

CITY OF ALBUQUERQUE



July 18, 2017

John Ransom
West Seventy, LLC
2424 Louisiana Boulevard, NE
Albuquerque, NM 87110

**Re: Volcano Heights Marketplace
Westerly Corner of Paseo Del Norte & Unser Blvd.
Traffic Impact Study Comments
Engineer's Stamp dated 06-14-17 (C10-D002)**

Dear Mr. Ransom,

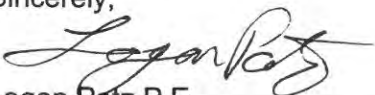
Based upon the information provided in your submittal received 06-16-17, Transportation Development cannot approve the TIS for the above referenced project.

Prior to approval, the following items must be addressed:

1. Please add the analysis and recommendation for the intersection of Woodmont and Unser to the study. Identify if the intersection should be signalized.
2. Please add the analysis and recommendation for Woodmont and the South access to the site.
3. Provide detail or identify the intersection orientation at Paseo and Unser as well as the site access. It is difficult to identify which movement is which.
4. Site access must be approved by the Road Access Committee (RAC) prior to approval.
5. Provide nominal distance between intersections on Paseo and Unser.
6. Please list all recommended access and intersection improvements in the conclusion.

Once corrections are complete resubmit along with a completed Drainage Transportation Information Sheet to front counter personnel for log in and evaluation by Transportation. For digital submittal please submit to PLNDRS@cabq.gov. If you have any questions, please contact me at (505) 924-3630.

Sincerely,


Logan Patz P.E.
Senior Engineer, Planning Dept.
Development Review Services

via: email
C: Applicant, File



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 10/2015)

Project Title: Volcano Heights Marketplace **Building Permit #:** _____ **Hydrology File #:** C100002
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: Town of Alameda Grant Parcels
City Address: Westerly Corner of Paseo Del Norte & Unser Boulevard

Applicant: West Seventy, LLC **Contact:** John Ransom
Address: 2424 Louisiana Boulevard, NE
Phone#: 505-883-7676 **Fax#:** 505-923-3811 **E-mail:** john.ransom@colliers.com

Other Contact: Anderson Wahlen & Associates **Contact:** Kirk Randall
Address: 2010 North Redwood Road, Salt Lake City, UT 84116
Phone#: 801-410-8520 **Fax#:** 801-521-9551 **E-mail:** kirk@awaeng.com

Check all that Apply:

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☒ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION

☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☒ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)

☐ OTHER (SPECIFY) _____

\$150.00

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY

☐ PRELIMINARY PLAT APPROVAL
☒ SITE PLAN FOR SUB'D APPROVAL
☒ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL

☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☐ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR

☐ PRE-DESIGN MEETING?

☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

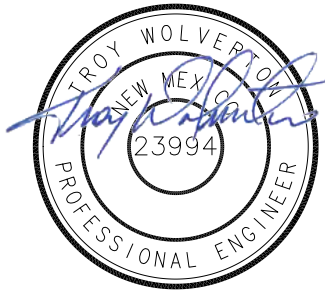
DATE SUBMITTED: 6-15-17 By: _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

Traffic Impact Analysis for Volcano Heights

Paseo Del Norte Blvd. and Unser Blvd.
Albuquerque, New Mexico

June 2017



June 14, 2017

Prepared by:

Anderson Wahlen and Associates
2010 North Redwood Road
Salt Lake City, Utah 84116
Phone: (801) 521-8529
Fax: (801) 521-9551

Volcano Heights Traffic Study

TABLE OF CONTENTS

	page
I. Introduction.....	1
II. Existing Traffic Data.....	5
Future Traffic Growth.....	5
III. Trip Generation.....	14
IV. Origin/Destination and Trip Distribution	19
V. Traffic Analysis.....	27
A. Access Analysis	28
B. Signalized Intersection Analysis	31
VI. Conclusions/Recommendations.....	37
Appendices	

Volcano Heights Traffic Study

LIST OF TABLES

	page
Table One	Origin/Destination Assumptions by DASZ 2040 Population within 3 miles10
Table Two	AM Peak Hour Trip Generation15
Table Three	AM Peak Total Development Trips, Primary Trips and Pass-by Trips16
Table Four	PM Peak Hour Trip Generation17
Table Five	PM Peak Total Development Trips, Primary Trips and Pass-by Trips.....18
Table Six	Intersection LOS/Delay Relationship27
Table Seven	Access A and Unser Delay/LOS Evaluation with Site Trips.....28
Table Eight	Access B and Paseo Delay/LOS Evaluation with Site Trips.....29
Table Nine	Access C and Paseo Delay/LOS Evaluation with Site Trips.....30
Table Ten	Paseo and Kimmick Delay/LOS Evaluation with Site Trips.....31
Table Eleven	Paradise and Unser Delay/LOS Evaluation with Site Trips.....32
Table Twelve	Paradise and Unser Delay/LOS Evaluation with Site Trips.....33
Table Thirteen	Rainbow and Unser Delay/LOS Evaluation with Site Trips34
Table Fourteen	Paseo and Universe Delay/LOS Evaluation with Site Trips.....35
Table Fifteen	Paseo and Golf Course Delay/LOS Evaluation with Site Trips.....32

Volcano Heights Traffic Study

List of Figures

	page
Figure One - Project Site Location	2
Figure Two - Conceptual Site Plan	3
Figure Three – Existing Lane Configurations	4
Figure Four – Existing Peak Hour Traffic Counts.....	6
Figure Five – Other Nearby Developments	7
Figure Six – DASZ Locations.....	8
Figure Seven – Origin/Destination based on DASZ 2040 Population	9
Figure Eight – Projected 2022 Background Traffic Based on Growth.....	12
Figure Nine – Background Growth Plus Nearby Development Traffic	13
Figure Ten – Projected Peak Hour External Traffic Assumptions at Site Accesses	20
Figure Eleven – Projected Peak Hour Primary Traffic Assumptions at Off-Site Intersections ...	21
Figure Twelve – Projected Peak Hour External Traffic at Site Accesses.....	23
Figure Thirteen – Projected Peak Hour Primary Traffic at Off-Site Intersections	24
Figure Fourteen– Total 2022 Traffic at Site Accesses	25
Figure Fifteen – Total 2022 Traffic at Off-Site Intersections	26

Volcano Heights Traffic Study

I. Introduction

The proposed development site is on west corner of the intersection of Paseo Del Norte Blvd and Unser Blvd (Paseo and Unser) in Albuquerque, New Mexico. The existing parcel currently is vacant land. Paseo and Unser currently has an existing traffic signal. There are three planned accesses to the development:

- Access A – a full motion access on Unser
- Access B – a full motion access on Paseo
- Access C – a full motion access on Paseo and future traffic signal location

The development is planned to have the following land uses:

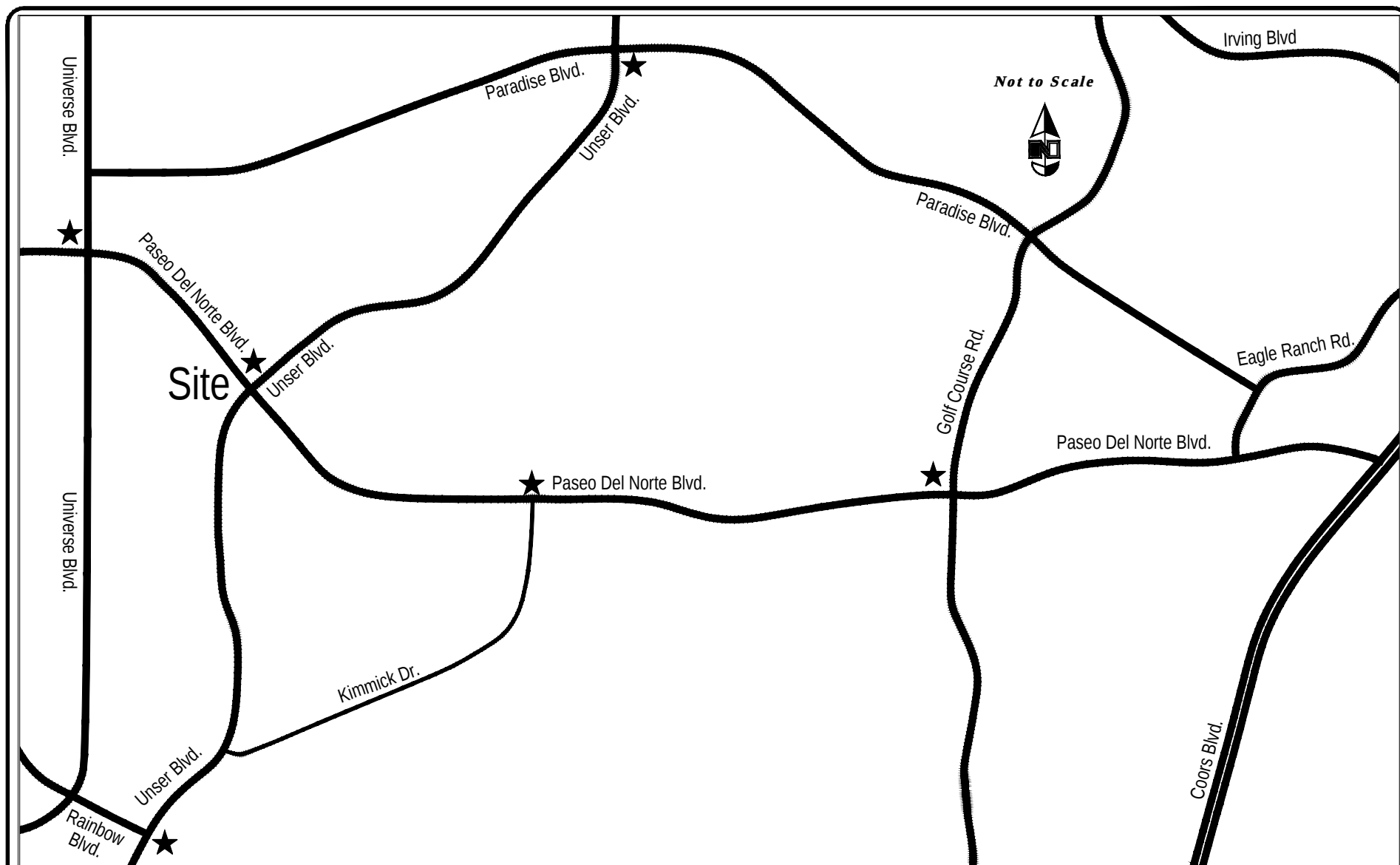
- Smith's Marketplace – 123,494 square feet
- Smith's Fuel Center - 18 fueling positions
- Anchor 1 – 14,375 square feet
- Retail – Buildings 2, 3, and 4 – 26,400 square feet
- Retail – Lot's 2, 3, 4, 7, 8, 10, 12, 13 and 14 – 58,400 square feet
- Fast Food – Lot's 1, 6, 9, 11 and 15 – 18,070 square feet

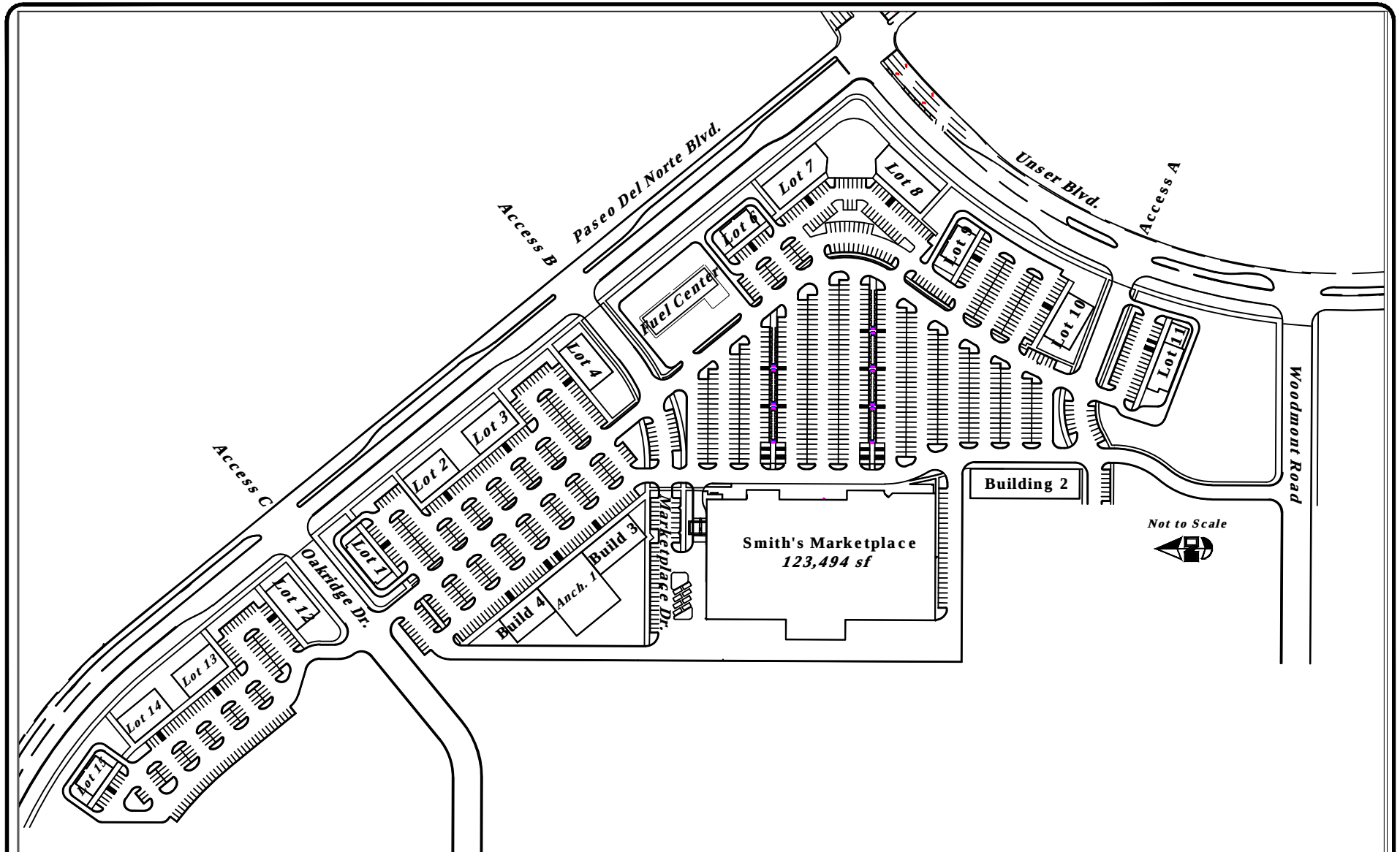
The total projected square footage for this site is 240,739 square feet.

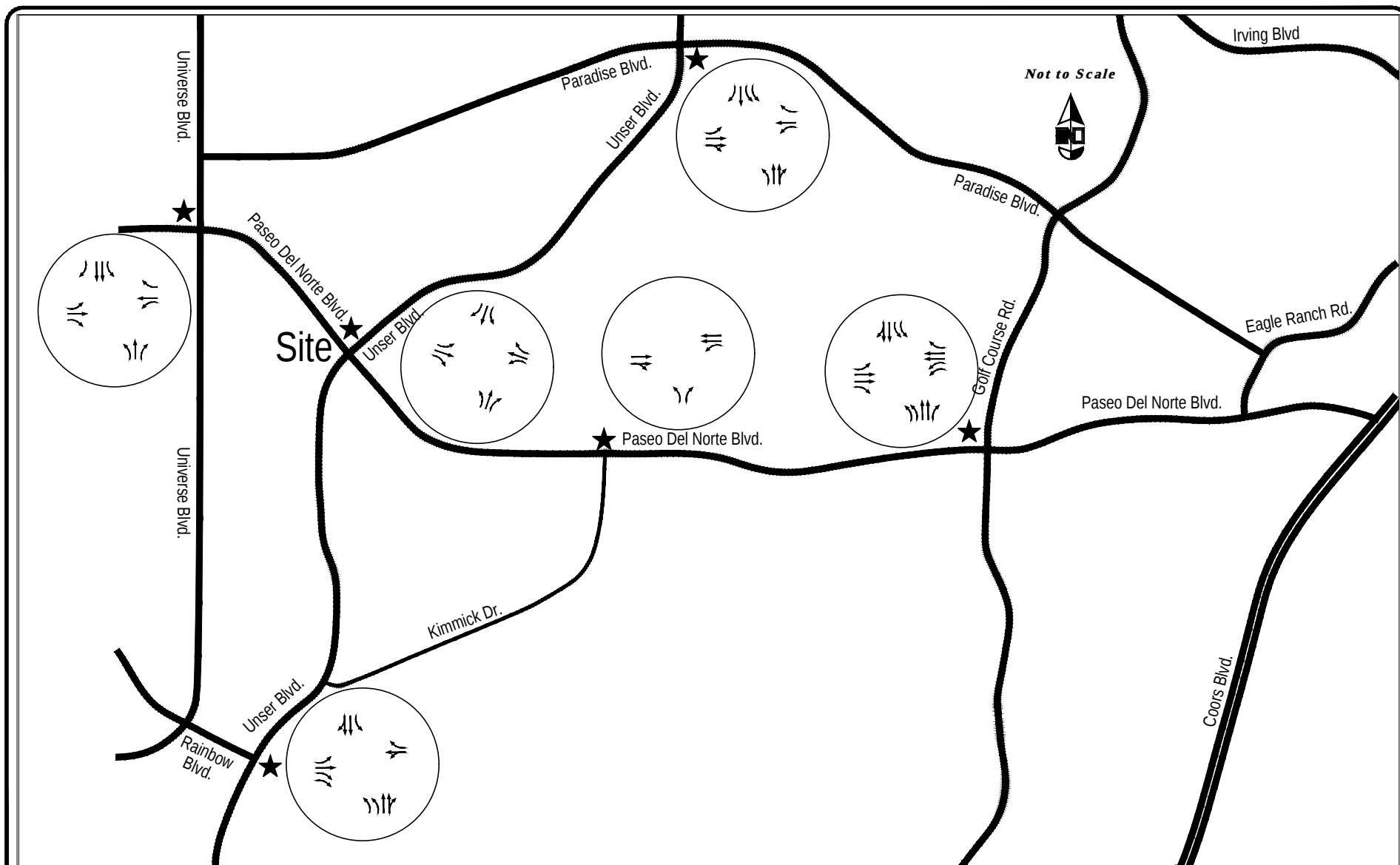
Figure One shows the location of the development (the intersections to be studied showed with a star) and Figure Two shows the conceptual site plan.

Figure Three shows the lane configurations for the study intersections.

Traffic counts were performed for the Peak Hours and are shown later in the report.







II. Existing Traffic Data

To supplement the traffic study, traffic counts were made at the following intersections. Traffic counts were made during the peak hours of March 9, 2017. The intersections counted included:

- Paseo and Unser
- Paseo and Universe
- Paseo and Kimmick
- Paseo and Golf Course
- Unser and Paradise
- Unser and Rainbow

Traffic counts for this report were performed for the AM and PM peak hour by Terry Brown Engineering. These were performed in conjunction with The Cliffs on Paseo Traffic Study. Paseo and Unser was used to determine the peak hour and the same peak hour was used for the other intersections. The AM Peak Hour (4 consecutive 15 minute periods between 7:00 a.m. and 9:00 a.m.) was from 7:00 a.m. to 8:00 a.m. The PM Peak Hour (4 consecutive 15 minute periods between 4:00 p.m. and 6:00 a.m.) was from 4:45 p.m. to 5:45 p.m. Detailed counts are shown in Appendix A.

Figure Four shows the existing traffic counts.

