	48.5	48.5	48.5		16.0	16.0
Effective Green, g (s)	49.0	49.0	49.0		16.0	16.0
Actuated g/C Ratio	0.67	0.67	0.67		0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.0	4.0
Vehicle Extension (s)	2.5	2.5	2.5		2.0	2.0
Lane Grp Cap (vph)	422	1251	1216		752	347
v/s Ratio Prot	c0.45		0.35			
v/s Ratio Perm	0.22				c0.05 0.01	
v/c Ratio	0.33	0.67	0.53		0.23	0.06
Uniform Delay, d1	5.1	7.2	6.1		23.4	22.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	1.3	0.3		0.1	0.0
Delay (s)	5.4	8.5	6.4		23.5	22.6
Level of Service	A	A	A		C	C
Approach Delay (s)	8.1		6.4		23.2	
Approach LOS	A		A		C	
Intersection Summary						
HCM Average Control Delay			9.6		HCM Level of Service A	
HCM Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			73.0		Sum of lost time (s) 8.0	
Intersection Capacity Utilization			90.0%		ICU Level of Service E	
Analysis Period (min)			15			
c Critical Lane Group						

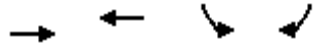


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	578	1068	102	90
v/c Ratio	0.31	0.44	0.13	0.21
Control Delay	6.7	7.4	20.7	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.7	7.4	20.7	6.3
Queue Length 50th (ft)	60	123	18	0
Queue Length 95th (ft)	79	147	31	25
Internal Link Dist (ft)	1690	1180	1191	
Turn Bay Length (ft)			85	85
Base Capacity (vph)	1864	2430	1146	588
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.44	0.09	0.15

Intersection Summary

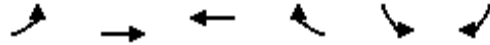


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.95	0.95		0.97	1.00
Fr _t		1.00	0.99		1.00	0.85
Fl _t Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3522	3492		3433	1583
Fl _t Permitted		0.78	1.00		0.95	1.00
Satd. Flow (perm)		2759	3492		3433	1583
Volume (vph)	48	432	808	79	84	74
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.82	0.82
Adj. Flow (vph)	58	520	973	95	102	90
RTOR Reduction (vph)	0	0	6	0	0	70
Lane Group Flow (vph)	0	578	1062	0	102	20
Turn Type	Perm			custom		
Protected Phases		2	6			
Permitted Phases	2				7	7
Actuated Green, G (s)		53.0	53.0		17.4	17.4
Effective Green, g (s)		53.5	53.5		17.4	17.4
Actuated g/C Ratio		0.68	0.68		0.22	0.22
Clearance Time (s)		4.5	4.5		4.0	4.0
Vehicle Extension (s)		2.5	2.5		2.0	2.0
Lane Grp Cap (vph)		1871	2368		757	349
v/s Ratio Prot		c0.30				
v/s Ratio Perm		0.21			c0.03	0.01
v/c Ratio		0.31	0.45		0.13	0.06
Uniform Delay, d ₁		5.2	5.9		24.7	24.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d ₂		0.1	0.1		0.0	0.0
Delay (s)		5.2	6.0		24.7	24.3
Level of Service		A	A		C	C
Approach Delay (s)		5.2	6.0		24.5	
Approach LOS		A	A		C	
Intersection Summary						
HCM Average Control Delay			7.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.37			
Actuated Cycle Length (s)			78.9		Sum of lost time (s)	8.0
Intersection Capacity Utilization			61.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	979	648	171	89
v/c Ratio	0.55	0.27	0.21	0.20
Control Delay	9.4	5.8	21.5	6.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.4	5.8	21.5	6.4
Queue Length 50th (ft)	130	58	30	0
Queue Length 95th (ft)	186	76	47	24
Internal Link Dist (ft)	1690	1180	1191	
Turn Bay Length (ft)			85	85
Base Capacity (vph)	1783	2399	1197	610
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.27	0.14	0.15

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.95	0.95		0.97	1.00
Frt		1.00	0.97		1.00	0.85
Flt Protected		0.99	1.00		0.95	1.00
Satd. Flow (prot)		3514	3430		3433	1583
Flt Permitted		0.76	1.00		0.95	1.00
Satd. Flow (perm)		2683	3430		3433	1583
Volume (vph)	124	757	433	112	137	71
Peak-hour factor, PHF	0.90	0.90	0.84	0.84	0.80	0.80
Adj. Flow (vph)	138	841	515	133	171	89
RTOR Reduction (vph)	0	0	20	0	0	69
Lane Group Flow (vph)	0	979	628	0	171	20
Turn Type	Perm			custom		
Protected Phases		2	6			
Permitted Phases	2				7	7
Actuated Green, G (s)		48.4	48.4		16.1	16.1
Effective Green, g (s)		48.9	48.9		16.1	16.1
Actuated g/C Ratio		0.67	0.67		0.22	0.22
Clearance Time (s)		4.5	4.5		4.0	4.0
Vehicle Extension (s)		2.5	2.5		2.0	2.0
Lane Grp Cap (vph)		1797	2298		757	349
v/s Ratio Prot			0.18			
v/s Ratio Perm		c0.36			c0.05	0.01
v/c Ratio		0.54	0.27		0.23	0.06
Uniform Delay, d1		6.3	4.9		23.3	22.5
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3	0.0		0.1	0.0
Delay (s)		6.5	4.9		23.4	22.5
Level of Service		A	A		C	C
Approach Delay (s)		6.5	4.9		23.1	
Approach LOS		A	A		C	
Intersection Summary						
HCM Average Control Delay			8.3		HCM Level of Service	A
HCM Volume to Capacity ratio			0.47			
Actuated Cycle Length (s)			73.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			90.0%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