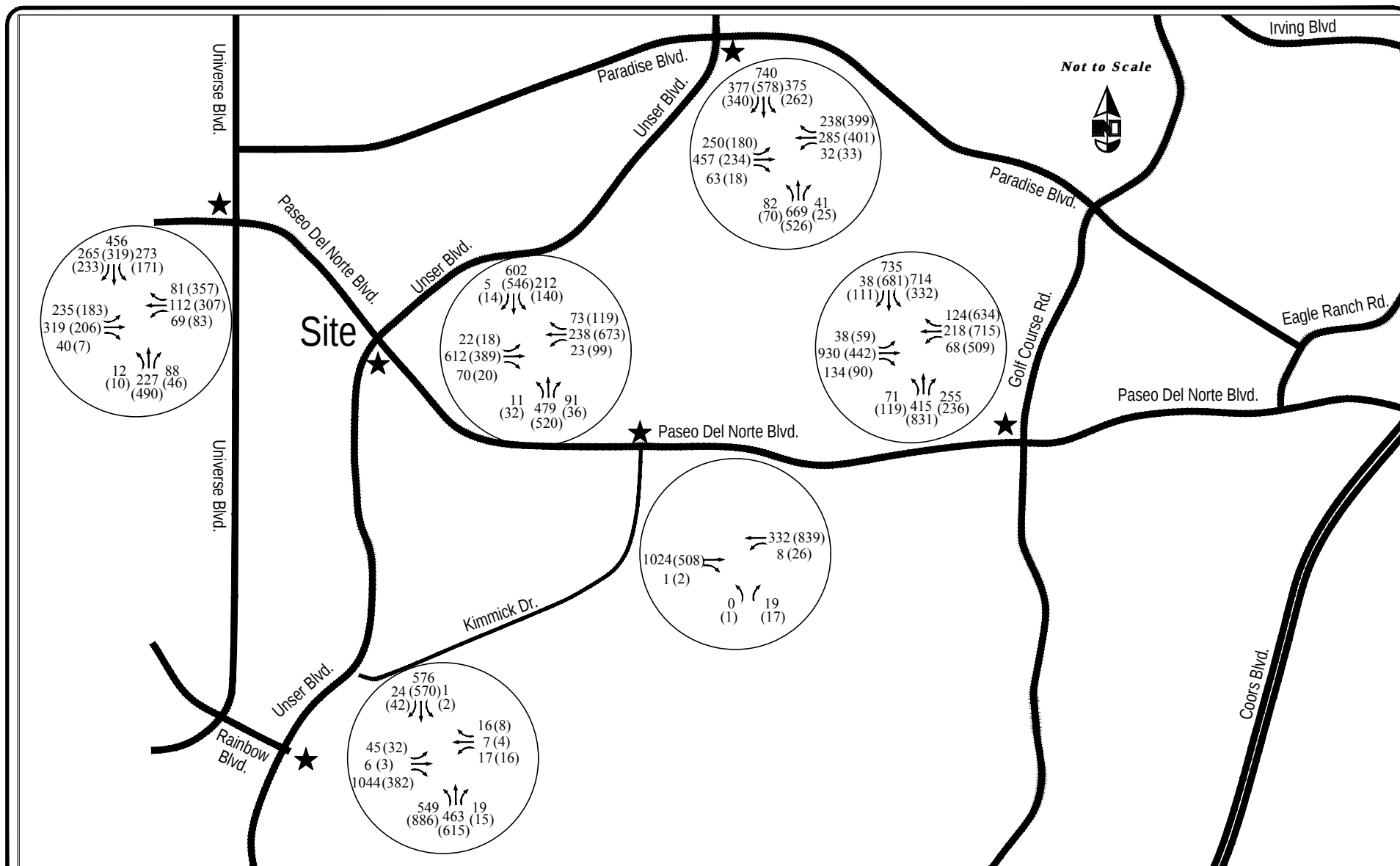
Future Traffic Growth

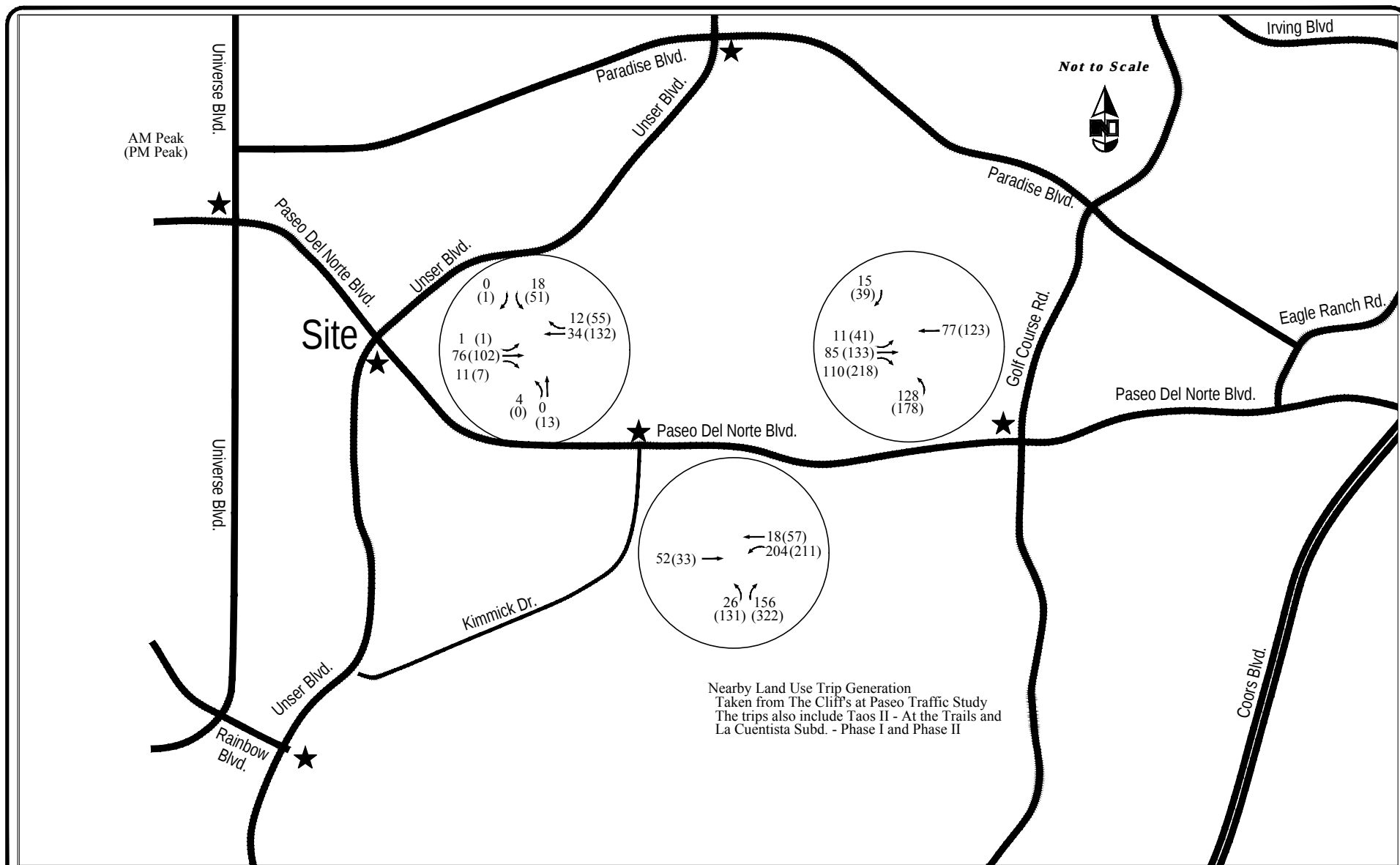
The Cliffs at Paseo is another development that is currently under consideration for the southwest corner of Paseo Del Norte and Kimmick Drive. Terry Brown is performing this TIS and provided the projected trips at intersections that are affected by his study. The Cliffs at Paseo is a mixed use facility will include nearly 90,000 square feet of retail, 23,000 square feet of office, 65,000 square feet of medical/dental office and 100 apartment units. The development will generate over 900 PM Peak Hour trips. Figure Five shows the site generated traffic from this development. The Cliffs at Paseo Traffic Study also included background traffic for other developments (Taos II at the Trails and La Cuentista Subdivision Phases I and II). Figure Five shows this other nearby development traffic.

As was discussed earlier, a future growth period will be analyzed, the year 2022 with and without the project site.

Figure Six shows the DASZ zones within a 3 mile radius of the proposed site. These DASZ are based on the Mid-Region Council of Governments of New Mexico (MRCOG). MRCOG's DASZ datasets include current and forecast socioeconomics that pertain to population, housing, employment. The population data will be used to show growth in the area that will utilize services such as the proposed shopping center.

Figure Seven shows the four areas of Origin/Destination for the Volcano Heights shopping center based on being north, south, east or west of the site.





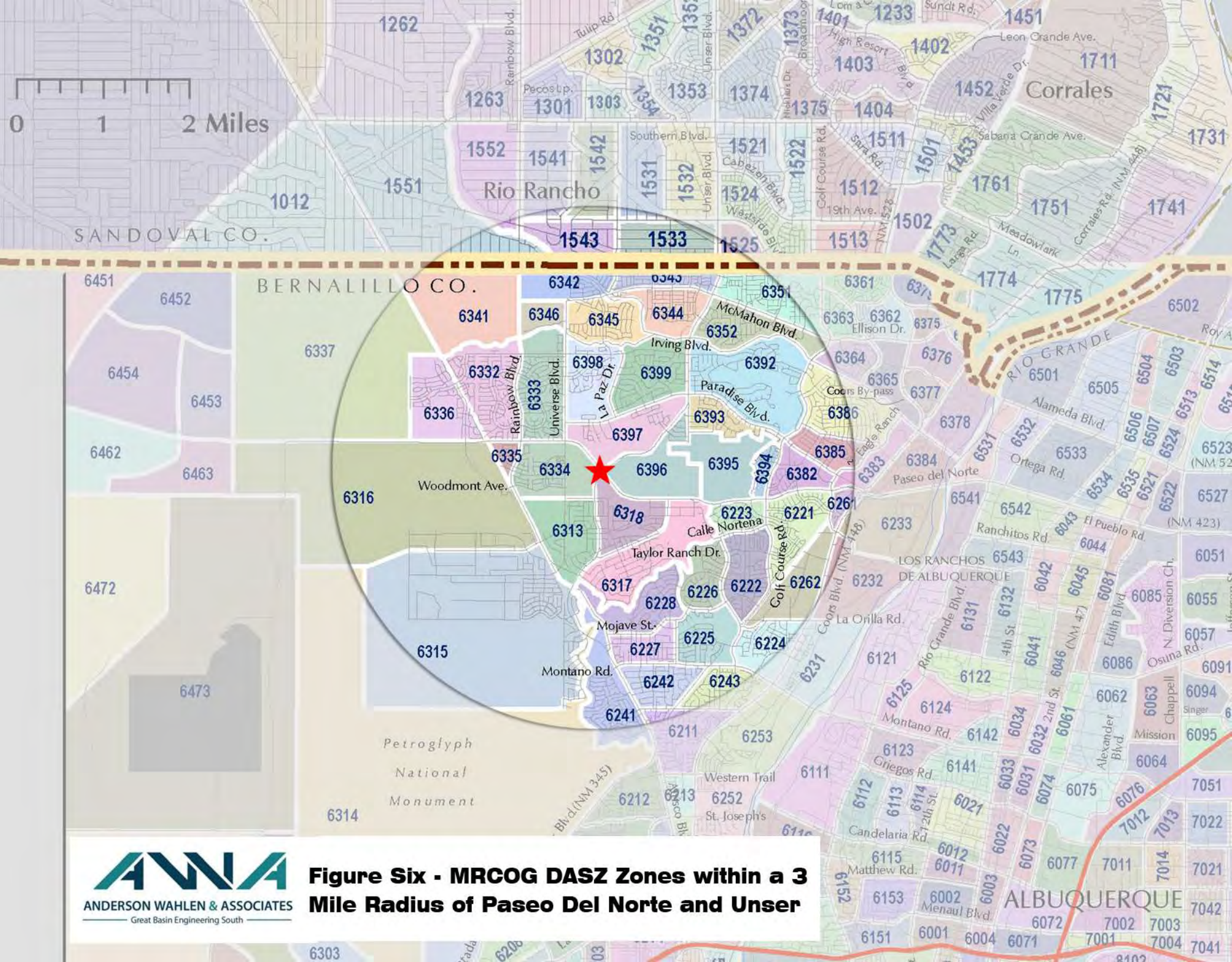
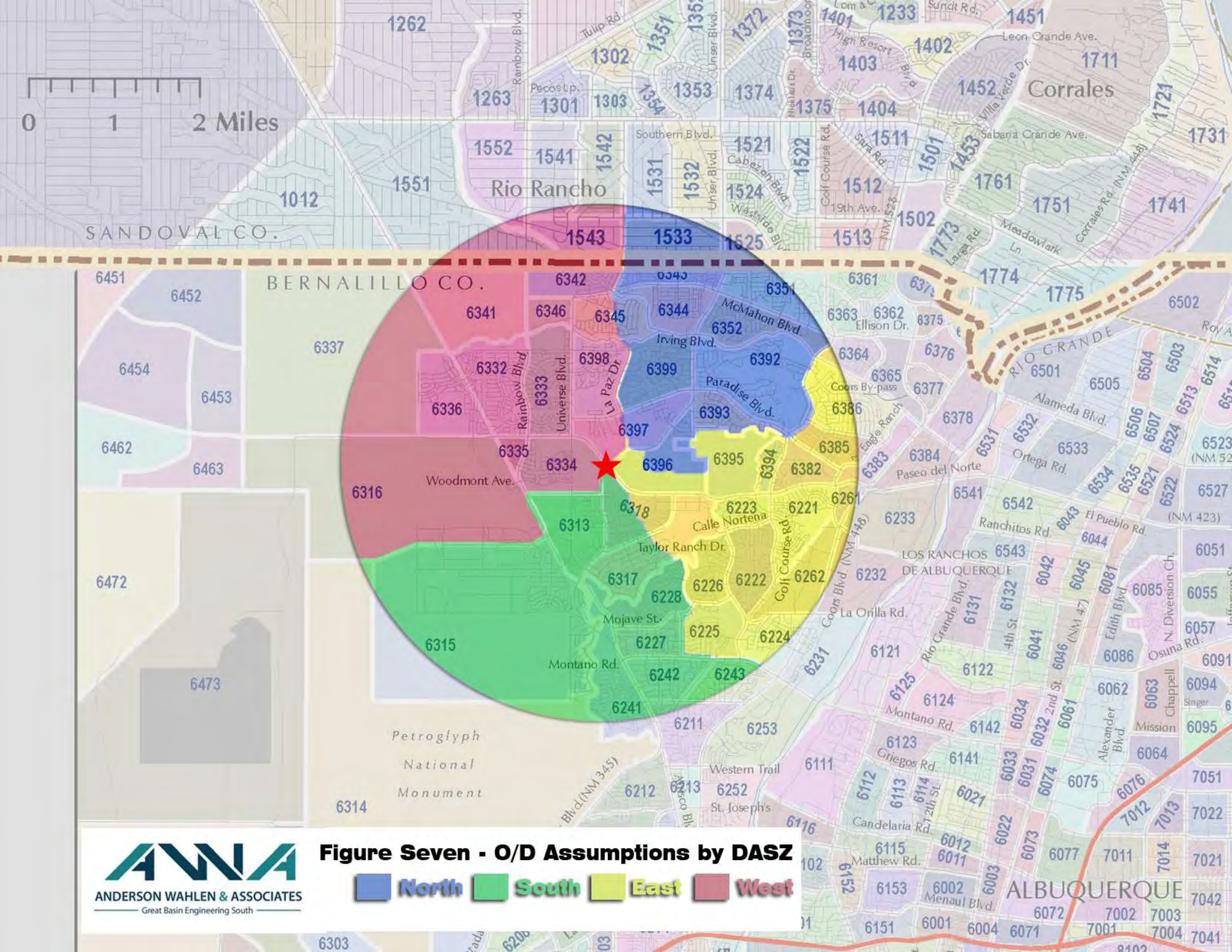


Figure Six - MRCOG DASZ Zones within a 3 Mile Radius of Paseo Del Norte and Unser



Based on the assumptions in Figure Seven, Table One Show results of 2012 vs. 2040 Pop. Growth data.

Volcano Heights Traffic Study												
Table One												
Origin/Destination Assumptions by DASZ 2040 Population in a 3 Mile Radius of the Site												
DASZ	% DASZ 3 Mile	Acres	2040 Pop.	2040 – 3 Mile Pop.	% N	% S	% E	% W	N	S	E	W
1525	10%	154	520	52	100%				52			
1531	5%	399	1450	72.5	100%				73			
1533	90%	378	2882	2593.8	100%				2594			
1541	5%	429	545	27.25				100%				27
1542	10%	387	1103	110.3				100%				110
1543	100%	303	1694	1694				100%				1694
1551	20%	1510	1278	255.6				100%				256
1552	5%	581	424	21.2				100%				21
6211	10%	307	2882	288.2		100%				288		
6221	100%	321	2764	2764			100%				2764	
6222	100%	293	3077	3077			100%				3077	
6223	100%	137	982	982			100%				982	
6224	70%	245	3351	2345.7			100%				2346	
6225	100%	270	1961	1961			100%				1961	
6226	100%	220	1564	1564			100%				1564	
6227	100%	176	1861	1861		100%				1861		
6228	100%	309	1564	1564		100%				1564		
6232	5%	424	947	47.35			100%				47	
6233	5%	510	1274	63.7			100%				64	
6241	85%	407	2436	2070.6		100%				2071		
6242	100%	235	1979	1979		100%				1979		
6243	65%	233	2301	1495.65		100%				1496		
6261	95%	66	471	447.45			100%				447	
6262	100%	311	151	151			100%				151	
6313	100%	368	250	250		100%				250		
6315	80%	2651	3086	2468.8		100%				2469		
6316	75%	2344	1019	764.25				100%				764
6317	100%	502	1793	1793		50%	50%			897	897	
6318	100%	297	565	565		50%	50%			283	283	
6332	100%	445	5484	5484				100%				5484
6333	100%	410	3943	3943				100%				3943
6334	100%	354	4966	4966				100%				4966
6335	100%	63	701	701				100%				701
6336	100%	376	2783	2783				100%				2783
6337	50%	2636	354	177				100%				177
6341	95%	716	2564	2435.8				100%				2436
6342	100%	269	2548	2548				100%				2548
6343	100%	206	3153	3153	100%				3153			
6344	100%	260	2339	2339	100%				2339			
6345	100%	270	3024	3024	50%			50%	1512			1512
6346	100%	114						100%				
6351	60%	435	4637	2782.2	100%				2782			
6352	100%	320	2981	2981	100%				2981			
6364	10%	161	1664	166.4			100%				166	
6382	100%	183	843	843			100%				843	
6383	10%	169	2012	201.2			100%				201	
6385	90%	190	2310	2079			100%				2079	
6386	55%	410	3564	1960.2			100%				1960	
6392	100%	691	4118	4118	100%				4118			
6393	100%	180	1629	1629	100%				1629			
6394	100%	77	511	511			100%				511	
6395	100%	355					100%					
6396	100%	373	4347	4347	50%		50%		2174		2174	
6397	100%	352	3008	3008	50%			50%	1504			1504
6398	100%	325	2668	2668				100%				2668
6399	100%	375	2322	2322	100%				2322			
				94,499					27,232	13,156	22,517	31,594
									29%	14%	24%	33%

The 2012 data was generally consistent with 2040 data, except that the 2040 data does show more population growth to the west. Therefore, the 2040 data was rounded slightly and used for future growth in this report. It was found that with 2040 population growth, that:

- 28 percent would be north of the site (23 percent would extend as far as Paradise Blvd);
- 16 percent would be south of the site (14 percent would extend as far as Rainbow Blvd);
- 23 percent would be east of the site (19 percent would extend as far as Golf Course Rd, 21 percent would extend as far as Kimmick);
- 33 percent would be west of the site (31 percent would extend as far as Universe Blvd.).

The above data will be used for developing the trip distribution assumptions later in the report.

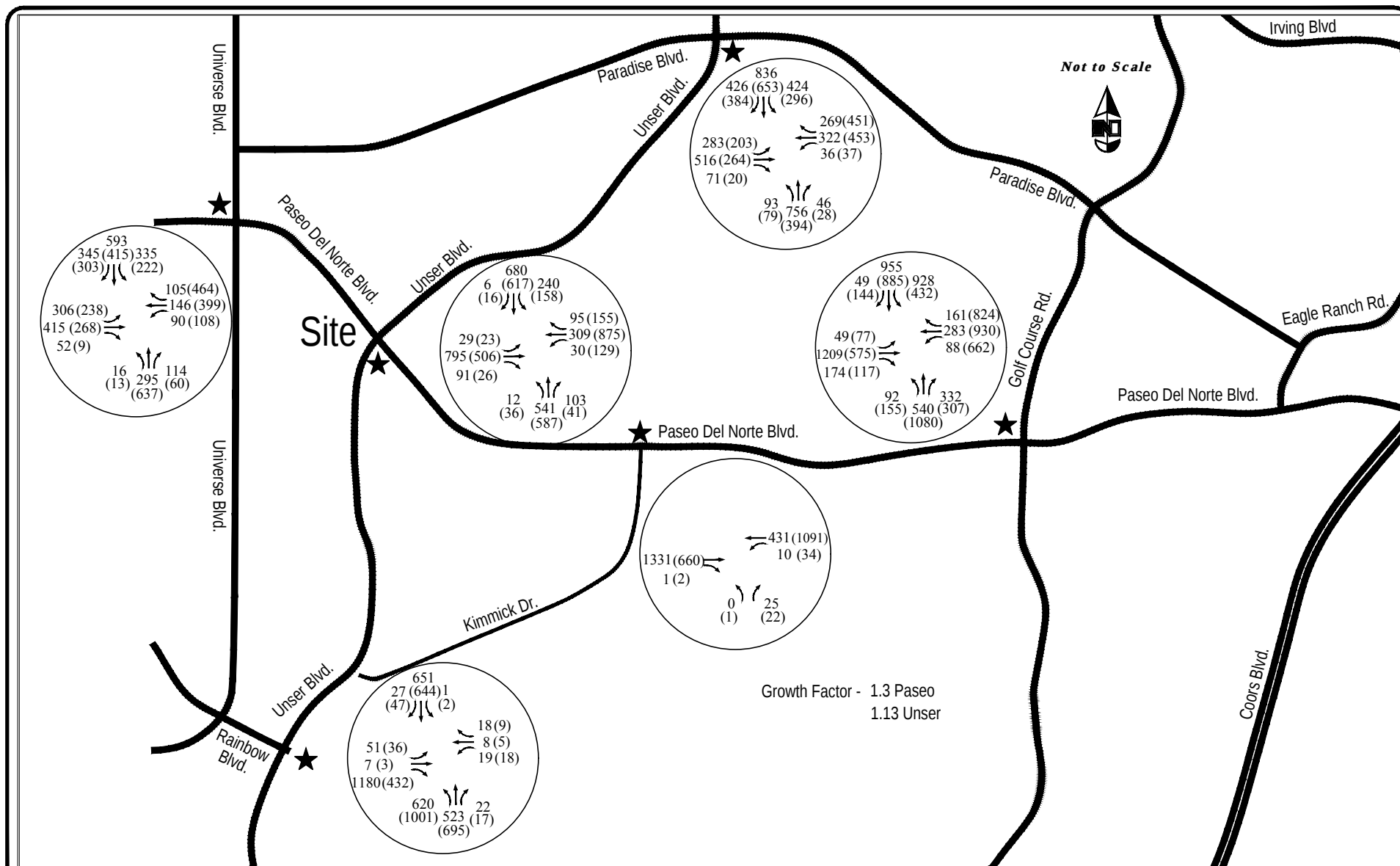
The City directions for determining growth are based on a 10 year historic growth of the road. None of the roads in the area show a full 10 year historic growth on the MRCOG Historical Traffic Flow maps:

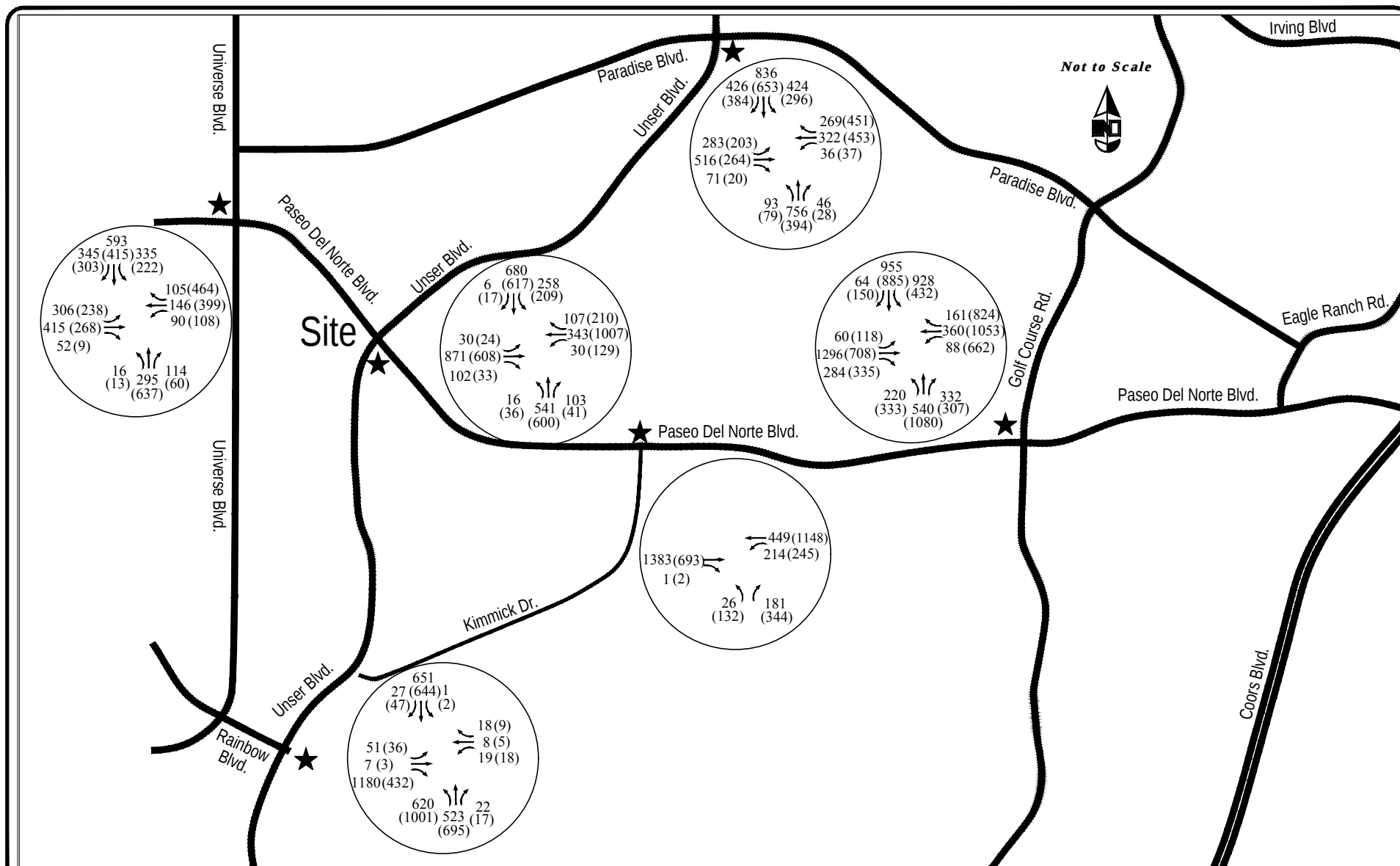
Year	Paseo Del Norte ADT	Unser ADT	
		North	South
2014	15,160	9,430	7,700
2013	15,100	9,400	7,700
2012	13,100	8,400	7,900
2011	13,200	N/A	N/A
2010	13,500		
2009	13,000		
2008	11,500		

For Paseo Del Norte, the seven years of data yields a growth of 5.3 percent per year or a growth factor of 1.29. For simplicity, a growth factor of 1.3 will be applied to the existing Paseo Del Norte traffic (for the year 2022). For Unser, less data was available and it showed negative growth to the south of Paseo and positive growth to the north of Paseo. To reconcile this and show positive growth on Unser in the future, both sides of Paseo were averaged. This yielded a growth rate of 2.6 percent per year or a growth factor of 1.13 on Unser for the year 2022. These growth rates should be conservative as certainly the growth on this road will be a factor of the proposed developments which are being calculated separately. Also, the population growth over the 3 mile radius from the site is only planned at 1.25 percent over the next 28 years, so both these growth rates seem conservative.

Figure Eight shows the 2022 Background traffic based on applying the growth rates assumed above to the existing traffic counts.

Figure Nine shows the 2022 Background Growth plus the other ongoing developments (this included the Cliff's on Paseo, Taos II at the Trails and La Cuentista Subdivision Phases One and Two). The projected trips from these developments (that were received from Terry Brown Engineering) were added to the projected 2022 background growth in Figure Eight.





III. Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation (Ninth Edition) handbook was used to estimate trips for the land uses.

The development is planned to have the following land uses:

- Smith's Marketplace – 123,494 square feet
- Smith's Fuel Center - 18 fueling positions
- Anchor 1 – 14,375 square feet
- Retail – Buildings 2, 3, and 4 – 26,400 square feet
- Retail – Lot's 2, 3, 4, 7, 8, 10, 12, 13 and 14 – 58,400 square feet
- Fast Food – Lot's 1, 6, 9, 11 and 15 – 18,070 square feet

A. Pass-by Trips

Pass-by trips and internal trips for each land use were estimated. Pass-by trips represent those trips which already pass the site as background traffic. This traffic already exists on the roadway and does not constitute additional traffic. However, it must be accounted for as the pass-by trips change from passing traffic to entering and exiting traffic. Therefore, they represent an increase in turning movements but a reduction in passing vehicles.

B. Internal Trips

Internal trips are those trips which are within the site. For example, a grocery store and a fast food pad will both generate trips, but some trips may be from the grocery store to the fast food (and visa versa). For this site, a 20% internal capture rate was assumed.

This is reasonable as Anderson, Wahlen and Associates performed a trip count to determine the shared traffic for a similar Smith's Marketplace in Lehi, Utah (total square footage of 205,000 square feet and a fuel center). The actual traffic volumes generated in the AM peak hour period is 43 percent less than the trip generation values calculated using the ITE Trip Generation Manual. The PM peak hour showed a 19 percent difference. Therefore, assuming a 20 percent internal capture rate for this site is reasonable.

Table Two shows the AM Peak Hour trips generated for the site.

Table Three shows the trip breakdown for the AM peak period.

Table Four shows the PM Peak Hour trips generated for the site.

Table Five shows the trip breakdown for the PM peak period.

Volcano Heights Traffic Study Table Two AM Peak Development Trip Generation						
Facility	Facility Size (1,000 Square Feet)	ITE Land Use Code	AM Peak Trip Rate	AM Peak Trips	Internal Capture Rate	AM Peak External Trips
Zone 1 – Land Uses assumed to be using the Unser Blvd. Access A						
Building 2 - Retail	13.20	820	1.00	13	20%	10
Lot 8 - Retail	8.20	820	1.00	8	20%	7
Lot 9 – Fast Food	3.10	934	49.35	153	20%	122
Lot 10 – Retail	6.00	820	1.00	6	20%	5
Lot 11 – Fast Food	4.30	934	49.35	212	20%	170
Subtotal	34.80			392		314
Zone 2 – Land Uses assumed to be using the Paseo Del Norte Blvd Access B						
Smith's Marketplace	123.5	813	1.67	206	20%	165
Smith's Fuel Center	18 units	944	12.07	217	20%	174
Building 3 – Retail	7.2	820	1.00	7	20%	6
Lot 4 – Retail	6.00	820	1.00	6	20%	5
Lot 6 – Fast Food	3.10	934	49.35	153	20%	122
Lot 7 – Retail	8.20	820	1.00	8	20%	7
Subtotal	148.00			597		479
Zone 3 - Land Uses assumed to be using the Paseo Del Norte Blvd Access C						
Anchor 1 – Retail	14.38	820	1.00	14	20%	12
Building 4 – Retail	6.00	820	1.00	6	20%	5
Lot 1 – Fast Food	4.45	934	49.35	220	20%	176
Lot 2 – Retail	6.00	820	1.00	6	20%	5
Lot 3 – Retail	6.00	820	1.00	6	20%	5
Lot 12 – Retail	6.00	820	1.00	6	20%	5
Lot 13 – Retail	6.00	820	1.00	6	20%	5
Lot 14 – Retail	6.00	820	1.00	6	20%	5
Lot 15 – Fast Food	3.10	934	49.35	153	20%	122
Subtotal	57.93			423		340
Total	240.73			1,412		1,133

Volcano Heights Traffic Study Table Three AM Peak Total Development Trips, Primary Trips and Pass-by Trips										
Facility	External Trips	Pass-by %	Primary	Pass-by	AM In	AM Out	Primary AM IN	Primary AM Out	Pass-by AM In	Pass-by AM Out
Zone 1 – Land Uses assumed to be using the Unser Blvd. Access A										
Building 2 - Retail	10	34%	7	4	61%	39%	4	3	2	1
Lot 8 - Retail	7	34%	4	2	61%	39%	3	2	1	1
Lot 9 – Fast Food	122	49%	62	60	51%	49%	32	30	31	29
Lot 10 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 11 – Fast Food	170	49%	87	83	51%	49%	44	43	42	41
Subtotal	314		163	151			85	79	77	73
Zone 2 – Land Uses assumed to be using the Paseo Del Norte Blvd Access B										
Smith's Marketplace	165	36%	106	59	56%	44%	59	47	33	26
Smith's Fuel Center	174	58%	73	101	50%	50%	36	36	50	50
Building 3 – Retail	6	34%	4	2	61%	39%	2	2	1	1
Lot 4 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 6 – Fast Food	122	49%	62	60	51%	49%	32	30	31	29
Lot 7 – Retail	7	34%	5	2	61%	39%	3	2	1	1
Subtotal	479		253	226			134	118	117	108
Zone 3 - Land uses assumed to be using the Paseo Del Norte Blvd Access C										
Anchor 1 – Retail	12	34%	8	4	61%	39%	5	3	2	2
Building 4 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 1 – Fast Food	176	49%	90	86	51%	49%	46	44	44	42
Lot 2 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 3 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 12 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 13 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 14 – Retail	5	34%	3	2	61%	39%	2	1	1	1
Lot 15 – Fast Food	122	49%	62	60	51%	49%	32	30	31	29
Subtotal	340		178	162			95	83	83	79
Total	1,133		594	539			314	280	277	260

Volcano Heights Traffic Study Table Four PM Peak Development Trip Generation						
Facility	Facility Size (1,000 Square Feet)	ITE Land Use Code	PM Peak Trip Rate	PM Peak Trips	Internal Capture Rate	PM Peak External Trips
Zone 1 – Land Uses assumed to be using the Unser Blvd. Access A						
Building 2 - Retail	13.20	820	3.73	49	20%	39
Lot 8 - Retail	8.20	820	3.73	31	20%	25
Lot 9 – Fast Food	3.10	934	33.84	105	20%	84
Lot 10 – Retail	6.00	820	3.73	22	20%	18
Lot 11 – Fast Food	4.30	934	33.84	146	20%	117
Subtotal	34.80			353		283
Zone 2 – Land Uses assumed to be using the Paseo Del Norte Blvd Access B						
Smith's Marketplace	123.5	813	4.61	569	20%	455
Smith's Fuel Center	18 units	944	13.86	250	20%	200
Building 3 – Retail	7.20	820	3.73	27	20%	22
Lot 4 – Retail	6.00	820	3.73	22	20%	18
Lot 6 – Fast Food	3.10	934	33.84	105	20%	84
Lot 7 – Retail	8.20	820	3.73	31	20%	25
Subtotal	148.00			1,004		804
Zone 3 - Land uses assumed to be using the Paseo Del Norte Blvd Access C						
Anchor 1 – Retail	14.38	820	3.73	54	20%	43
Building 4 – Retail	6.00	820	3.73	22	20%	18
Lot 1 – Fast Food	4.45	934	33.84	151	20%	121
Lot 2 – Retail	6.00	820	3.73	22	20%	18
Lot 3 – Retail	6.00	820	3.73	22	20%	18
Lot 12 – Retail	6.00	820	3.73	22	20%	18
Lot 13 – Retail	6.00	820	3.73	22	20%	18
Lot 14 – Retail	6.00	820	3.73	22	20%	18
Lot 15 – Fast Food	3.10	934	33.84	105	20%	84
Subtotal	57.93			442		356
Total	240.73			1,779		1,443

Volcano Heights Traffic Study Table Five PM Peak Total Development Trips, Primary Trips and Pass-by Trips										
Facility	External Trips	Pass-by %	Primary	Pass-by	PM In	PM Out	Primary PM IN	Primary PM Out	Pass-by PM In	Pass-by PM Out
Zone 1 – Land Uses assumed to be using the Unser Blvd. Access A										
Building 2 - Retail	39	34%	26	13	49%	51%	13	13	6	7
Lot 8 - Retail	25	34%	17	9	49%	51%	8	9	4	5
Lot 9 – Fast Food	84	50%	42	42	52%	48%	22	20	22	20
Lot 10 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 11 – Fast Food	117	50%	59	59	52%	48%	31	28	31	28
Subtotal	283		156	129			80	76	66	63
Zone 2 – Land Uses assumed to be using the Paseo Del Norte Blvd Access B										
Smith's Marketplace	455	36%	291	164	49%	51%	143	148	80	84
Smith's Fuel Center	200	42%	116	84	50%	50%	58	58	42	42
Building 3 – Retail	22	34%	15	8	49%	51%	7	8	4	4
Lot 4 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 6 – Fast Food	84	50%	42	42	52%	48%	22	20	22	20
Lot 7 – Retail	25	34%	17	9	49%	51%	8	9	4	5
Subtotal	804		493	313			244	249	155	158
Zone 3 - Land uses assumed to be using the Paseo Del Norte Blvd Access C										
Anchor 1 – Retail	43	34%	28	15	49%	51%	14	14	8	8
Building 4 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 1 – Fast Food	121	50%	61	61	52%	48%	32	29	32	29
Lot 2 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 3 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 12 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 13 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 14 – Retail	18	34%	12	6	49%	51%	6	6	3	3
Lot 15 – Fast Food	84	50%	42	42	52%	48%	22	20	22	20
Subtotal	356		203	154			104	99	80	75
Total	1,443		852	596			428	424	301	296

IV. Origin/Destination and Trip Distribution

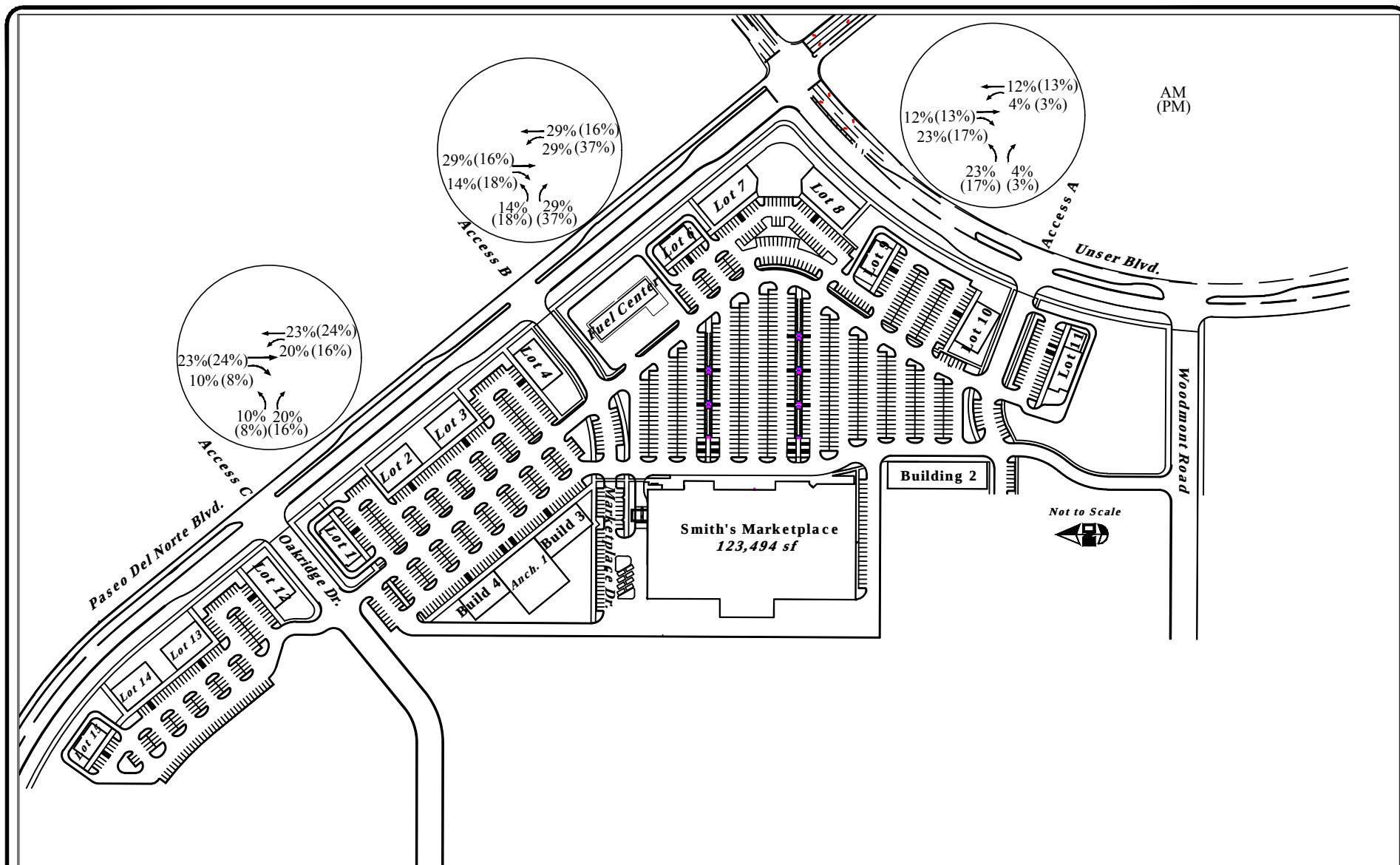
Trip Distribution

To develop assumptions for trip distribution, the site was assumed to be split into three different zones as can be in Tables Two through Five. The land uses in Zone 1 were assumed to use Access A, the land uses in Zone 2 were assumed to use Access B and the land uses in Zone 3 were assumed to use Access C. While there may be some traffic that cuts through the development and does not follow these assumptions exactly, it was felt that differences would balance out in the overall plan and that it was better to make simple, general assumptions. With the zone assumptions in place, the percent of the overall trips that use each access were calculated for the AM and PM Peak Hours. These percentages vary as the trips generated per land use can vary greatly from the AM to the PM. These percentages are as follows:

	Access Usage Per Internal Zone	
	AM Peak Hour	PM Peak Hour
Access A – Zone 1	28%	20%
Access B – Zone 2	42%	55%
Access C – Zone 3	30%	25%

These percentages were then applied to the O/D assumptions that were developed earlier (i.e., North – 28%, South – 16%, East – 23%, West – 33%). For example, if 33 percent of the traffic were coming/going to the west, then Access C would see 10% of the overall traffic making right turns ingresses and left turn egresses during the AM Peak Hour (30% to Access C of the 33 percent from the west). This same assumptions would yield 8% in the PM Peak Hour (25% to Access C of the 33 percent from the west). This was done for each of the accesses and each of the four O/D assumptions and the assumptions totaled for each peak hour. Figure Ten shows these assumptions at the site accesses (The projected Peak Hour External Traffic Assumptions at the Site Accesses).

Figure Eleven shows the trip distribution assumptions for off-site intersections. Please note that the amount of traffic that reaches off-site intersections decreases as the distance from the site increases as was determined in Table One. For example, 28 percent of the population was determined to be north of the site in the future. It was assumed that 28 percent of the traffic comes from the north through the Paseo/Unser intersection. Of this traffic, only 23 percent of it went through the Paradise/Unser intersection. The remaining 5 percent of the traffic was assumed to be added to the traffic flow by housing that accesses Unser in between Paradise and Paseo. Figure Eleven shows this 5 percent change on the map. Similarly, traffic changes to the south towards Rainbow (-2%), to the east towards Golf Course (-4%) and to the west towards Universe (-2%).