Arterial Level of Service: EB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	5.0	15.0	0.1	21
	1.2	7.3	0.0	23
Giannini Dr	6.5	35.2	0.2	23
	2.6	28.1	0.2	26
Lawrence Expwy	56.9	65.9	0.1	6
	5.8	18.7	0.1	19
Pomeroy	9.1	38.0	0.2	22
	0.5	6.5	0.0	26
	1.2	25.3	0.2	27
Total	88.9	240.1	1.2	19

Arterial Level of Service: WB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.6	32.4	0.3	28
	5.7	28.5	0.2	24
Pomeroy	11.1	16.7	0.0	10
	27.7	57.6	0.2	15
Lawrence Expwy	141.5	152.8	0.1	3
	4.8	17.8	0.1	20
Giannini Dr	11.7	32.4	0.2	22
	3.9	32.0	0.2	26
Tantau Avenue	4.8	10.5	0.0	16
Total	212.8	380.7	1.4	14

Arterial Level of Service: EB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	5.3	15.6	0.1	20
	1.2	7.5	0.0	23
Giannini Dr	7.6	36.2	0.2	23
	2.8	28.9	0.2	25
Lawrence Expwy	64.2	73.4	0.1	5
	4.3	17.1	0.1	21
Pomeroy	9.0	35.1	0.2	24
	0.6	6.5	0.0	26
	1.4	24.8	0.2	28
Total	96.4	245.2	1.2	18

Arterial Level of Service: WB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	2.0	32.6	0.3	28
	8.2	31.5	0.2	22
Pomeroy	10.9	16.4	0.0	10
	14.0	43.7	0.2	19
Lawrence Expwy	132.2	142.9	0.1	3
	5.3	17.7	0.1	20
Giannini Dr	16.4	37.9	0.2	19
	4.0	31.7	0.2	26
Tantau Avenue	4.8	10.3	0.0	17
Total	198.0	364.7	1.4	15

Arterial Level of Service: EB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	6.0	16.6	0.1	19
	1.5	7.6	0.0	23
Giannini Dr	8.3	36.3	0.2	23
	2.9	28.2	0.2	26
Lawrence Expwy	42.9	53.1	0.1	7
	3.6	16.3	0.1	22
Pomeroy	9.8	35.9	0.2	24
	0.8	6.5	0.0	26
	1.2	24.1	0.2	29
Total	76.9	224.5	1.2	20

Arterial Level of Service: WB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	2.9	33.3	0.3	28
	16.6	40.0	0.2	17
Pomeroy	13.8	19.5	0.0	9
	42.2	71.2	0.2	12
Lawrence Expwy	122.4	133.7	0.1	3
	5.7	18.2	0.1	20
Giannini Dr	15.7	36.5	0.2	20
	4.0	30.6	0.2	27
Tantau Avenue	4.1	9.5	0.0	18
Total	227.4	392.6	1.4	14

Arterial Level of Service: EB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	6.7	16.9	0.1	19
	1.7	7.7	0.0	22
Giannini Dr	13.5	41.7	0.2	20
	3.4	27.9	0.2	26
Lawrence Expwy	108.8	120.6	0.1	3
	4.6	17.0	0.1	21
Pomeroy	14.0	41.8	0.2	20
	0.8	6.7	0.0	26
	1.7	25.4	0.2	27
Total	155.2	305.7	1.2	15

Arterial Level of Service: WB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.6	31.3	0.3	29
	3.2	26.5	0.2	26
Pomeroy	9.7	15.2	0.0	11
	4.6	34.9	0.2	24
Lawrence Expwy	119.0	129.4	0.1	3
	4.6	18.4	0.1	20
Giannini Dr	5.5	23.9	0.2	30
	3.1	31.4	0.2	26
Tantau Avenue	3.6	9.2	0.0	19
Total	154.9	320.1	1.4	16

Arterial Level of Service: EB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	7.1	17.4	0.1	18
	1.6	7.6	0.0	22
Giannini Dr	16.3	44.1	0.2	19
	4.7	29.2	0.2	25
Lawrence Expwy	99.1	111.2	0.1	3
	9.0	22.3	0.1	16
Pomeroy	13.6	42.9	0.2	20
	0.8	6.9	0.0	25
	2.1	25.9	0.2	27
Total	154.2	307.5	1.2	14