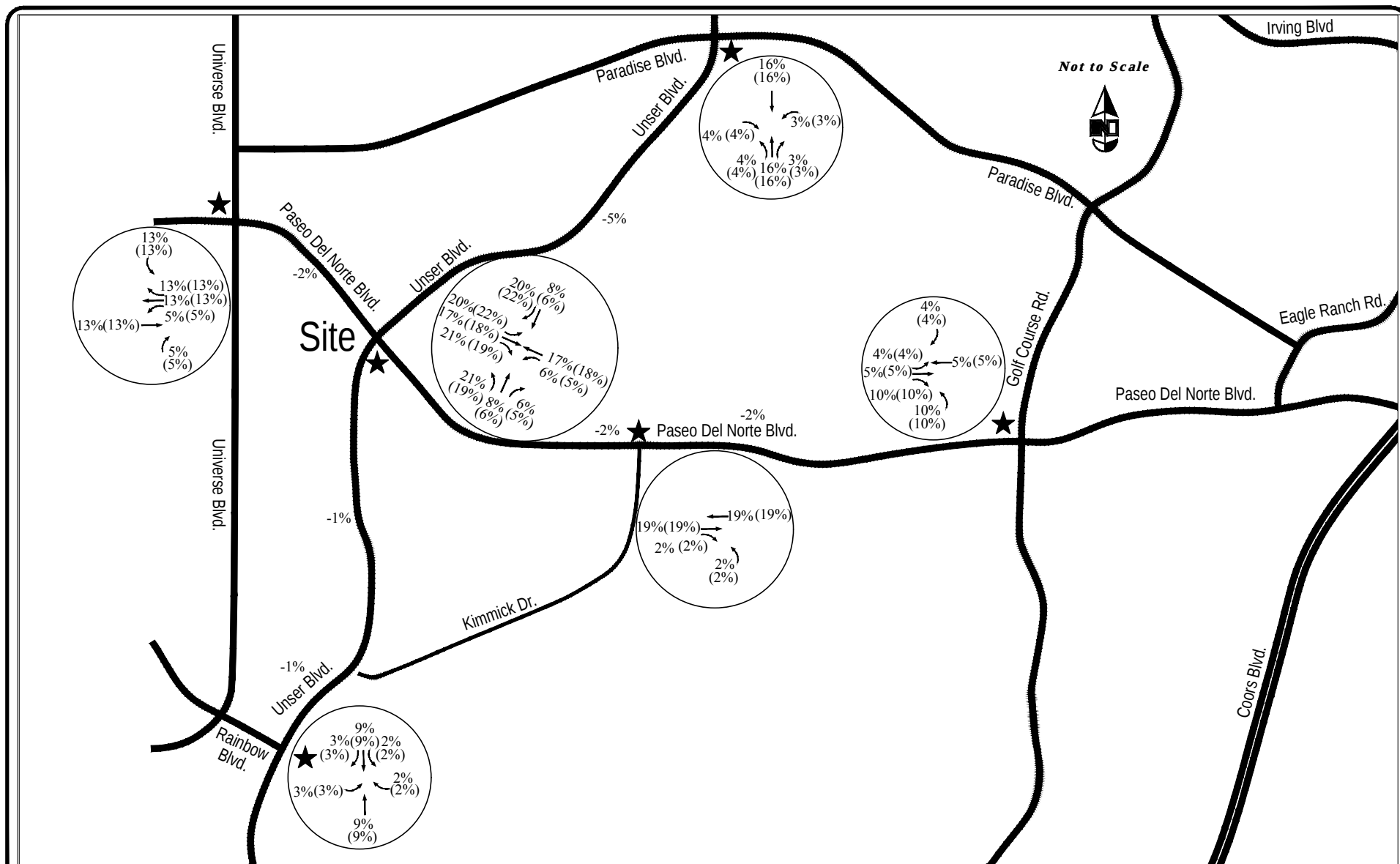
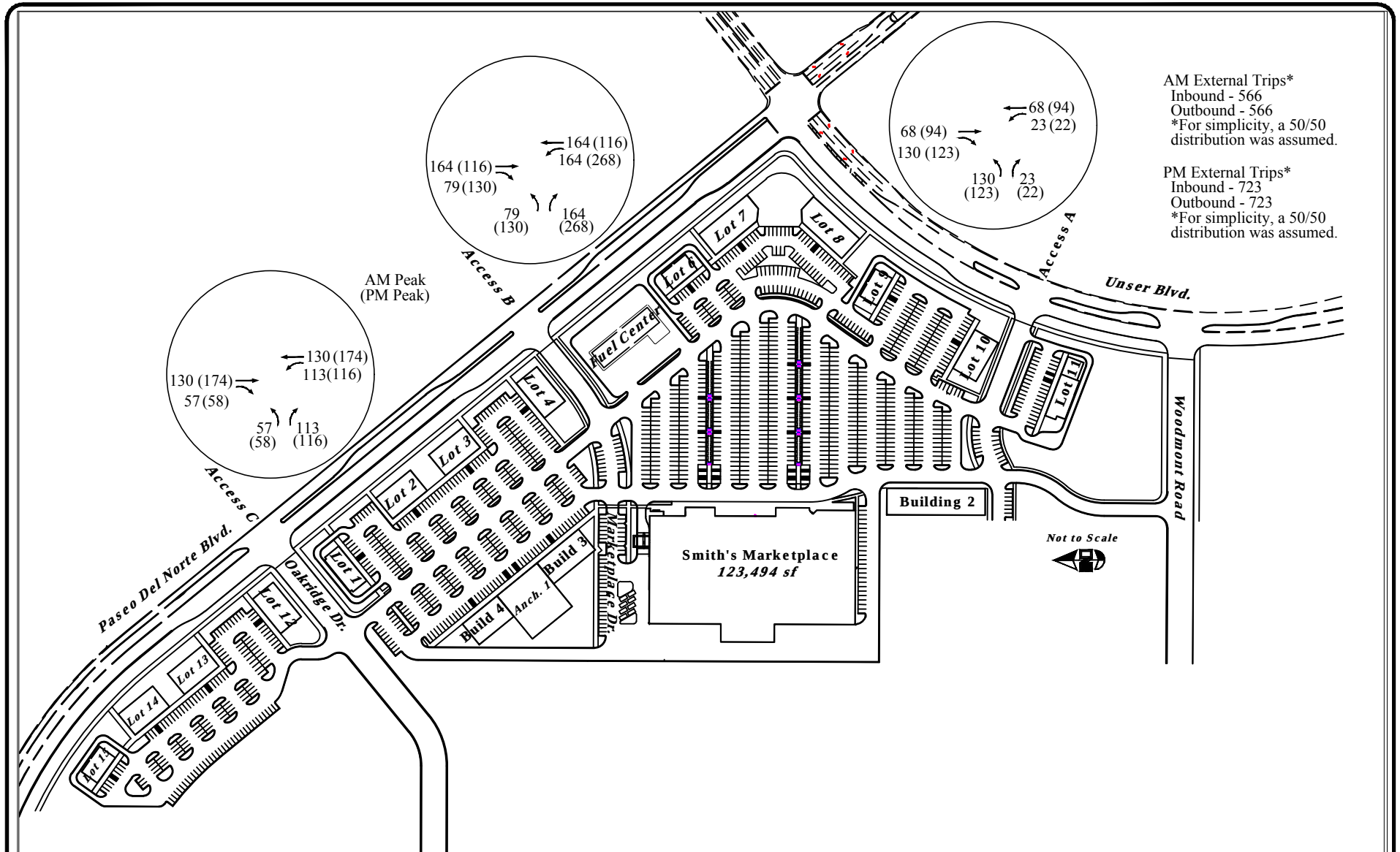


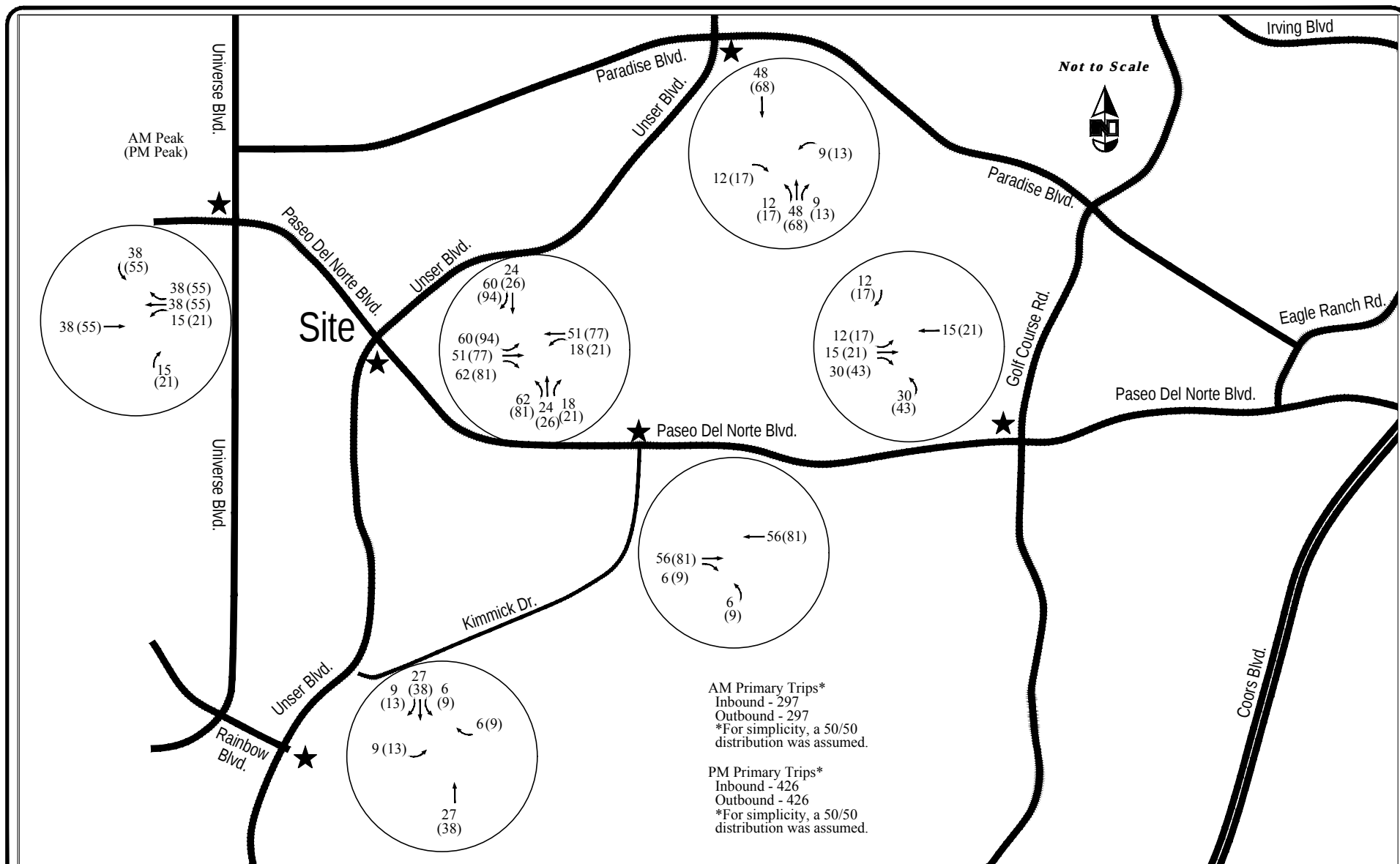
Figure Twelve shows the projected Site Generated Peak Hour External Traffic at the Site Accesses. This is based on the external trips (pass-by and primary trips) from the site. The external trips had close enough to a 50/50 overall entering/exiting distribution that this 50/50 distribution was used for simplicity. The external trips were then applied to the assumptions in Figure Ten to develop trips at the accesses. As the pass-by direction of travel is difficult to make assumptions for on a corner site where both frontages contribute to pass-by traffic, the pass-by traffic was assumed to have the same distribution as the primary traffic based on the O/D distribution of the population.

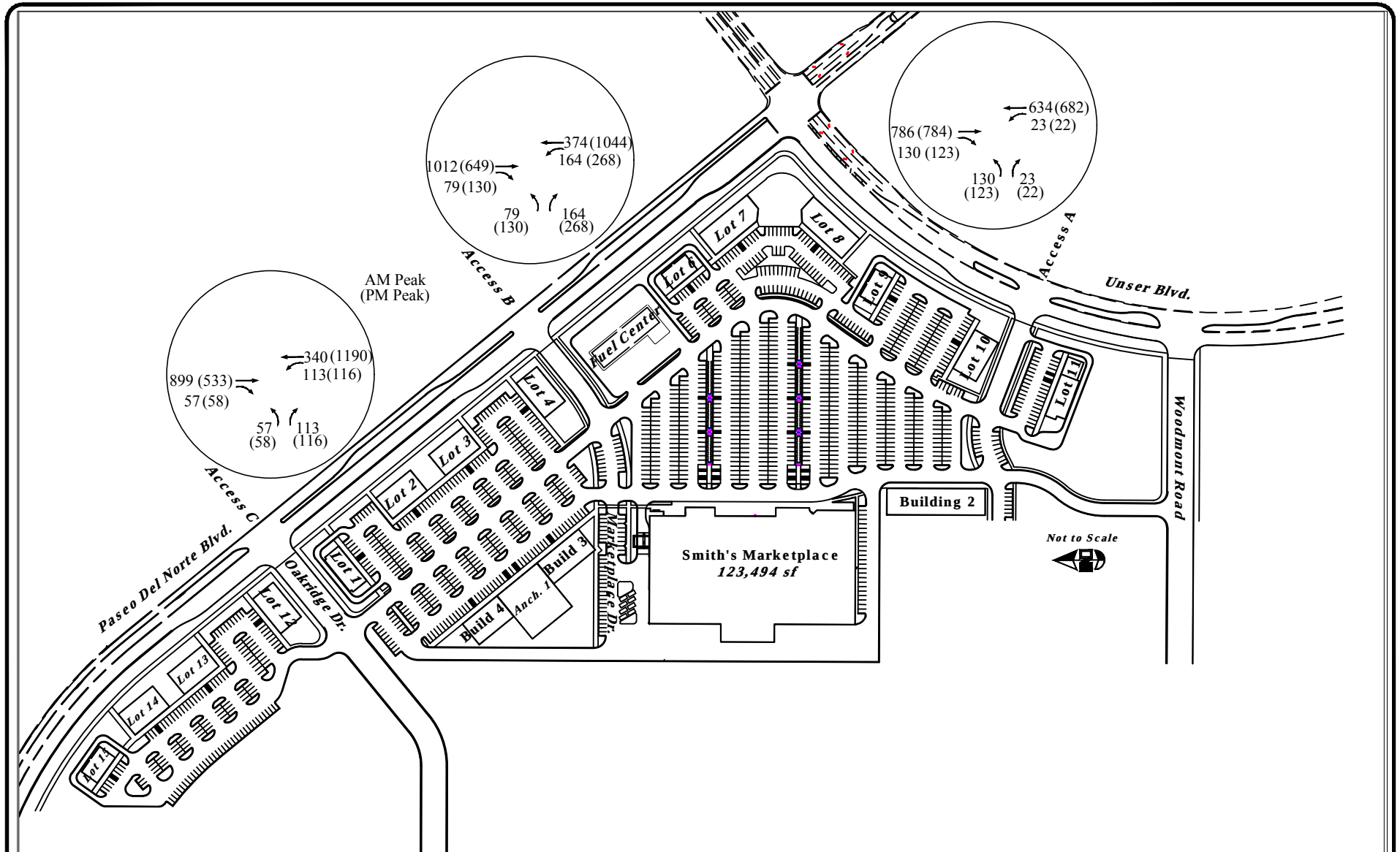
Figure Thirteen shows the projected Site Generated Peak Hour Primary Traffic at the Off-Site Intersections. The primary traffic is the new traffic to the area and does not include pass-by trips. The primary trips had close enough to a 50/50 overall entering/exiting distribution that this 50/50 distribution was used for simplicity.

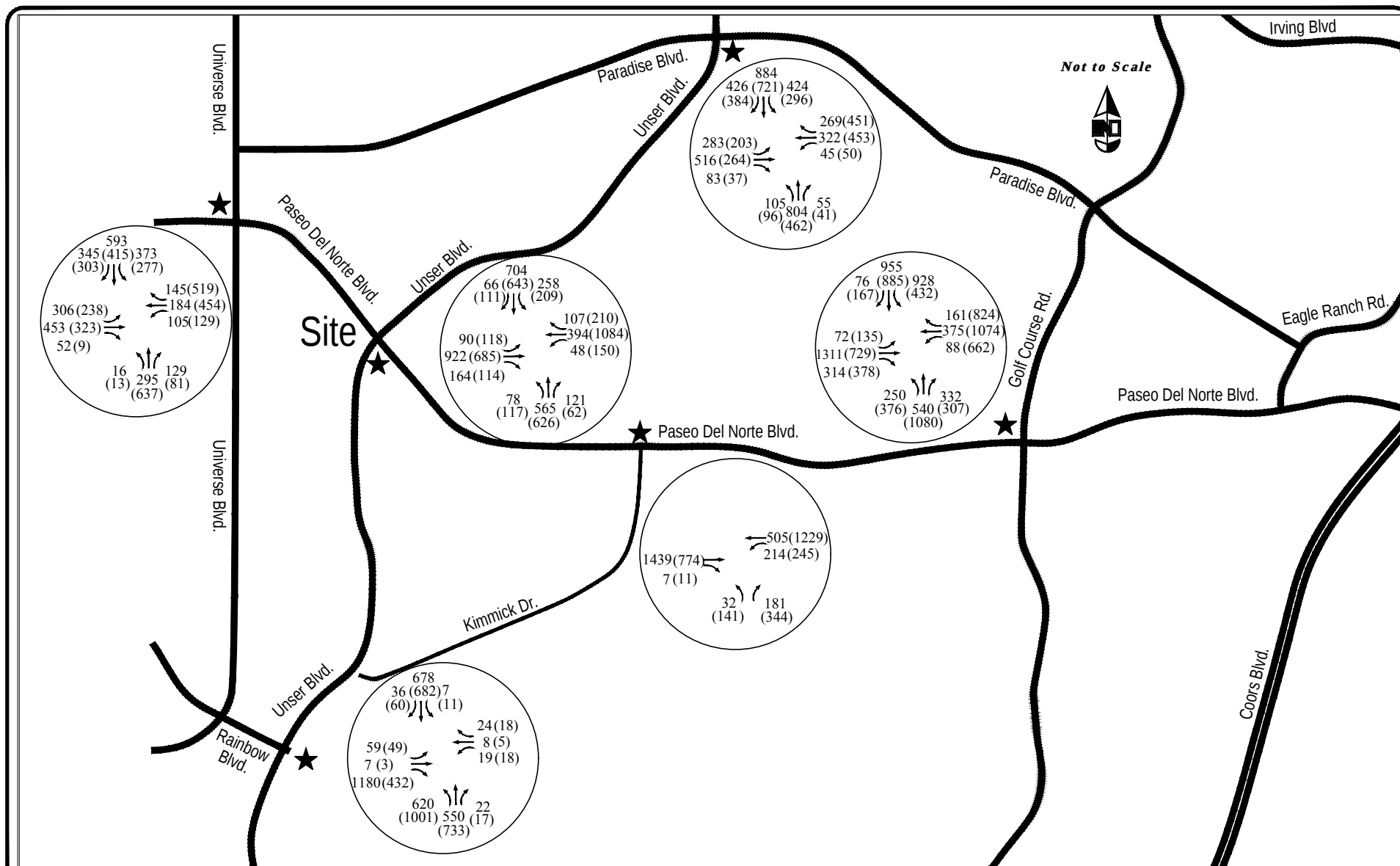
Figure Fourteen shows the Site Generated Access Traffic plus 2022 Background Traffic. This is the total of Figure Nine (Background Traffic) plus Figure Twelve (Site Generated External Traffic at Site Accesses).

Figure Fifteen shows the Site Generated Primary Traffic at Off-Site Intersections plus the 2022 Background Traffic. This is the total of Figure Nine (Background Traffic) plus Figure Thirteen (Site Generated Primary Traffic at Off-site Intersections).









V. Traffic Analysis

The accesses and intersections are analyzed using the Synchro Software to evaluate the impacts of the project on the surrounding traffic network. Table Five shows the Level-of-Service (LOS) delay ranges for intersections as defined by the 2010 Highway Capacity Manual. For the existing analysis, 90 second cycle lengths were used for the analysis. For 2022 traffic, 120 second cycle lengths were assumed. The signal phasing was optimized in the Synchro Software. Detailed Synchro Analyses are found in Appendix C.

Table Six shows the LOS delay ranges for intersections as defined by the 2010 Highway Capacity Manual.

<i>Volcano Heights Traffic Study</i> <i>Table Six</i> Intersection LOS-Delay Relationship		
Level of Service	Unsignalized Stopped Delay per Vehicle (sec)	Signalized Stopped Delay per Vehicle (sec)
A	≤ 10.0	≤ 10.0
B	> 10.0 and ≤ 15.0	> 10.0 and ≤ 20.0
C	> 15.0 and ≤ 25.0	> 20.0 and ≤ 35.0
D	> 25.0 and ≤ 35.0	> 35.0 and ≤ 55.0
E	> 35.0 and ≤ 50.0	> 55.0 and ≤ 80.0
F	> 50.0	> 80.0

A. Access Analysis

The accesses and intersections are analyzed using the Synchro Software to evaluate the impacts of the project on the surrounding traffic network. As the accesses to the site do not currently exist, an existing analysis was not necessary.

Table Seven shows the HCM Delay / LOS Evaluation for Access A and Unser.

<i>Volcano Heights Traffic Study</i> Table Seven Access A/Unser Delay/LOS Evaluation with Site Trips		
Delay / LOS (in sec)	AM 2022 With Site	PM 2022 With Site
Northbound Left	9.6/A	9.5/A
Eastbound Left	33.0/D	30.0/D
Eastbound Right	15.4/C	14.8/B

The above analysis shows that Access A is projected to operate at LOS D or better with future traffic growth and the site generated traffic. This analysis assumes a right turn ingress deceleration lane into Access A, a left turn ingress turn pocket and a left turn egress acceptance lane in the median. These will be shown in the detailed site plan drawings.

The Synchro Analysis showed that the northbound left 95th percentile queue would be less than one car. Therefore, the design should incorporate a minimum storage length for northbound left turns of 100 feet.

For eastbound left turns, the 95th percentile queue was 70 feet, so the 200 feet of throating that is provided is more than sufficient.

The design shows a connection to Woodmont Road so that if congestion were to occur at this access then alternative access would be available.

Table Eight shows the LOS analysis for Access B and Paseo.

<i>Volcano Heights Traffic Study</i> Table Eight Access B/Paseo Delay/LOS Evaluation with Site Trips		
Delay / LOS (in sec)	AM 2022 With Site	PM 2022 With Site
Northbound Left	39.8/E	*/F
Northbound Right	39.3/E	23.0/C
Westbound Left	12.5/B	10.4/B

The above table shows that the left turns out of Access B will have congestion issues in the future. It is suggested that this access can be reconfigured with a center island that allows for left turn ingress only at a point in the future when the congestion occurs. This reconfiguration would be done simultaneously with the warranting and final installation of a traffic signal at Access C and Paseo Boulevard.

The analysis shows that the westbound left turn ingress into the site is only a LOS B in 2022.

The Synchro Analysis showed that the westbound left turn ingress 95th percentile queue would be one car length. Therefore, the design should incorporate a minimum storage length for westbound left turns of 100 feet.

For northbound left turns, the 95th percentile queue was greater than 200 feet, so the 200 feet of throating that is provided will not be sufficient at some point in the future. As was discussed above, this will be alleviated by restricting left turn egresses at Access B and redirecting them to the signal at Access C (when it is warranted and active).

Table Nine shows the LOS analysis for Access C and Paseo.

<i>Volcano Heights Traffic Study</i> Table Nine Access C/Paseo Delay/LOS Evaluation with Site Trips		
Delay / LOS (in sec)	AM 2022 With Site	PM 2022 With Site
Northbound Left	27.4/D	39.0/E
Northbound Right	26.5/D	15.6/C
Westbound Left	11.5/B	9.5/A

The above table shows that the left turns out of Access C will have congestion issues in the future. It is suggested that this access will be signalized at some point. As this part of the site is likely to be the last portion of the site to develop, then the signal would not be warranted until full development and the restriction that was discussed for Access B.

The analysis shows that the westbound left turn ingress into the site is only a LOS B in 2022. Changing this intersection from a stop controlled to a signalized intersection would not negatively impact the LOS or delay of this intersection. A single left turn lane egress from this access will be sufficient with the signal and the queuing requirements.

The Synchro Analysis showed that the westbound left turn ingress 95th percentile queue would be less than one car length. Therefore, the design should incorporate a minimum storage length for westbound left turns of 100 feet.

For northbound left turns, the 95th percentile queue was approximately 40 feet, so the 200 feet of throating that is provided will be sufficient until a signal is warranted.

C. Signalized Intersection Analysis

The Paseo Del Norte and Kimmick Drive intersection was reviewed as it exists (unsignalized) until the other developments in that area are completed. Due to the number of northbound left turns that the unrelated developments contributed, the intersection could not accommodate northbound left turns. Therefore, in the future years, this intersection was analyzed with a traffic signal. As this is a three-legged intersection, a half cycle of 60 seconds was assumed.

Volcano Heights Traffic Study						
Table Ten						
Paseo Del Norte and Kimmick						
Delay/LOS Evaluation						
Delay / LOS (in sec)	AM* Existing	PM* Existing	AM 2022	PM 2022	AM 2022 With Site	PM 2022 With Site
Eastbound Left	N/A	N/A	26.7/C	16.4/B	38.9/D	17.9/B
Westbound Left	11.1/B	8.7/A	37.4/D	9.8/A	38.3/D	11.1/B
Westbound Right	N/A	N/A	5.2/A	6.9/A	5.8/A	7.6/A
Northbound Left	0.0/A	23.5/C	20.9/C	22.8/C	20.2/C	21.7/C
Northbound Right	13.3/B	10.2/B	6.4/A	7.5/A	6.0/A	7.1/A
Intersection	N/A	N/A	21.7/C	10.7/B	29.1/C	11.5/B

*Unsignalized Analysis

It can be seen that this intersection has acceptable levels of service and has not been significantly impacted by the proposed development. Queues lengths are projected in the detailed Synchro analysis, but are not discussed separately in this section as the proposed development had no significant impact to this intersection.

Table Eleven shows the Paseo Del Norte Boulevard and Unser Boulevard signal for the existing and future 2022 analyses.

Volcano Heights Traffic Study Table Eleven Paseo Del Norte and Unser Signal Delay/LOS Evaluation						
Delay / LOS (in sec)	AM Existing	PM Existing	AM 2022	PM 2022	AM 2022 With Site	PM 2022 With Site
Eastbound Left	16.7/B	21.8/C	18.6/B	40.2/D	21.5/C	*/F
Eastbound Through	42.5/D	20.4/C	67.3/E	25.7/C	79.2/E	17.6/B
Eastbound Right	5.3/A	6.1/A	6.7/A	2.9/A	7.7/A	2.0/A
Westbound Left	27.9/C	19.8/B	63.1/E	33.2/C	*/F	21.0/C
Westbound Through	20.2/C	35.9/D	22.8/C	80.9/F	23.3/C	43.1/D
Westbound Right	4.7/A	6.0/A	0.0/A	10.6/B	4.6/A	6.0/A
Northbound Left	12.4/B	15.6/B	23.4/C	26.7/C	60.1/E	*/F
Northbound Through	16.7/B	20.1/C	76.0/E	77.9/E	94.5/F	*/F
Northbound Right	3.0/A	5.0/A	12.3/B	7.6/A	15.2/B	15.9/B
Southbound Left	27.6/C	24.5/C	*/F	*/F	*/F	*/F
Southbound Through	19.8/B	20.8/C	50.2/D	49.3/D	83.2/F	*/F
Southbound Right	3.2/A	6.7/A	0.0/A	0.4/A	12.1/B	18.2/B
Intersection	24.1/C	23.5/C	59.3/E	60.9/E	68.5/E	*/F

Delay that is greater than 100 seconds becomes inaccurate to project. Therefore, these delays are not indicated in the table and are shown as “” only.

It can be seen that there are some impacts to the nearby traffic signal of Paseo Del Norte and Unser. The projected background growth of the eastbound/westbound and northbound/southbound through movements caused this intersection to operate at LOS E before the addition of development traffic. It is not possible to further mitigate the additional development traffic through optimization of the signal phasing as there is not excess time in any of the directions. When both Paseo and Unser are widened to two through lanes to the north and the east (as is needed to deal with the background traffic growth) the through movements LOS and delay will be greatly improved which will provide the ability to provide additional phasing to the left turns (eastbound in the PM, westbound in the AM and southbound in the AM/PM). Therefore, it is suggested that the queue lengths discussed below should be conservative for this intersection.

The Synchro Analysis showed that the eastbound left 95th percentile queue would be approximately 220 feet. Therefore, the design should incorporate 250 feet of storage length for this movement.

For westbound left turns, the 95th percentile queue was 130 feet, so the existing storage length

provided is sufficient.

For northbound left turns, the 95th percentile queue was 180 feet, so the existing storage length provided is sufficient.

For southbound left turns, the 95th percentile queue was 385 feet (both with and without the site as the site adds no new traffic to this movement), so the existing storage length (approximately 220 feet) provided will not be sufficient in the future (but is unrelated to the proposed development).

None of the right turns at this intersection had projected queues greater than 100 feet, therefore, they have not been discussed in this section of the report.

Table Twelve shows the Paradise Boulevard and Unser Boulevard signal for the existing and future 2022 analyses.

Volcano Heights Traffic Study Table Twelve Paradise and Unser Signal Delay/LOS Evaluation						
Delay / LOS (in sec)	AM Existing	PM Existing	AM 2022	PM 2022	AM 2022 With Site	PM 2022 With Site
Eastbound Left	*/F	42.2/D	*/F	83.9/F	*/F	*/F
Eastbound Thru/Right	51.3/D	22.3/C	55.0/D	27.8/C	62.8/E	30.5/C
Westbound Left	26.2/C	17.0/B	40.7/D	22.3/C	49.5/D	25.8/C
Westbound Through	*/F	46.4/D	*/F	61.6/E	*/F	80.4/F
Westbound Right	0.3/A	0.4/A	0.4/A	0.5/A	0.4/A	0.5/A
Northbound Left	*/F	66.0/E	*/F	*/F	*/F	*/F
Northbound Thru/Right	33.6/C	26.6/C	54.0/D	30.5/C	57.2/E	28.4/C
Southbound Left	78.7/E	43.3/D	93.5/F	55.8/E	*/F	55.8/E
Southbound Through	*/F	39.2/D	*/F	46.7/D	*/F	49.4/D
Southbound Right	14.8/B	7.8/A	17.0/F	10.7/B	16.4/B	11.6/B
Intersection	94.9/F	28.9/C	*/F	38.7/D	*/F	43.2/D

Delay that is greater than 100 seconds becomes inaccurate to project. Therefore, these delays are not indicated in the table and are shown as “” only.

The main issue with this intersection is that it has school related traffic in the AM that has a low peak hour factor (i.e., concentrated congestion for approximately 15 minutes). It can be seen that the development related traffic did not have a significant impact on this intersection.

Table Thirteen shows the Rainbow Boulevard and Unser Boulevard signal for the existing and future 2022 analyses.

Volcano Heights Traffic Study Table Thirteen Rainbow and Unser Signal Delay/LOS Evaluation						
Delay / LOS (in sec)	AM Existing	PM Existing	AM 2022	PM 2022	AM 2022 With Site	PM 2022 With Site
Eastbound Left	23.5/C	29.8/C	28.3/C	36.9/D	29.8/C	39.3/D
Eastbound Thru/Right	12.6/B	12.1/B	24.0/C	13.9/B	26.3/C	13.8/B
Eastbound Right	12.0/B	11.7/B	22.8/C	13.5/B	25.0/C	13.4/B
Westbound Left/Thru	35.7/D	33.0/C	53.0/D	40.7/D	53.9/D	42.5/D
Westbound Right	0.4/A	0.2/A	0.8/A	0.3/A	1.2/A	0.6/A
Northbound Left	15.4/B	11.7/B	28.1/C	17.9/B	33.5/C	22.5/C
Northbound Thru/Right	12.0/B	7.3/A	15.7/B	7.8/A	16.3/B	9.0/A
Southbound Left	12.0/B	10.5/B	16.0/B	12.5/B	16.0/B	12.7/B
Southbound Thru/Right	27.2/C	26.0/C	37.8/D	31.7/C	40.0/D	32.0/C
Intersection	16.4/B	14.4/B	26.3/C	18.5/B	28.8/C	20.5/C

It can be seen that the development related traffic did not have a significant impact on this intersection.

Table Fourteen shows the Paseo Del Norte Boulevard and Universe Boulevard signal for the existing and future 2022 analyses.

Volcano Heights Traffic Study Table Fourteen Paseo and Universe Signal Delay/LOS Evaluation						
Delay / LOS (in sec)	AM Existing	PM Existing	AM 2022	PM 2022	AM 2022 With Site	PM 2022 With Site
Eastbound Left	26.0/C	40.6/D	38.6/D	80.0/E	43.0/D	*/F
Eastbound Through	36.3/D	29.6/C	56.2/E	37.7/D	58.9/E	45.0/D
Eastbound Right	0.3/A	0.0/A	0.4/A	0.0/A	0.4/A	0.1/A
Westbound Left	22.9/C	21.2/C	46.8/D	29.0/C	60.7/E	29.9/C
Westbound Through	35.7/D	47.7/D	54.6/D	71.6/E	48.8/D	81.8/F
Westbound Right	0.1/A	0.4/A	0.1/A	0.5/A	0.1/A	0.6/A
Northbound Left	12.1/B	10.2/B	16.4/B	13.5/B	17.5/B	13.9/B
Northbound Through	26.0/C	24.9/C	36.6/D	43.0/D	40.9/D	56.5/E
Northbound Right	0.5/A	0.2/A	4.0/A	0.2/A	5.9/A	2.0/A
Southbound Left	15.8/B	15.0/B	25.8/C	51.3/D	34.2/C	96.4/F
Southbound Through	17.9/B	13.9/B	28.8/C	20.7/C	30.9/C	21.0/C
Southbound Right	0.3/A	0.2/A	0.4/A	0.3/A	0.4/A	2.0/C
Intersection	19.3/B	20.5/C	30.1/C	34.7/C	33.2/C	44.6/D

Delay that is greater than 100 seconds becomes inaccurate to project. Therefore, these delays are not indicated in the table and are shown as “” only.

The above analysis shows that intersection is projected to operate at LOS D overall. While the eastbound left shows increase delay, there is not an increase in traffic to the eastbound left. Rather, this movement and the westbound through are competing for phasing during the PM Peak hour. As the westbound through was near capacity without the development, as little as 10 percent of additional traffic can show an impact. Similar conditions can be seen with other movements at this intersection, but the issue is there before the addition of the proposed development traffic. This can be seen by reviewing the queues and seeing that they change little with the proposed development traffic.

Table Fifteen shows the Paseo Del Norte Boulevard and Golf Course Road signal for the existing and future 2022 analyses.

Volcano Heights Traffic Study Table Fifteen Paseo and Golf Course Signal Delay/LOS Evaluation						
Delay / LOS (in sec)	AM Existing	PM Existing	AM 2022	PM 2022	AM 2022 With Site	PM 2022 With Site
Eastbound Left	47.2/D	65.9/E	68.7/E	*/F	69.3/E	*/F
Eastbound Through	35.6/D	35.9/D	61.5/E	59.6/E	58.5/E	55.8/E
Eastbound Right	3.8/A	1.8/A	8.4/A	21.6/C	8.6/A	25.1/C
Westbound Left	50.2/D	41.8/D	99.1/F	65.9/E	99.1/F	79.0/E
Westbound Through	22.6/C	24.3/C	29.4/C	39.5/D	29.4/C	42.2/D
Westbound Right	3.2/A	30.2/C	5.2/A	91.1/F	5.2/A	98.8/F
Northbound Left	46.1/D	45.1/D	73.5/E	83.0/F	74.2/E	*/F
Northbound Through	34.5/C	38.2/D	66.1/E	79.4/E	73.8/E	79.4/E
Northbound Right	18.5/B	5.6/A	44.8/D	14.6/B	48.2/D	14.6/B
Southbound Left	41.8/D	53.0/D	66.2/E	*/F	66.2/E	*/F
Southbound Thru/Right	20.6/C	27.0/C	38.3/D	57.9/E	42.0/D	60.8/E
Intersection	30.0/C	32.6/C	51.7/D	65.1/E	52.6/D	69.2/E

Delay that is greater than 100 seconds becomes inaccurate to project. Therefore, these delays are not indicated in the table and are shown as “” only.

It can be seen that the development related traffic did not have a significant impact on this intersection.

VI. Conclusions/Recommendations

The results of the study show that the intersections operate at an acceptable level of service. This study is meant to provide the City with alternatives to determine which lane configuration alternative best fits the City's typical striping/signing/lane configurations and driver's expectations. As part of this study, it is recommended that:

- All improvements, signing and striping must conform to the City of Albuquerque Drawings, other City requirements, AASHTO, or MUTCD, as appropriate.
- The accesses to the site have been shown to operate at a reasonable level of services with the addition of the development.
- Access A (on Unser) was shown to work effectively.
- As was discussed in the study, Access B (on Paseo) will need to be reconfigured to the $\frac{3}{4}$ movement intersection at a point in the future when Access C (on Paseo) becomes signalized.
- The internal throating (approximately 200 feet) at Accesses was projected to be adequate.
- The analysis showed that background growth over the next five years would impact the operation of the studied intersections. This background growth was such that optimizing signal phasing does not yield significant results. As both Paseo and Unser are widened to two through lanes to the north and the east (Unrelated to the proposed development but as is needed to deal with the background traffic growth) the through movements LOS and delay will be greatly improved which will provide the ability to provide additional phasing to the left turns (eastbound in the PM, westbound in the AM and southbound in the AM/PM).
- The westbound left turn pocket at Paseo and Unser was recommended to be lengthened to provide 250 feet of storage.
- The left turn pockets for ingress into the site accesses were recommended to provide a minimum of 100 feet of storage (even though the projected queues were much less).

APPENDICES

Appendix A	Traffic Counts
Appendix B	Trip Generation, Origin/Destination and Trip Distribution Spreadsheets
Appendix C	Access and Intersection Analyses

Appendix A Traffic Counts

Speed Limit (Paseo Del Norte)= 35 MPH

Speed Limit (Universe)= 30 MPH

3/9/2017

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Universe)				Southbound (Universe)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
7:00 AM	7:15 AM	59	80	12	0	31	25	11	0	2	55	23	0	101	171	70	0
7:15 AM	7:30 AM	67	89	14	0	19	20	21	0	2	59	28	0	61	118	65	0
7:30 AM	7:45 AM	57	71	5	0	6	32	27	0	4	60	21	0	58	90	66	0
7:45 AM	8:00 AM	52	79	9	0	13	35	22	0	4	53	16	0	53	77	64	0
8:00 AM	8:15 AM	51	104	12	0	11	25	26	0	6	80	27	0	54	108	62	0
8:15 AM	8:30 AM	25	86	5	0	5	21	24	0	2	39	13	0	67	65	18	0
8:30 AM	8:45 AM	27	74	8	0	9	21	40	0	1	40	25	0	55	79	31	0
8:45 AM	9:00 AM	24	77	3	0	3	44	37	0	1	61	12	1	41	53	24	0
AM Peak Hour Volume		235	319	40	0	69	112	81	0	12	227	88	0	273	456	265	0
% of Total Traffic		10.8%	14.7%	1.8%		3.2%	5.1%	3.7%		0.6%	10.4%	4.0%		12.5%	20.9%	12.2%	
% Directional			27.3%				12.0%				15.0%				45.7%		

AM Peak Hour Factor **0.85**

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Universe)				Southbound (Universe)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
4:00 PM	4:15 PM	61	59	4	0	25	70	67	0	2	89	13	4	37	61	39	2
4:15 PM	4:30 PM	61	59	4	0	25	70	67	0	2	89	13	4	37	61	39	2
4:30 PM	4:45 PM	53	44	4	0	18	77	85	0	5	122	7	0	44	61	68	0
4:45 PM	5:00 PM	51	69	0	0	18	84	84	0	2	118	12	0	55	79	56	1
5:00 PM	5:15 PM	54	48	4	0	24	76	101	0	4	126	7	2	41	79	55	0
5:15 PM	5:30 PM	35	50	2	0	24	75	88	0	2	133	13	0	50	91	61	1
5:30 PM	5:45 PM	43	39	1	0	17	72	84	0	2	113	14	0	25	70	61	0
5:45 PM	6:00 PM	30	56	4	0	25	70	80	0	5	108	16	0	49	76	42	0
PM Peak Hour Volume		183	206	7	0	83	307	357	0	10	490	46	2	171	319	233	2
% of Total Traffic		7.6%	8.5%	0.3%		3.4%	12.7%	14.8%		0.4%	20.3%	1.9%		7.1%	13.2%	9.7%	
% Directional		16.4%				31.0%				22.6%				30.0%			

PM Peak Hour Factor	0.96
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Traffic Count Data Sheet

Year Counts Taken 2017

EW Street: Paseo Del Norte

NS Street: Kimmick

Unsignalized

Speed Limit (Paseo Del Norte)= 35 MPH

Speed Limit (Kimmick)= 25 MPH

3/9/2017

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Kimmick)				Southbound (Kimmick)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
7:00 AM	7:15 AM	0	290	1	0	3	96	0	0	0	0	4	0	0	0	0	0
7:15 AM	7:30 AM	0	265	0	0	2	70	0	0	0	0	3	0	0	0	0	0
7:30 AM	7:45 AM	0	237	0	0	1	64	0	0	0	0	7	0	0	0	0	0
7:45 AM	8:00 AM	0	232	0	0	2	102	0	0	0	0	5	0	0	0	0	0
8:00 AM	8:15 AM	0	235	0	0	1	91	0	0	0	0	6	0	0	0	0	0
8:15 AM	8:30 AM	0	236	0	0	2	79	0	0	0	0	4	0	0	0	0	0
8:30 AM	8:45 AM	0	224	0	0	1	85	0	0	0	0	5	0	0	0	0	0
8:45 AM	9:00 AM	0	175	0	0	1	81	0	0	0	0	2	0	0	0	0	0
AM Peak Hour Volumes		0	1024	1	0	8	332	0	0	0	0	19	0	0	0	0	0
% of Total Traffic		0.0%	74.0%	0.1%		0.6%	24.0%	0.0%		0.0%	0.0%	1.4%		0.0%	0.0%	0.0%	
% Directional			74.1%				24.6%				1.4%				0.0%		
						AM Peak Hour Factor				0.88							

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Kimmick)				Southbound (Kimmick)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
4:00 PM	4:15 PM	0	137	0	0	5	197	0	0	0	0	2	0	0	0	0	0
4:15 PM	4:30 PM	0	150	0	0	3	196	0	0	0	0	0	0	0	0	0	0
4:30 PM	4:45 PM	0	148	0	0	3	242	0	0	0	0	3	0	0	0	0	0
4:45 PM	5:00 PM	0	126	0	0	6	204	0	0	1	0	5	0	0	0	0	0
5:00 PM	5:15 PM	0	123	1	0	5	218	0	0	0	0	3	0	0	0	0	0
5:15 PM	5:30 PM	0	138	1	0	5	222	0	0	0	0	2	0	0	0	0	0
5:30 PM	5:45 PM	0	121	0	0	10	195	0	0	0	0	7	0	0	0	0	0
5:45 PM	6:00 PM	0	130	0	0	4	225	0	0	0	0	3	0	0	0	0	0
PM Peak Hour Volumes		0	508	2	0	26	839	0	0	1	0	17	0	0	0	0	0
% of Total Traffic		0.0%	36.5%	0.1%		1.9%	60.2%	0.0%		0.1%	0.0%	1.2%		0.0%	0.0%	0.0%	
% Directional			36.6%				62.1%				1.3%				0.0%		
						PM Peak Hour Factor				0.88							