Arterial Level of Service: WB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.5	32.5	0.3	28
	3.4	26.8	0.2	26
Pomeroy	8.5	14.1	0.0	12
	6.7	36.1	0.2	24
Lawrence Expwy	73.8	86.2	0.1	4
	4.5	16.8	0.1	21
Giannini Dr	6.7	26.8	0.2	27
	4.0	32.6	0.2	25
Tantau Avenue	4.3	9.8	0.0	17
Total	113.4	281.7	1.4	18

Arterial Level of Service: EB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	7.6	17.6	0.1	18
	1.9	7.8	0.0	22
Giannini Dr	15.6	43.8	0.2	19
	3.7	28.0	0.2	26
Lawrence Expwy	77.7	89.2	0.1	4
	10.1	23.2	0.1	15
Pomeroy	11.3	41.2	0.2	21
	0.6	6.5	0.0	26
	1.1	25.0	0.2	28
Total	129.6	282.3	1.2	16

Arterial Level of Service: WB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.4	32.7	0.3	28
	2.4	26.1	0.2	26
Pomeroy	7.5	13.2	0.0	13
	4.6	34.1	0.2	25
Lawrence Expwy	71.5	83.0	0.1	4
	3.0	15.0	0.1	24
Giannini Dr	5.0	22.9	0.2	32
	4.0	32.1	0.2	26
Tantau Avenue	3.6	9.5	0.0	18
Total	103.0	268.5	1.4	19

Arterial Level of Service: EB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Giannini Dr	9.4	36.6	0.3	27
Lawrence Expwy	61.3	87.7	0.3	12
Pomeroy	9.4	38.8	0.3	31
	2.0	28.1	0.2	31
Total	82.0	191.2	1.1	22

Arterial Level of Service: WB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.1	27.6	0.3	33
Pomeroy	10.5	35.2	0.2	24
Lawrence Expwy	105.4	139.3	0.3	9
Giannini Dr	12.8	41.5	0.3	26
Tantau Avenue	8.8	40.3	0.3	25
Total	138.6	283.9	1.4	18

Arterial Level of Service: EB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Giannini Dr	9.0	41.8	0.3	24
Lawrence Expwy	73.7	96.2	0.3	11
Pomeroy	12.5	42.3	0.3	29
	1.9	26.4	0.2	33
Total	97.1	206.8	1.1	20

Arterial Level of Service: WB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	2.0	28.6	0.3	32
Pomeroy	14.9	41.2	0.2	21
Lawrence Expwy	119.2	154.9	0.3	8
Giannini Dr	13.8	43.8	0.3	25
Tantau Avenue	10.3	41.9	0.3	24
Total	160.2	310.3	1.4	16

Arterial Level of Service: EB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Giannini Dr	8.6	36.4	0.3	27
Lawrence Expwy	83.1	109.1	0.3	10
Pomeroy	7.1	36.7	0.3	33
	1.4	25.9	0.2	33
Total	100.2	208.1	1.1	20

Arterial Level of Service: WB Pruneridge

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.6	27.9	0.3	33
Pomeroy	9.1	34.3	0.2	25
Lawrence Expwy	85.9	120.9	0.3	10
Giannini Dr	11.4	40.0	0.3	27
Tantau Avenue	8.2	38.6	0.3	26
Total	116.2	261.7	1.4	19

Arterial Level of Service: EB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	4.4	14.8	0.1	21
Giannini Dr	10.1	44.1	0.3	22
Lawrence Expwy	58.0	96.1	0.3	11
Pomeroy	21.1	69.3	0.3	17
	3.7	33.5	0.2	26
Total	97.2	257.7	1.2	17

Arterial Level of Service: WB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.2	31.4	0.3	29
Pomeroy	7.4	35.6	0.2	24
Lawrence Expwy	74.5	111.7	0.3	11
Giannini Dr	9.9	40.0	0.3	27
Tantau Avenue	5.9	41.4	0.3	24
Total	99.0	260.1	1.4	19

Arterial Level of Service: EB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	4.3	14.6	0.1	21
Giannini Dr	9.8	44.0	0.3	23
Lawrence Expwy	62.0	96.8	0.3	11
Pomeroy	25.1	69.0	0.3	17
	4.5	33.9	0.2	25
Total	105.7	258.3	1.2	17

Arterial Level of Service: WB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.6	31.9	0.3	29
Pomeroy	10.0	38.5	0.2	22
Lawrence Expwy	70.8	111.1	0.3	11
Giannini Dr	11.5	43.4	0.3	25
Tantau Avenue	8.5	43.6	0.3	23
Total	102.4	268.6	1.4	19

Arterial Level of Service: EB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Tantau Avenue	5.0	15.4	0.1	20
Giannini Dr	10.8	45.2	0.3	22
Lawrence Expwy	62.0	97.1	0.3	11
Pomeroy	18.2	62.6	0.3	19
	4.0	33.9	0.2	25
Total	99.9	254.2	1.2	17

Arterial Level of Service: WB Pruneridge Avenue

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1.2	31.5	0.3	29
Pomeroy	7.0	36.4	0.2	24
Lawrence Expwy	50.7	90.5	0.3	13
Giannini Dr	8.4	39.2	0.3	28
Tantau Avenue	7.0	40.6	0.3	24
Total	74.2	238.3	1.4	21