Speed Limit (Paseo Del Norte)= 45 MPH

Speed Limit (Golf Course:)= 35 MPH

3/9/2017

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Golf Course)				Southbound (Golf Course)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
7:00 AM	7:15 AM	8	274	17	0	15	50	14	0	24	84	65	0	241	124	9	0
7:15 AM	7:30 AM	8	244	27	0	10	48	27	0	23	102	70	0	161	196	6	0
7:30 AM	7:45 AM	10	227	47	0	20	55	38	0	11	98	61	0	152	208	12	0
7:45 AM	8:00 AM	12	185	43	0	23	65	45	0	13	131	59	0	160	207	11	0
8:00 AM	8:15 AM	15	175	26	0	33	81	48	0	19	156	58	0	94	151	8	0
8:15 AM	8:30 AM	10	199	28	0	35	52	47	0	11	127	77	0	139	153	16	0
8:30 AM	8:45 AM	19	196	31	0	40	59	58	0	11	113	78	0	140	121	11	0
8:45 AM	9:00 AM	12	178	19	0	31	68	45	0	12	103	84	4	119	125	14	0
AM Peak Hour Volumes		38	930	134	0	68	218	124	0	71	415	255	0	714	735	38	0
% of Total Traffic		1.0%	24.9%	3.6%		1.8%	5.8%	3.3%		1.9%	11.1%	6.8%		19.1%	19.7%	1.0%	
% Directional			29.5%				11.0%				19.8%				39.8%		
AM Peak Hour Factor									0.98								

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Golf Course)				Southbound (Golf Course)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
4:00 PM	4:15 PM	11	109	22	0	103	191	194	0	43	189	59	0	69	157	22	0
4:15 PM	4:30 PM	22	85	20	0	140	174	174	0	22	204	47	0	65	158	29	0
4:30 PM	4:45 PM	17	89	27	0	129	171	160	0	40	180	71	0	67	169	29	0
4:45 PM	5:00 PM	12	108	25	0	120	191	151	0	24	201	60	1	97	174	35	0
5:00 PM	5:15 PM	18	118	24	0	108	169	172	0	30	207	67	0	78	193	24	1
5:15 PM	5:30 PM	17	102	18	0	146	184	163	0	29	215	47	0	83	153	34	0
5:30 PM	5:45 PM	12	114	23	0	135	171	148	0	36	208	62	0	74	161	18	0
5:45 PM	6:00 PM	10	111	23	0	133	168	145	0	35	207	62	0	72	160	15	0
PM Peak Hour Volumes		59	442	90	0	509	715	634	0	119	831	236	1	332	681	111	1
% of Total Traffic		1.2%	9.3%	1.9%		10.7%	15.0%	13.3%		2.5%	17.5%	5.0%		7.0%	14.3%	2.3%	
% Directional		12.4%				39.0%				24.9%				23.6%			
PM Peak Hour Factor									0.98								

Speed Limit (Paseo Del Norte)= 35 MPH

Speed Limit (Unser Blvd:)= 35 MPH

3/9/2017

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Unser)				Southbound (Unser)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
7:00 AM	7:15 AM	6	193	3	0	6	69	6	0	4	102	33	0	66	154	0	0
7:15 AM	7:30 AM	2	156	36	0	5	49	20	0	2	124	17	0	52	147	1	0
7:30 AM	7:45 AM	7	115	28	0	7	54	27	0	3	134	7	0	45	157	2	0
7:45 AM	8:00 AM	7	148	3	0	5	66	20	0	2	119	34	1	49	144	2	0
8:00 AM	8:15 AM	10	165	12	0	5	59	28	1	6	98	20	0	49	124	2	0
8:15 AM	8:30 AM	3	143	23	1	9	49	21	0	4	84	19	0	50	124	0	0
8:30 AM	8:45 AM	5	141	6	0	7	60	12	0	5	108	26	1	51	111	7	0
8:45 AM	9:00 AM	5	123	3	0	10	69	15	0	8	81	33	1	36	89	9	0
AM Peak Hour Volumes		22	612	70	0	23	238	73	0	11	479	91	1	212	602	5	0
% of Total Traffic		0.9%	25.1%	2.9%		0.9%	9.8%	3.0%		0.5%	19.6%	3.7%		8.7%	24.7%	0.2%	
% Directional			28.9%				13.7%				23.8%				33.6%		
AM Peak Hour Factor				0.95													

Begin Time	End Time	Eastbound (Paseo Del Norte)				Westbound (Paseo Del Norte)				Northbound (Unser)				Southbound (Unser)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
4:00 PM	4:15 PM	8	114	2	0	19	165	29	1	6	117	12	0	30	111	0	0
4:15 PM	4:30 PM	10	95	2	0	26	156	28	0	5	149	15	0	20	116	0	0
4:30 PM	4:45 PM	10	87	4	0	22	171	33	1	7	138	7	0	19	131	2	0
4:45 PM	5:00 PM	3	90	9	0	26	179	32	0	2	116	25	0	29	128	1	0
5:00 PM	5:15 PM	3	116	8	0	20	164	36	2	8	124	4	0	36	135	4	0
5:15 PM	5:30 PM	6	82	2	0	28	155	27	2	17	149	7	0	30	145	6	0
5:30 PM	5:45 PM	6	101	1	0	25	175	24	0	5	131	0	0	45	138	3	0
5:45 PM	6:00 PM	5	71	4	0	19	164	21	0	8	139	8	0	22	132	5	0
PM Peak Hour Volumes		18	389	20	0	99	673	119	4	32	520	36	0	140	546	14	0
% of Total Traffic		0.7%	14.9%	0.8%		3.8%	25.8%	4.6%		1.2%	20.0%	1.4%		5.4%	21.0%	0.5%	
% Directional			16.4%				34.2%				22.6%				26.9%		
PM Peak Hour Factor									0.99								

Traffic Count Data Sheet

Year Counts Taken

2017

EW Street: Paradise

NS Street: Unser Blvd.

Signalized

Speed Limit (Paradise)= 35 MPH

Speed Limit (Unser Blvd.)= 35 MPH

3/9/2017

Begin Time	End Time	Eastbound (Paradise)				Westbound (Paradise)				Northbound (Unser)				Southbound (Unser)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
7:00 AM	7:15 AM	34	115	10	0	5	24	41	0	8	116	10	0	62	158	49	0
7:15 AM	7:30 AM	95	174	25	0	15	110	103	0	29	256	14	0	136	309	120	0
7:30 AM	7:45 AM	36	61	12	0	4	69	44	0	21	160	12	0	101	158	96	0
7:45 AM	8:00 AM	85	107	16	0	8	82	50	0	24	137	5	0	76	115	112	0
8:00 AM	8:15 AM	46	87	12	1	7	26	41	0	7	102	6	0	71	134	36	0
8:15 AM	8:30 AM	49	61	13	0	10	33	37	0	16	119	8	0	58	105	21	0
8:30 AM	8:45 AM	24	57	11	0	3	46	40	1	10	110	11	0	73	124	30	0
8:45 AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Peak Hour Volumes		250	457	63	0	32	285	238	0	82	669	41	0	375	740	377	0
% of Total Traffic		6.9%	12.7%	1.7%		0.9%	7.9%	6.6%		2.3%	18.5%	1.1%		10.4%	20.5%	10.4%	
% Directional			21.3%				15.4%				21.9%				41.3%		
						AM Peak Hour Factor				0.65							

Begin Time	End Time	Eastbound (Paradise)				Westbound (Paradise)				Northbound (Unser)				Southbound (Unser)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
4:00 PM	4:15 PM	44	76	14	0	14	104	97	2	17	146	7	0	56	132	87	0
4:15 PM	4:30 PM	83	89	1	0	7	103	99	3	17	130	6	0	56	140	89	0
4:30 PM	4:45 PM	48	54	5	0	22	107	92	0	16	129	10	0	68	161	75	0
4:45 PM	5:00 PM	51	66	4	0	5	98	94	0	9	138	7	0	59	175	71	0
5:00 PM	5:15 PM	40	66	7	0	11	104	91	0	20	118	9	0	63	150	91	0
5:15 PM	5:30 PM	48	55	6	0	8	123	104	0	24	141	5	0	74	142	92	0
5:30 PM	5:45 PM	41	47	1	0	9	76	110	0	17	129	4	0	66	111	86	0
5:45 PM	6:00 PM	33	45	2	0	10	101	109	0	14	136	6	0	68	124	48	0
PM Peak Hour Volumes		180	234	18	0	33	401	399	0	70	526	25	0	262	578	340	0
% of Total Traffic		5.9%	7.6%	0.6%		1.1%	13.1%	13.0%		2.3%	17.2%	0.8%		8.5%	18.9%	11.1%	
% Directional			14.1%				27.2%				20.3%				38.5%		
						PM Peak Hour Factor				0.93							

Traffic Count Data Sheet

Year Counts Taken

2017

EW Street: Rainbow

NS Street: Unser Blvd.

Signalized

Speed Limit (Rainbow)= 25 MPH

Speed Limit (Unser Blvd.)= 35 MPH

3/9/2017

Begin Time	End Time	Eastbound (Rainbow)				Westbound (Rainbow)				Northbound (Unser)				Southbound (Unser)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
7:00 AM	7:15 AM	11	2	304	0	4	4	8	0	235	84	2	0	0	158	11	1
7:15 AM	7:30 AM	13	0	384	0	4	1	3	0	115	133	3	0	0	150	3	0
7:30 AM	7:45 AM	11	1	196	6	1	0	0	0	77	138	7	0	1	155	3	0
7:45 AM	8:00 AM	10	3	160	0	8	2	5	0	122	108	7	0	0	113	7	0
8:00 AM	8:15 AM	11	3	208	0	3	0	0	0	133	136	4	0	4	110	8	0
8:15 AM	8:30 AM	9	1	158	0	6	0	1	0	75	100	2	0	1	155	5	0
8:30 AM	8:45 AM	9	2	130	1	2	0	13	0	55	88	14	0	0	120	3	0
8:45 AM	9:00 AM	10	0	98	0	0	1	0	0	43	82	0	0	2	86	9	0
AM Peak Hour Volumes		45	6	1044	6	17	7	16	0	549	463	19	0	1	576	24	1
% of Total Traffic		1.6%	0.2%	37.7%		0.6%	0.3%	0.6%		19.8%	16.7%	0.7%		0.0%	20.8%	0.9%	
% Directional			39.6%				1.4%				37.3%				21.7%		
						AM Peak Hour Factor				0.84							

Begin Time	End Time	Eastbound (Rainbow)				Westbound (Rainbow)				Northbound (Unser)				Southbound (Unser)			
		L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped
4:00 PM	4:15 PM	4	0	94	0	6	1	3	0	184	157	4	0	0	133	9	0
4:15 PM	4:30 PM	7	0	72	7	2	1	12	0	180	154	2	0	1	139	8	0
4:30 PM	4:45 PM	4	0	76	0	4	1	0	0	186	187	2	0	0	142	19	0
4:45 PM	5:00 PM	12	1	90	0	4	1	0	0	210	147	3	0	0	148	14	0
5:00 PM	5:15 PM	6	1	117	0	8	2	8	0	224	157	5	0	0	144	14	0
5:15 PM	5:30 PM	4	0	92	0	3	1	0	0	211	156	2	0	1	138	6	0
5:30 PM	5:45 PM	10	1	83	0	1	0	0	0	241	155	5	1	1	140	8	0
5:45 PM	6:00 PM	7	0	93	0	1	3	0	1	276	138	0	0	0	114	8	0
PM Peak Hour Volumes		32	3	382	0	16	4	8	0	886	615	15	1	2	570	42	0
% of Total Traffic		1.2%	0.1%	14.8%		0.6%	0.2%	0.3%		34.4%	23.9%	0.6%		0.1%	22.1%	1.6%	
% Directional			16.2%				1.1%				58.9%				23.8%		
						PM Peak Hour Factor				0.94							

The Cliffs on Paseo Development
 Projected Turning Movements Worksheet
Paseo del Norte / Golf Course Rd.

INTERSECTION: E-W Street: **Paseo del Norte** (1)
 N-S Street: **Golf Course Rd.**

Year of Existing Counts 2017
 Implementation Year 2021

	2.10%			0.70%			0.50%			0.50%		
	Eastbound (Paseo del Norte)			Westbound (Paseo del Norte)			Northbound (Golf Course Rd.)			Southbound (Golf Course Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	38	930	134	68	218	124	71	415	255	714	735	38
Background Traffic Growth	3	78	11	2	6	3	1	8	5	14	15	1
Subtotal	41	1,008	145	70	224	127	72	423	260	728	750	39
Taos II at the Trails	1	23	27	0	8	0	9	0	0	0	0	0
La Cuentista Subd. - Phase I & II	2	31	36	0	10	0	12	0	0	0	0	1
Subtotal (NO BUILD - A.M.)	44	1,062	208	70	242	127	93	423	260	728	750	40
Percent Residential Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	35.84%	0.00%	41.50%	0.00%	0.00%	0.00%	0.00%	1.88%
Percent Residential Trips Generated(Exiting)	1.88%	35.84%	41.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	9.55%	0.00%	19.56%	0.00%	0.00%	0.00%	0.00%	12.77%
Percent Commercial Trips Generated(Exiting)	12.77%	9.55%	19.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	26.42%	0.00%	48.28%	0.00%	0.00%	0.00%	0.00%	0.90%
Percent Office Trips Generated(Exiting)	0.90%	26.42%	48.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	8	31	47	0	59	0	107	0	0	0	0	14
Total AM Peak Hour BUILD Volumes	52	1,093	255	70	301	127	200	423	260	728	750	54

	Eastbound (Paseo del Norte)			Westbound (Paseo del Norte)			Northbound (Golf Course Rd.)			Southbound (Golf Course Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	59	442	90	509	715	634	119	831	236	332	681	111
Background Traffic Growth	5	37	8	14	20	18	2	17	5	7	14	2
Subtotal	64	479	98	523	735	652	121	848	241	339	695	113
Taos II at the Trails	1	15	17	0	26	0	30	0	0	0	0	1
La Cuentista Subd. - Phase I & II	1	20	23	0	34	0	39	0	0	0	0	2
Subtotal (NO BUILD - P.M.)	66	514	138	523	795	652	190	848	241	339	695	116
Percent Residential Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	35.84%	0.00%	41.50%	0.00%	0.00%	0.00%	0.00%	1.88%
Percent Residential Trips Generated(Exiting)	1.88%	35.84%	41.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	9.55%	0.00%	19.56%	0.00%	0.00%	0.00%	0.00%	12.77%
Percent Commercial Trips Generated(Exiting)	12.77%	9.55%	19.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	26.42%	0.00%	48.28%	0.00%	0.00%	0.00%	0.00%	0.90%
Percent Office Trips Generated(Exiting)	0.90%	26.42%	48.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	39	98	178	0	63	0	109	0	0	0	0	36
Total PM Peak Hour BUILD Volumes	105	612	316	523	858	652	299	848	241	339	695	152

	Entering	Exiting	
Number of Residential Trips Generated	11	42	A.M. 100% Residential Development
	47	25	P.M.
Number of Commercial Trips Generated	91	56	A.M. 100% Commercial Development
	269	292	P.M.
Number of Office Trips Generated	174	40	A.M. 100% Office Development
	74	229	P.M.

The Cliffs on Paseo Development
 Projected Turning Movements Worksheet
Paseo del Norte / Unser Blvd.

INTERSECTION: E-W Street: **Paseo del Norte** (2)
 N-S Street: **Unser Blvd.**

Year of Existing Counts 2017
 Implementation Year 2021

	0.50%			3.30%			8.60%			8.60%		
	Eastbound (Paseo del Norte)			Westbound (Paseo del Norte)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	22	612	70	23	238	73	11	479	91	212	602	5
Background Traffic Growth	0	12	1	3	31	10	4	165	31	73	207	2
Subtotal	22	624	71	26	269	83	15	644	122	285	809	7
Taos II at the Trails	1	52	11	0	18	0	4	0	0	0	0	0
La Cuentista Subd. - Phase I & II	0	0	0	0	1	1	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	23	676	82	26	288	84	19	644	122	285	809	7
Percent Residential Trips Generated(Entering)	0.00%	1.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.34%	0.00%	0.00%
Percent Residential Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	1.44%	1.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Entering)	0.00%	25.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.42%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	25.06%	18.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Entering)	0.00%	0.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%	0.00%	0.00%
Percent Office Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.78%	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	24	0	0	15	11	0	0	0	18	0	0
Total AM Peak Hour BUILD Volumes	23	700	82	26	303	95	19	644	122	303	809	7

	Eastbound (Paseo del Norte)			Westbound (Paseo del Norte)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	18	389	20	99	673	119	32	520	36	140	546	14
Background Traffic Growth	0	8	0	13	89	16	11	179	12	48	188	5
Subtotal	18	397	20	112	762	135	43	699	48	188	734	19
Taos II at the Trails	1	33	7	0	57	0	13	0	0	0	0	1
La Cuentista Subd. - Phase I & II	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	19	430	27	112	819	135	56	699	48	188	734	20
Percent Residential Trips Generated(Entering)	0.00%	1.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.34%	0.00%	0.00%
Percent Residential Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	1.44%	1.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Entering)	0.00%	25.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.42%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	25.06%	18.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Entering)	0.00%	0.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%	0.00%	0.00%
Percent Office Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.78%	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	69	0	0	75	55	0	0	0	51	0	0
Total PM Peak Hour BUILD Volumes	19	499	27	112	894	190	56	699	48	239	734	20

	Entering	Exiting	
Number of Residential Trips Generated	11	42	A.M. 100% Residential Development
	47	25	P.M.
Number of Commercial Trips Generated	91	56	A.M. 100% Commercial Development
	269	292	P.M.
Number of Office Trips Generated	174	40	A.M. 100% Office Development
	74	229	P.M.

The Cliffs on Paseo Development
 Projected Turning Movements Worksheet
Paseo del Norte / Kimmick Dr.

INTERSECTION: E-W Street: **Paseo del Norte** (5)
 N-S Street: **Kimmick Dr.**

Year of Existing Counts 2017
 Implementation Year 2021

	3.30%			2.10%			0.50%			0.50%		
	Eastbound (Paseo del Norte)			Westbound (Paseo del Norte)			Northbound (Kimmick Dr.)			Southbound (Kimmick Dr.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	1,024	1	8	332	0	0	0	19	0	0	0
Background Traffic Growth	0	135	0	1	28	0	0	0	0	0	0	0
Subtotal	0	1,159	1	9	360	0	0	0	19	0	0	0
Taos II at the Trails	0	52	0	0	18	0	0	0	0	0	0	0
La Cuentista Subd. - Phase I & II	0	0	0	23	0	0	0	0	68	0	0	0
Subtotal (NO BUILD - A.M.)	0	1,211	1	32	378	0	0	0	87	0	0	0
Percent Residential Trips Generated(Entering)	0.00%	0.00%	0.00%	79.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Residential Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.78%	0.00%	79.65%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	43.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	43.48%	0.00%	43.75%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Entering)	0.00%	0.00%	0.00%	75.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.43%	0.00%	75.81%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	181	0	0	26	0	88	0	0	0
Total AM Peak Hour BUILD Volumes	0	1,211	1	213	378	0	26	0	175	0	0	0

	Eastbound (Paseo del Norte)			Westbound (Paseo del Norte)			Northbound (Kimmick Dr.)			Southbound (Kimmick Dr.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	532	2	19	886	0	1	0	13	0	0	0
Background Traffic Growth	0	70	0	2	74	0	0	0	0	0	0	0
Subtotal	0	602	2	21	960	0	1	0	13	0	0	0
Taos II at the Trails	0	33	0	0	57	0	0	0	0	0	0	0
La Cuentista Subd. - Phase I & II	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	635	2	21	1,017	0	1	0	13	0	0	0
Percent Residential Trips Generated(Entering)	0.00%	0.00%	0.00%	79.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Residential Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.78%	0.00%	79.65%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	43.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	43.48%	0.00%	43.75%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Entering)	0.00%	0.00%	0.00%	75.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Office Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.43%	0.00%	75.81%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	211	0	0	131	0	322	0	0	0
Total PM Peak Hour BUILD Volumes	0	635	2	232	1,017	0	132	0	335	0	0	0

	Entering	Exiting	
Number of Residential Trips Generated	11	42	A.M. 100% Residential Development
	47	25	P.M.
Number of Commercial Trips Generated	91	56	A.M. 100% Commercial Development
	269	292	P.M.
Number of Office Trips Generated	174	40	A.M. 100% Office Development
	74	229	P.M.

Appendix C

Access and Intersection Analyses

Lanes, Volumes, Timings
17: Rainbow & Unser

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	6	1044	17	7	16	549	463	19	1	576	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.994			0.994	
Flt Protected	0.950				0.966		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1799	1583	3433	3518	0	1770	3518	0
Flt Permitted	0.950				0.966		0.209			0.436		
Satd. Flow (perm)	1770	1508	1504	0	1799	1583	755	3518	0	812	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		574	574			158		5			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	54	7	1243	20	8	19	654	551	23	1	686	29
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	54	629	621	0	28	19	654	574	0	1	715	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	26.0	26.0	26.0	20.0	20.0	20.0	19.0	36.0		8.0	25.0	
Total Split (%)	28.9%	28.9%	28.9%	22.2%	22.2%	22.2%	21.1%	40.0%		8.9%	27.8%	
Maximum Green (s)	22.0	22.0	22.0	16.0	16.0	16.0	15.0	32.0		4.0	21.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	16.2	16.2	16.2		6.8	6.8	39.6	38.3		25.9	21.7	
Actuated g/C Ratio	0.23	0.23	0.23		0.10	0.10	0.56	0.55		0.37	0.31	
v/c Ratio	0.13	0.80	0.79		0.16	0.06	0.69	0.30		0.00	0.66	
Control Delay	23.5	12.6	12.0		35.7	0.4	15.4	12.0		12.0	27.2	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	23.5	12.6	12.0		35.7	0.4	15.4	12.0		12.0	27.2	
LOS	C	B	B		D	A	B	B		B	C	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		12.8			21.4			13.8			27.2	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	20	22	18		13	0	88	75		0	162	
Queue Length 95th (ft)	46	96	89		35	0	136	141		3	224	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	574	876	875		424	494	1018	1919		355	1091	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.09	0.72	0.71		0.07	0.04	0.64	0.30		0.00	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 70.2

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.4

Intersection LOS: B

Intersection Capacity Utilization 73.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 17: Rainbow & Unser

 ø1	 ø2	 ø4	 ø8
8 s	36 s	26 s	20 s
 ø5	 ø6		
19 s	25 s		

Lanes, Volumes, Timings

4: Unser & Paradise

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	457	63	32	285	238	82	669	41	375	740	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	250		400	130		80	200		500
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.982				0.850		0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3507	0	3433	1863	1583
Flt Permitted	0.182			0.222			0.950			0.950		
Satd. Flow (perm)	339	3476	0	414	1863	1583	1770	3507	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				343		8				211
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1086			1234			184			937	
Travel Time (s)		24.7			28.0			4.2			21.3	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Adj. Flow (vph)	385	703	97	49	438	366	126	1029	63	577	1138	580
Shared Lane Traffic (%)												
Lane Group Flow (vph)	385	800	0	49	438	366	126	1092	0	577	1138	580
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free						6
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	12.0	26.0		8.0	22.0		8.0	37.0		19.0	48.0	48.0
Total Split (%)	13.3%	28.9%		8.9%	24.4%		8.9%	41.1%		21.1%	53.3%	53.3%
Maximum Green (s)	8.0	22.0		4.0	18.0		4.0	33.0		15.0	44.0	44.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	30.0	22.0		22.0	18.0	90.0	4.0	33.0		15.0	44.0	44.0
Actuated g/C Ratio	0.33	0.24		0.24	0.20	1.00	0.04	0.37		0.17	0.49	0.49
v/c Ratio	1.60	0.93		0.30	1.18	0.23	1.62	0.85		1.01	1.25	0.66
Control Delay	314.1	51.3		26.2	138.8	0.3	359.4	33.6		78.7	146.3	14.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	314.1	51.3		26.2	138.8	0.3	359.4	33.6		78.7	146.3	14.8
LOS	F	D		C	F	A	F	C		E	F	B
Approach Delay		136.7			72.9			67.3			96.1	
Approach LOS		F			E			E			F	
Queue Length 50th (ft)	~269	230		19	~301	0	~104	293		~173	~816	148
Queue Length 95th (ft)	#266	197		31	#286	0	#142	234		157	#613	126
Internal Link Dist (ft)		1006			1154			104			857	

Lanes, Volumes, Timings

4: Unser & Paradise

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	270			250		400	130			200		500
Base Capacity (vph)	240	861		161	372	1583	78	1290		572	910	881
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.60	0.93		0.30	1.18	0.23	1.62	0.85		1.01	1.25	0.66

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Pretimed

Maximum v/c Ratio: 1.62

Intersection Signal Delay: 94.9

Intersection LOS: F

Intersection Capacity Utilization 85.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Unser & Paradise



Lanes, Volumes, Timings

1: Unser & Paseo

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	612	70	23	238	73	11	479	91	212	602	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.519			0.121			0.252			0.352		
Satd. Flow (perm)	967	1863	1583	225	1863	1583	469	1863	1583	656	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			70			77			96			12
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2996			3812			5140			7058	
Travel Time (s)		68.1			86.6			116.8			160.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	644	74	24	251	77	12	504	96	223	634	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	644	74	24	251	77	12	504	96	223	634	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0	41.0	49.0	49.0	49.0	49.0	49.0	49.0
Total Split (%)	45.6%	45.6%	45.6%	45.6%	45.6%	45.6%	54.4%	54.4%	54.4%	54.4%	54.4%	54.4%
Maximum Green (s)	37.0	37.0	37.0	37.0	37.0	37.0	45.0	45.0	45.0	45.0	45.0	45.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)	33.1	33.1	33.1	33.1	33.1	33.1	45.1	45.1	45.1	45.1	45.1	45.1
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.52	0.52	0.52	0.52	0.52	0.52
v/c Ratio	0.06	0.90	0.11	0.28	0.35	0.12	0.05	0.52	0.11	0.65	0.65	0.01
Control Delay	16.7	42.5	5.3	27.9	20.2	4.7	12.4	16.7	3.0	27.6	19.8	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	42.5	5.3	27.9	20.2	4.7	12.4	16.7	3.0	27.6	19.8	3.2
LOS	B	D	A	C	C	A	B	B	A	C	B	A

Lanes, Volumes, Timings

1: Unser & Paseo

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		38.0			17.3			14.5			21.7	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	8	322	1	9	95	0	3	187	0	92	260	0
Queue Length 95th (ft)	23	#519	26	32	153	25	13	280	23	#210	385	4
Internal Link Dist (ft)		2916			3732			5060			6978	
Turn Bay Length (ft)	200		200	140		140	200		200	200		200
Base Capacity (vph)	415	801	721	96	801	725	245	974	874	343	974	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.80	0.10	0.25	0.31	0.11	0.05	0.52	0.11	0.65	0.65	0.01

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.3

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 24.1

Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

					
49 s			41 s		
					
49 s			41 s		

Lanes, Volumes, Timings

2: Paseo & Universe

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	319	40	69	112	81	12	227	88	273	456	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.465			0.388			0.427			0.428		
Satd. Flow (perm)	866	1863	1583	723	1863	1583	795	1863	1583	797	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			255			206			312
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			2996			907			953	
Travel Time (s)		23.5			68.1			20.6			21.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	276	375	47	81	132	95	14	267	104	321	536	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	276	375	47	81	132	95	14	267	104	321	536	312
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	17.0	31.0	31.0	9.0	23.0		8.0	31.0	31.0	19.0	42.0	
Total Split (%)	18.9%	34.4%	34.4%	10.0%	25.6%		8.9%	34.4%	34.4%	21.1%	46.7%	
Maximum Green (s)	13.0	27.0	27.0	5.0	19.0		4.0	27.0	27.0	15.0	38.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	30.0	23.0	23.0	18.5	13.4	82.1	31.3	27.3	27.3	44.1	42.6	82.1
Actuated g/C Ratio	0.37	0.28	0.28	0.23	0.16	1.00	0.38	0.33	0.33	0.54	0.52	1.00
v/c Ratio	0.61	0.72	0.08	0.36	0.43	0.06	0.04	0.43	0.16	0.56	0.55	0.20
Control Delay	26.0	36.3	0.3	22.9	35.7	0.1	12.1	26.0	0.5	15.8	17.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	36.3	0.3	22.9	35.7	0.1	12.1	26.0	0.5	15.8	17.9	0.3
LOS	C	D	A	C	D	A	B	C	A	B	B	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		29.8			21.3			18.6			12.6	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	107	183	0	28	63	0	3	111	0	90	173	0
Queue Length 95th (ft)	163	263	0	54	109	0	12	183	0	150	327	0
Internal Link Dist (ft)		956			2916			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	460	619	631	226	435	1583	351	619	663	607	966	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.61	0.07	0.36	0.30	0.06	0.04	0.43	0.16	0.53	0.55	0.20

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 82.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Paseo & Universe



Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1024	1	8	332	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1164	1	9	377	0	22
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1165	0	1371	582
Stage 1	-	-	-	-	1164	-
Stage 2	-	-	-	-	207	-
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	-	-	595	-	137	456
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	595	-	135	456
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	795	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		13.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	456	-	-	595	-
HCM Lane V/C Ratio	-	0.047	-	-	0.015	-
HCM Control Delay (s)	0	13.3	-	-	11.1	-
HCM Lane LOS	A	B	-	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	930	134	68	218	124	71	415	255	714	735	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		265	650		450	150		200	350		0
Storage Lanes	1		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3514	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3514	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			158			158		7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5784			1445			1384			1426	
Travel Time (s)		131.5			32.8			31.5			32.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	39	949	137	69	222	127	72	423	260	729	750	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	949	137	69	222	127	72	423	260	729	789	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	
Total Split (s)	10.0	33.0	33.0	8.0	31.0	31.0	9.0	22.0	22.0	27.0	40.0	
Total Split (%)	11.1%	36.7%	36.7%	8.9%	34.4%	34.4%	10.0%	24.4%	24.4%	30.0%	44.4%	
Maximum Green (s)	6.0	29.0	29.0	4.0	27.0	27.0	5.0	18.0	18.0	23.0	36.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	6.0	27.2	27.2	4.1	27.6	27.6	5.1	18.4	18.4	21.3	37.0	
Actuated g/C Ratio	0.07	0.32	0.32	0.05	0.32	0.32	0.06	0.22	0.22	0.25	0.43	
v/c Ratio	0.31	0.84	0.22	0.42	0.19	0.21	0.35	0.55	0.56	0.85	0.52	
Control Delay	47.2	35.6	3.8	50.2	22.6	3.2	46.1	34.5	18.5	41.8	20.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.2	35.6	3.8	50.2	22.6	3.2	46.1	34.5	18.5	41.8	20.6	
LOS	D	D	A	D	C	A	D	C	B	D	C	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		32.1			21.2			30.1			30.8	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	22	260	0	20	49	0	20	115	50	202	176	
Queue Length 95th (ft)	54	#341	30	41	77	26	42	165	129	#289	234	
Internal Link Dist (ft)		5704			1365			1304			1346	
Turn Bay Length (ft)	140		265	650		450	150		200	350		
Base Capacity (vph)	126	1222	650	163	1216	647	204	764	466	940	1529	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.78	0.21	0.42	0.18	0.20	0.35	0.55	0.56	0.78	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.2

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 30.0

Intersection LOS: C

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Paseo & Golf Course

 ø1	 ø2	 ø3	 ø4
27 s	22 s	8 s	33 s
 ø5	 ø6	 ø7	 ø8
9 s	40 s	10 s	31 s

Lanes, Volumes, Timings
17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	3	382	16	4	8	886	615	15	2	570	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.996			0.990	
Flt Protected	0.950				0.961		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1790	1583	3433	3525	0	1770	3504	0
Flt Permitted	0.950				0.961		0.216			0.397		
Satd. Flow (perm)	1770	1508	1504	0	1790	1583	781	3525	0	740	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		203	203			169		2			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	34	3	406	17	4	9	943	654	16	2	606	45
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	34	206	203	0	21	9	943	670	0	2	651	0
Turn Type	Split	NA	Perm	Split	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			3	2			6		
Detector Phase	4	4	4	8	8	3	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	27.0	42.0		8.0	23.0	
Total Split (%)	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	24.5%	38.2%		7.3%	20.9%	
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	23.0	38.0		4.0	19.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	8.0	8.0	8.0		6.5	5.6	47.2	46.0		23.6	19.5	
Actuated g/C Ratio	0.12	0.12	0.12		0.10	0.08	0.71	0.69		0.35	0.29	
v/c Ratio	0.16	0.57	0.56		0.12	0.03	0.63	0.28		0.01	0.63	
Control Delay	29.8	12.1	11.7		33.0	0.2	11.7	7.3		10.5	26.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	29.8	12.1	11.7		33.0	0.2	11.7	7.3		10.5	26.0	
LOS	C	B	B		C	A	B	A		B	C	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.3			23.2			9.9			26.0	
Approach LOS		B			C			A			C	
Queue Length 50th (ft)	12	1	0		7	0	58	25		0	103	
Queue Length 95th (ft)	44	64	62		34	0	#306	187		4	#284	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	435	524	523		440	517	1491	2433		325	1028	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.08	0.39	0.39		0.05	0.02	0.63	0.28		0.01	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 66.6

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Rainbow & Unser

 $\phi 1$	 $\phi 2$	 $\phi 3$	 $\phi 4$	 $\phi 8$
8 s	42 s	20 s	20 s	20 s
 $\phi 5$	 $\phi 6$			
27 s	23 s			

Lanes, Volumes, Timings

4: Unser & Paradise

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	234	18	33	401	399	70	526	25	262	578	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	250		400	130		80	200		500
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.989				0.850		0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3500	0	1770	1863	1583	1770	3514	0	3433	1863	1583
Flt Permitted	0.151			0.585			0.950			0.950		
Satd. Flow (perm)	281	3500	0	1090	1863	1583	1770	3514	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				429		6				269
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1086			1234			184			937	
Travel Time (s)		24.7			28.0			4.2			21.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	194	252	19	35	431	429	75	566	27	282	622	366
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	271	0	35	431	429	75	593	0	282	622	366
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free						6
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	12.0	33.0		8.0	29.0		10.0	33.0		16.0	39.0	39.0
Total Split (%)	13.3%	36.7%		8.9%	32.2%		11.1%	36.7%		17.8%	43.3%	43.3%
Maximum Green (s)	8.0	29.0		4.0	25.0		6.0	29.0		12.0	35.0	35.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	37.0	29.0		29.0	25.0	90.0	6.0	29.0		12.0	35.0	35.0
Actuated g/C Ratio	0.41	0.32		0.32	0.28	1.00	0.07	0.32		0.13	0.39	0.39
v/c Ratio	0.79	0.24		0.09	0.83	0.27	0.64	0.52		0.62	0.86	0.47
Control Delay	42.2	22.3		17.0	46.4	0.4	66.0	26.6		43.3	39.2	7.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	42.2	22.3		17.0	46.4	0.4	66.0	26.6		43.3	39.2	7.8
LOS	D	C		B	D	A	E	C		D	D	A
Approach Delay		30.6			23.2			31.0			31.1	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	71	56		12	230	0	42	142		79	318	35
Queue Length 95th (ft)	#161	87		30	#386	0	#108	193		120	#515	104
Internal Link Dist (ft)		1006			1154			104			857	

Lanes, Volumes, Timings

4: Unser & Paradise

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	270			250		400	130			200		500
Base Capacity (vph)	247	1133		381	517	1583	118	1136		457	724	780
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.79	0.24		0.09	0.83	0.27	0.64	0.52		0.62	0.86	0.47

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 28.9

Intersection LOS: C

Intersection Capacity Utilization 78.7%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Unser & Paradise

 ϕ1	 ϕ2 (R)	 ϕ3	 ϕ4
16 s	33 s	8 s	33 s
 ϕ5	 ϕ6 (R)	 ϕ7	 ϕ8
10 s	39 s	12 s	29 s

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	389	20	99	673	119	32	520	36	140	546	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.113			0.384			0.289			0.312		
Satd. Flow (perm)	210	1863	1583	715	1863	1583	538	1863	1583	581	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			20			86			36			14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2996			3812			5140			7058	
Travel Time (s)		68.1			86.6			116.8			160.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	18	393	20	100	680	120	32	525	36	141	552	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	393	20	100	680	120	32	525	36	141	552	14
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)	35.4	35.4	35.4	35.4	35.4	35.4	41.2	41.2	41.2	41.2	41.2	41.2
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.49	0.49	0.49	0.49	0.49	0.49
v/c Ratio	0.21	0.50	0.03	0.34	0.87	0.17	0.12	0.58	0.05	0.50	0.61	0.02
Control Delay	21.8	20.4	6.1	19.8	35.9	6.0	15.6	20.1	5.0	24.5	20.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	20.4	6.1	19.8	35.9	6.0	15.6	20.1	5.0	24.5	20.8	6.7
LOS	C	C	A	B	D	A	B	C	A	C	C	A

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		19.8			30.2			18.9			21.2	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	6	149	0	35	320	10	10	213	0	54	228	0
Queue Length 95th (ft)	23	227	12	74	#481	41	29	325	16	121	347	10
Internal Link Dist (ft)		2916			3732			5060			6978	
Turn Bay Length (ft)	200		200	140		140	200		200	200		200
Base Capacity (vph)	102	907	781	347	907	814	262	907	789	282	907	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.43	0.03	0.29	0.75	0.15	0.12	0.58	0.05	0.50	0.61	0.02

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.7

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 23.5

Intersection LOS: C

Intersection Capacity Utilization 87.2%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

 ø2	 ø4
45 s	45 s
 ø6	 ø8
45 s	45 s

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	183	206	7	83	307	357	10	490	46	171	319	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.196			0.591			0.560			0.261		
Satd. Flow (perm)	365	1863	1583	1101	1863	1583	1043	1863	1583	486	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			372			109			243
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			2996			907			953	
Travel Time (s)		23.5			68.1			20.6			21.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	191	215	7	86	320	372	10	510	48	178	332	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	215	7	86	320	372	10	510	48	178	332	243
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	29.0	29.0	9.0	26.0		8.0	41.0	41.0	11.0	44.0	
Total Split (%)	13.3%	32.2%	32.2%	10.0%	28.9%		8.9%	45.6%	45.6%	12.2%	48.9%	
Maximum Green (s)	8.0	25.0	25.0	5.0	22.0		4.0	37.0	37.0	7.0	40.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	30.0	23.7	23.7	23.7	18.7	86.8	41.1	37.1	37.1	47.8	46.5	86.8
Actuated g/C Ratio	0.35	0.27	0.27	0.27	0.22	1.00	0.47	0.43	0.43	0.55	0.54	1.00
v/c Ratio	0.75	0.42	0.01	0.25	0.80	0.23	0.02	0.64	0.07	0.48	0.33	0.15
Control Delay	40.6	29.6	0.0	21.2	47.7	0.4	10.2	24.9	0.2	15.0	13.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	29.6	0.0	21.2	47.7	0.4	10.2	24.9	0.2	15.0	13.9	0.2
LOS	D	C	A	C	D	A	B	C	A	B	B	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		34.2			22.1			22.5			9.7	
Approach LOS		C			C			C			A	
Queue Length 50th (ft)	74	100	0	31	167	0	2	221	0	47	96	0
Queue Length 95th (ft)	#143	165	0	63	259	0	10	342	0	85	192	0
Internal Link Dist (ft)		956			2916			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	255	537	534	339	472	1583	526	795	738	371	997	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.40	0.01	0.25	0.68	0.23	0.02	0.64	0.07	0.48	0.33	0.15

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 74.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Paseo & Universe

 p1	 p2	 p3	 p4
11 s	41 s	9 s	29 s
 p5	 p6	 p7	 p8
8 s	44 s	12 s	26 s

Lanes, Volumes, Timings

6: Kimmick & Paseo

6/13/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	508	2	26	839	1	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		125	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1770	3539	1770	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			52	1225	
Travel Time (s)	12.5			1.2	27.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	577	2	30	953	1	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	579	0	30	953	1	19
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.2%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings
5: Paseo & Golf Course

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	442	90	509	715	634	119	831	236	332	681	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		265	650		450	150		200	350		0
Storage Lanes	1		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3465	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			254			241		21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5784			1445			1384			1426	
Travel Time (s)		131.5			32.8			31.5			32.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	451	92	519	730	647	121	848	241	339	695	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	451	92	519	730	647	121	848	241	339	808	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	
Total Split (s)	9.0	23.0	23.0	23.0	37.0	37.0	11.0	29.0	29.0	15.0	33.0	
Total Split (%)	10.0%	25.6%	25.6%	25.6%	41.1%	41.1%	12.2%	32.2%	32.2%	16.7%	36.7%	
Maximum Green (s)	5.0	19.0	19.0	19.0	33.0	33.0	7.0	25.0	25.0	11.0	29.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	5.0	17.8	17.8	17.1	32.0	32.0	6.8	25.1	25.1	10.8	31.5	
Actuated g/C Ratio	0.06	0.20	0.20	0.20	0.37	0.37	0.08	0.29	0.29	0.12	0.36	
v/c Ratio	0.59	0.62	0.20	0.77	0.56	0.87	0.45	0.83	0.38	0.80	0.64	
Control Delay	65.9	35.9	1.8	41.8	24.3	30.2	45.1	38.2	5.6	53.0	27.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.9	35.9	1.8	41.8	24.3	30.2	45.1	38.2	5.6	53.0	27.0	
LOS	E	D	A	D	C	C	D	D	A	D	C	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		33.7			31.1			32.4			34.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	34	122	0	143	171	218	34	240	0	98	205	
Queue Length 95th (ft)	#93	173	7	197	228	#440	62	#342	54	#165	273	
Internal Link Dist (ft)		5704			1365			1304			1346	
Turn Bay Length (ft)	140		265	650		450	150		200	350		
Base Capacity (vph)	102	799	479	754	1350	761	278	1023	628	436	1267	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.59	0.56	0.19	0.69	0.54	0.85	0.44	0.83	0.38	0.78	0.64	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 32.6

Intersection LOS: C

Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Paseo & Golf Course

 ø1	 ø2	 ø3	 ø4
15 s	29 s	23 s	23 s
 ø5	 ø6	 ø7	 ø8
11 s	33 s	9 s	37 s

Lanes, Volumes, Timings
17: Rainbow & Unser

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	7	1180	19	8	18	620	523	22	1	651	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.994			0.994	
Flt Protected	0.950				0.966		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1799	1583	3433	3518	0	1770	3518	0
Flt Permitted	0.950				0.966		0.155			0.405		
Satd. Flow (perm)	1770	1508	1504	0	1799	1583	560	3518	0	754	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		526	526			118		4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	61	8	1405	23	10	21	738	623	26	1	775	32
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	61	711	702	0	33	21	738	649	0	1	807	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	39.0	39.0	39.0	20.0	20.0	20.0	26.0	53.0		8.0	35.0	
Total Split (%)	32.5%	32.5%	32.5%	16.7%	16.7%	16.7%	21.7%	44.2%		6.7%	29.2%	
Maximum Green (s)	35.0	35.0	35.0	16.0	16.0	16.0	22.0	49.0		4.0	31.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	28.1	28.1	28.1		7.5	7.5	57.6	56.2		36.0	31.9	
Actuated g/C Ratio	0.28	0.28	0.28		0.07	0.07	0.57	0.56		0.36	0.32	
v/c Ratio	0.12	0.89	0.88		0.25	0.09	0.79	0.33		0.00	0.72	
Control Delay	28.3	24.0	22.8		53.0	0.8	28.1	15.7		16.0	37.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	28.3	24.0	22.8		53.0	0.8	28.1	15.7		16.0	37.8	
LOS	C	C	C		D	A	C	B		B	D	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.6			32.7			22.3			37.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	31	136	126		23	0	191	140		0	283	
Queue Length 95th (ft)	61	268	255		51	0	244	202		3	338	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	632	876	875		293	357	965	1966		310	1115	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.81	0.80		0.11	0.06	0.76	0.33		0.00	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 100.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 26.3

Intersection LOS: C

Intersection Capacity Utilization 80.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 17: Rainbow & Unser

 p1	 p2	 p4	 p8
8 s	53 s	39 s	20 s
 p5	 p6		
26 s	35 s		

Lanes, Volumes, Timings

4: Unser & Paradise

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	283	516	71	36	322	269	93	756	46	424	836	426
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	250		400	130		80	200		500
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.982				0.850		0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3507	0	3433	1863	1583
Flt Permitted	0.143			0.167			0.950			0.950		
Satd. Flow (perm)	266	3476	0	311	1863	1583	1770	3507	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				370		6				296
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1086			1234			184			937	
Travel Time (s)		24.7			28.0			4.2			21.3	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Adj. Flow (vph)	435	794	109	55	495	414	143	1163	71	652	1286	655
Shared Lane Traffic (%)												
Lane Group Flow (vph)	435	903	0	55	495	414	143	1234	0	652	1286	655
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free						6
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	18.0	38.0		8.0	28.0		11.0	48.0		26.0	63.0	63.0
Total Split (%)	15.0%	31.7%		6.7%	23.3%		9.2%	40.0%		21.7%	52.5%	52.5%
Maximum Green (s)	14.0	34.0		4.0	24.0		7.0	44.0		22.0	59.0	59.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	42.0	34.0		28.0	24.0	120.0	7.0	44.0		22.0	59.0	59.0
Actuated g/C Ratio	0.35	0.28		0.23	0.20	1.00	0.06	0.37		0.18	0.49	0.49
v/c Ratio	1.62	0.91		0.45	1.33	0.26	1.39	0.96		1.04	1.41	0.71
Control Delay	322.5	55.0		40.7	204.5	0.4	265.0	54.0		93.5	216.8	17.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	322.5	55.0		40.7	204.5	0.4	265.0	54.0		93.5	216.8	17.0
LOS	F	D		D	F	A	F	D		F	F	B
Approach Delay		142.0			107.5			75.9			135.3	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~438	351		28	~498	0	~147	484		~280	~1335	213
Queue Length 95th (ft)	#388	281		41	#428	0	#180	359		226	#948	149
Internal Link Dist (ft)		1006			1154			104			857	

Lanes, Volumes, Timings

4: Unser & Paradise

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	270			250		400	130			200		500
Base Capacity (vph)	268	993		121	372	1583	103	1289		629	915	928
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.62	0.91		0.45	1.33	0.26	1.39	0.96		1.04	1.41	0.71

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Pretimed

Maximum v/c Ratio: 1.62

Intersection Signal Delay: 119.4

Intersection LOS: F

Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Unser & Paradise

 ø1	 ø2 (R)	 ø3	 ø4
26 s	48 s	8 s	38 s
 ø5	 ø6 (R)	 ø7	 ø8
11 s	63 s	18 s	28 s

Lanes, Volumes, Timings

1: Unser & Paseo

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	871	102	30	343	10	16	541	103	258	680	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.430			0.065			0.094			0.086		
Satd. Flow (perm)	801	1863	1583	121	1863	1583	175	1863	1583	160	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77			77			77			43
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2996			3812			5140			7058	
Travel Time (s)		68.1			86.6			116.8			160.4	
Confl. Peds. (#/hr)				7								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	917	107	32	361	11	17	569	108	272	716	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	917	107	32	361	11	17	569	108	272	716	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	8.0	44.0	44.0	18.0	54.0	54.0
Total Split (%)	51.6%	51.6%	51.6%	51.6%	51.6%	51.6%	6.3%	34.4%	34.4%	14.1%	42.2%	42.2%
Maximum Green (s)	62.0	62.0	62.0	62.0	62.0	62.0	4.0	40.0	40.0	14.0	50.0	50.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effect Green (s)	62.0	62.0	62.0	62.0	62.0	62.0	44.0	40.0	40.0	58.0	54.8	54.8
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48	0.48	0.34	0.31	0.31	0.45	0.43	0.43
v/c Ratio	0.08	1.02	0.13	0.55	0.40	0.01	0.15	0.98	0.20	1.10	0.90	0.01
Control Delay	18.6	67.3	6.7	63.1	22.8	0.0	23.4	76.0	12.3	119.3	50.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

1: Unser & Paseo

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	18.6	67.3	6.7	63.1	22.8	0.0	23.4	76.0	12.3	119.3	50.2	0.0
LOS	B	E	A	E	C	A	C	E	B	F	D	A
Approach Delay	59.7			25.4			64.8			68.8		
Approach LOS	E			C			E			E		
Queue Length 50th (ft)	14	~777	13	18	187	0	8	466	18	~206	517	0
Queue Length 95th (ft)	34	#1054	45	#75	265	0	22	#703	62	#385	#844	0
Internal Link Dist (ft)	2916			3732			5060			6978		
Turn Bay Length (ft)	200		200	140		140	200		200	200		200
Base Capacity (vph)	387	902	806	58	902	806	110	582	547	248	797	702
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	1.02	0.13	0.55	0.40	0.01	0.15	0.98	0.20	1.10	0.90	0.01

Intersection Summary

Area Type: Other

Cycle Length: 128

Actuated Cycle Length: 128

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 59.3

Intersection LOS: E

Intersection Capacity Utilization 98.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

		
18 s	44 s	66 s
		
8 s	54 s	66 s

Lanes, Volumes, Timings

2: Paseo & Universe

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	306	415	52	90	146	105	16	295	114	335	593	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.338			0.230			0.256			0.330		
Satd. Flow (perm)	630	1863	1583	428	1863	1583	477	1863	1583	615	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			191			155			366
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			2996			907			953	
Travel Time (s)		23.5			68.1			20.6			21.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	360	488	61	106	172	124	19	347	134	394	698	406
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	488	61	106	172	124	19	347	134	394	698	406
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	30.0	43.0	43.0	10.0	23.0		8.0	41.0	41.0	26.0	59.0	
Total Split (%)	25.0%	35.8%	35.8%	8.3%	19.2%		6.7%	34.2%	34.2%	21.7%	49.2%	
Maximum Green (s)	26.0	39.0	39.0	6.0	19.0		4.0	37.0	37.0	22.0	55.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	43.4	33.3	33.3	23.5	17.4	112.1	41.5	37.5	37.5	60.7	57.7	112.1
Actuated g/C Ratio	0.39	0.30	0.30	0.21	0.16	1.00	0.37	0.33	0.33	0.54	0.51	1.00
v/c Ratio	0.77	0.88	0.11	0.65	0.60	0.08	0.09	0.56	0.21	0.74	0.73	0.26
Control Delay	38.6	56.2	0.4	46.8	54.6	0.1	16.4	36.6	4.0	25.8	28.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	56.2	0.4	46.8	54.6	0.1	16.4	36.6	4.0	25.8	28.8	0.4
LOS	D	E	A	D	D	A	B	D	A	C	C	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		45.5			35.7			27.1			20.3	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	203	344	0	51	122	0	7	221	0	172	379	0
Queue Length 95th (ft)	273	443	0	#90	188	0	18	306	26	238	570	0
Internal Link Dist (ft)		956			2916			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	510	653	631	162	319	1583	223	623	632	561	958	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.75	0.10	0.65	0.54	0.08	0.09	0.56	0.21	0.70	0.73	0.26

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 112.1

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Paseo & Universe

 p1	 p2	 p3	 p4
26 s	41 s	10 s	43 s
 p5	 p6	 p7	 p8
8 s	59 s	30 s	23 s

Lanes, Volumes, Timings

6: Kimmick & Paseo

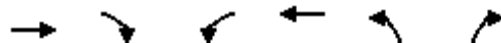
6/12/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Volume (vph)	1383	1	212	449	26	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		125	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	0	1770	3539	1770	1583
Flt Permitted			0.108		0.950	
Satd. Flow (perm)	3539	0	201	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						202
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			52	1225	
Travel Time (s)	12.5			1.2	27.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1572	1	241	510	30	206
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1573	0	241	510	30	206
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	37.0		11.0	48.0	20.0	20.0
Total Split (%)	54.4%		16.2%	70.6%	29.4%	29.4%
Maximum Green (s)	33.0		7.0	44.0	16.0	16.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Max	Max
Walk Time (s)	5.0			5.0	5.0	5.0
Flash Dont Walk (s)	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effect Green (s)	33.0		44.0	44.0	16.0	16.0
Actuated g/C Ratio	0.49		0.65	0.65	0.24	0.24
v/c Ratio	0.92		0.83	0.22	0.07	0.39
Control Delay	26.7		37.4	5.2	20.9	6.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	26.7		37.4	5.2	20.9	6.4
LOS	C		D	A	C	A

Lanes, Volumes, Timings

6: Kimmick & Paseo

6/12/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	26.7			15.6	8.2	
Approach LOS	C			B	A	
Queue Length 50th (ft)	301		47	39	10	1
Queue Length 95th (ft)	#441		#156	55	28	46
Internal Link Dist (ft)	468			1	1145	
Turn Bay Length (ft)			160		125	
Base Capacity (vph)	1717		291	2289	416	526
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	0.92		0.83	0.22	0.07	0.39

Intersection Summary

Area Type: Other

Cycle Length: 68

Actuated Cycle Length: 68

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 63.3%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Kimmick & Paseo

 p2	 p3	 p4
20 s	11 s	37 s
	 p8	
	48 s	

Lanes, Volumes, Timings
5: Paseo & Golf Course

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1296	284	88	360	161	220	540	332	928	955	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		265	650		450	150		200	350		0
Storage Lanes	1		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3507	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225			164			155		6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5784			1445			1384			1426	
Travel Time (s)		131.5			32.8			31.5			32.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	1322	290	90	367	164	224	551	339	947	974	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	1322	290	90	367	164	224	551	339	947	1039	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	
Total Split (s)	13.0	49.0	49.0	8.0	44.0	44.0	14.0	25.0	25.0	38.0	49.0	
Total Split (%)	10.8%	40.8%	40.8%	6.7%	36.7%	36.7%	11.7%	20.8%	20.8%	31.7%	40.8%	
Maximum Green (s)	9.0	45.0	45.0	4.0	40.0	40.0	10.0	21.0	21.0	34.0	45.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	8.2	45.0	45.0	4.0	42.8	42.8	10.0	21.0	21.0	34.0	45.0	
Actuated g/C Ratio	0.07	0.38	0.38	0.03	0.36	0.36	0.08	0.18	0.18	0.28	0.38	
v/c Ratio	0.51	1.00	0.40	0.79	0.29	0.24	0.79	0.89	0.84	0.97	0.79	
Control Delay	68.7	61.5	8.4	99.1	29.4	5.2	73.5	66.1	44.8	66.2	38.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	68.7	61.5	8.4	99.1	29.4	5.2	73.5	66.1	44.8	66.2	38.3	
LOS	E	E	A	F	C	A	E	E	D	E	D	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		52.6			33.1			61.1			51.6	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	46	532	32	36	110	0	89	222	143	374	370	
Queue Length 95th (ft)	92	#696	99	#83	152	47	#149	#319	#302	#511	455	
Internal Link Dist (ft)		5704			1365			1304			1346	
Turn Bay Length (ft)	140		265	650		450	150		200	350		
Base Capacity (vph)	132	1327	734	114	1262	670	286	619	404	972	1319	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	1.00	0.40	0.79	0.29	0.24	0.78	0.89	0.84	0.97	0.79	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 51.7

Intersection LOS: D

Intersection Capacity Utilization 93.9%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Paseo & Golf Course

 ϕ_1	 ϕ_2	 ϕ_3	 ϕ_4
38 s	25 s	8 s	49 s
 ϕ_5	 ϕ_6	 ϕ_7	 ϕ_8
14 s	49 s	13 s	44 s

Lanes, Volumes, Timings
17: Rainbow & Unser

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	3	432	18	5	9	1001	695	17	2	644	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.996			0.990	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1792	1583	3433	3525	0	1770	3504	0
Flt Permitted	0.950				0.962		0.169			0.364		
Satd. Flow (perm)	1770	1508	1504	0	1792	1583	611	3525	0	678	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		230	230			155		2			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	38	3	460	19	5	10	1065	739	18	2	685	50
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	38	233	230	0	24	10	1065	757	0	2	735	0
Turn Type	Split	NA	Perm	Split	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			3	2			6		
Detector Phase	4	4	4	8	8	3	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	33.0	52.0		8.0	27.0	
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%	27.5%	43.3%		6.7%	22.5%	
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	29.0	48.0		4.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	8.7	8.7	8.7		6.7	5.6	57.2	56.0		27.6	23.5	
Actuated g/C Ratio	0.11	0.11	0.11		0.08	0.07	0.72	0.70		0.35	0.29	
v/c Ratio	0.20	0.63	0.62		0.16	0.04	0.72	0.31		0.01	0.71	
Control Delay	36.9	13.9	13.5		40.7	0.3	17.9	7.8		12.5	31.7	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	36.9	13.9	13.5		40.7	0.3	17.9	7.8		12.5	31.7	
LOS	D	B	B		D	A	B	A		B	C	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		15.5			28.9			13.7			31.7	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	16	1	0		10	0	119	35		0	145	
Queue Length 95th (ft)	52	73	70		41	0	#418	218		4	#360	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	363	492	491		367	448	1488	2477		290	1037	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.47	0.47		0.07	0.02	0.72	0.31		0.01	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 79.7

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.5

Intersection LOS: B

Intersection Capacity Utilization 73.6%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Rainbow & Unser

 ø1	 ø2	 ø3	 ø4	 ø8
8 s	52 s	20 s	20 s	20 s
 ø5	 ø6			
33 s	27 s			

Lanes, Volumes, Timings

4: Unser & Paradise

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	203	264	20	37	453	451	79	394	28	296	653	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	250		400	130		80	200		500
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.989				0.850		0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3500	0	1770	1863	1583	1770	3504	0	3433	1863	1583
Flt Permitted	0.103			0.565			0.950			0.950		
Satd. Flow (perm)	192	3500	0	1052	1863	1583	1770	3504	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				485		7				264
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1086			1234			184			937	
Travel Time (s)		24.7			28.0			4.2			21.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	218	284	22	40	487	485	85	424	30	318	702	413
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	306	0	40	487	485	85	454	0	318	702	413
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free						6
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	15.0	46.0		8.0	39.0		11.0	45.0		21.0	55.0	55.0
Total Split (%)	12.5%	38.3%		6.7%	32.5%		9.2%	37.5%		17.5%	45.8%	45.8%
Maximum Green (s)	11.0	42.0		4.0	35.0		7.0	41.0		17.0	51.0	51.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	50.0	42.0		39.0	35.0	120.0	7.0	41.0		17.0	51.0	51.0
Actuated g/C Ratio	0.42	0.35		0.32	0.29	1.00	0.06	0.34		0.14	0.42	0.42
v/c Ratio	0.97	0.25		0.11	0.90	0.31	0.83	0.38		0.65	0.89	0.50
Control Delay	83.9	27.8		22.3	61.6	0.5	106.8	30.5		55.8	46.7	10.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	83.9	27.8		22.3	61.6	0.5	106.8	30.5		55.8	46.7	10.7
LOS	F	C		C	E	A	F	C		E	D	B
Approach Delay		51.1			30.8			42.5			38.4	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	119	86		18	362	0	66	136		121	493	73
Queue Length 95th (ft)	#279	122		41	#557	0	#160	183		171	#727	164
Internal Link Dist (ft)		1006			1154			104			857	

Lanes, Volumes, Timings

4: Unser & Paradise

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	270			250		400	130			200		500
Base Capacity (vph)	224	1229		365	543	1583	103	1201		486	791	824
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.97	0.25		0.11	0.90	0.31	0.83	0.38		0.65	0.89	0.50

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 38.7

Intersection LOS: D

Intersection Capacity Utilization 87.2%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Unser & Paradise

 ø1	 ø2 (R)	 ø3	 ø4
21 s	45 s	8 s	46 s
 ø5	 ø6 (R)	 ø7	 ø8
11 s	55 s	15 s	39 s

Lanes, Volumes, Timings

1: Unser & Paseo

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	608	33	129	1007	210	36	600	41	209	617	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.066			0.238			0.109			0.090		
Satd. Flow (perm)	123	1863	1583	443	1863	1583	203	1863	1583	168	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45			84			45			45
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2996			3812			5140			7058	
Travel Time (s)		68.1			86.6			116.8			160.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	24	614	33	130	1017	212	36	606	41	211	623	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	614	33	130	1017	212	36	606	41	211	623	17
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	65.0	65.0	65.0	65.0	65.0	65.0	8.0	43.0	43.0	12.0	47.0	47.0
Total Split (%)	54.2%	54.2%	54.2%	54.2%	54.2%	54.2%	6.7%	35.8%	35.8%	10.0%	39.2%	39.2%
Maximum Green (s)	61.0	61.0	61.0	61.0	61.0	61.0	4.0	39.0	39.0	8.0	43.0	43.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effect Green (s)	61.0	61.0	61.0	61.0	61.0	61.0	43.0	39.0	39.0	51.0	46.2	46.2
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.36	0.32	0.32	0.42	0.38	0.38
v/c Ratio	0.39	0.65	0.04	0.58	1.07	0.25	0.29	1.00	0.08	1.19	0.87	0.03
Control Delay	40.2	25.7	2.9	33.2	80.9	10.6	26.7	77.9	7.6	152.9	49.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	25.7	2.9	33.2	80.9	10.6	26.7	77.9	7.6	152.9	49.3	0.4
LOS	D	C	A	C	F	B	C	E	A	F	D	A

Lanes, Volumes, Timings

1: Unser & Paseo

6/12/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		25.1			65.3			71.0			74.0	
Approach LOS		C			E			E			E	
Queue Length 50th (ft)	11	338	0	68	~876	51	16	~469	0	~147	461	0
Queue Length 95th (ft)	45	466	12	147	#1129	99	37	#713	24	#306	#692	2
Internal Link Dist (ft)		2916			3732			5060			6978	
Turn Bay Length (ft)	200		200	140		140	200		200	200		200
Base Capacity (vph)	62	947	826	225	947	845	124	605	544	178	717	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.65	0.04	0.58	1.07	0.25	0.29	1.00	0.08	1.19	0.87	0.03

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 60.9

Intersection LOS: E

Intersection Capacity Utilization 112.8%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

12 s	43 s	65 s
8 s	47 s	65 s

Lanes, Volumes, Timings

2: Paseo & Universe

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	238	268	9	108	399	464	13	637	60	222	415	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.122			0.492			0.459			0.119		
Satd. Flow (perm)	227	1863	1583	916	1863	1583	855	1863	1583	222	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			313			155			316
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			2996			907			953	
Travel Time (s)		23.5			68.1			20.6			21.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	248	279	9	112	416	483	14	664	62	231	432	316
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	279	9	112	416	483	14	664	62	231	432	316
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	17.0	41.0	41.0	10.0	34.0		8.0	54.0	54.0	15.0	61.0	
Total Split (%)	14.2%	34.2%	34.2%	8.3%	28.3%		6.7%	45.0%	45.0%	12.5%	50.8%	
Maximum Green (s)	13.0	37.0	37.0	6.0	30.0		4.0	50.0	50.0	11.0	57.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	45.8	35.7	35.7	34.7	28.7	118.8	54.0	50.0	50.0	65.0	61.9	118.8
Actuated g/C Ratio	0.39	0.30	0.30	0.29	0.24	1.00	0.45	0.42	0.42	0.55	0.52	1.00
v/c Ratio	0.97	0.50	0.02	0.36	0.92	0.31	0.03	0.85	0.08	0.87	0.45	0.20
Control Delay	80.0	37.7	0.0	29.0	71.6	0.5	13.5	43.0	0.2	51.3	20.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.0	37.7	0.0	29.0	71.6	0.5	13.5	43.0	0.2	51.3	20.7	0.3
LOS	E	D	A	C	E	A	B	D	A	D	C	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		56.6			32.9			38.9			21.3	
Approach LOS		E			C			D			C	
Queue Length 50th (ft)	140	176	0	56	312	0	5	459	0	94	192	0
Queue Length 95th (ft)	#308	260	0	97	#495	0	15	#674	0	#241	315	0
Internal Link Dist (ft)		956			2916			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	256	580	574	311	470	1583	419	784	756	265	970	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.48	0.02	0.36	0.89	0.31	0.03	0.85	0.08	0.87	0.45	0.20

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 118.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 34.7

Intersection LOS: C

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Paseo & Universe

 ø1	 ø2	 ø3	 ø4
15 s	54 s	10 s	41 s
 ø5	 ø6	 ø7	 ø8
8 s	61 s	17 s	34 s

Lanes, Volumes, Timings

6: Kimmick & Paseo

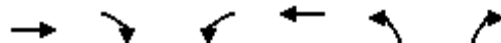
6/12/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Volume (vph)	693	2	245	1148	132	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		125	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	0	1770	3539	1770	1583
Flt Permitted			0.199		0.950	
Satd. Flow (perm)	3539	0	371	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						391
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			52	1225	
Travel Time (s)	12.5			1.2	27.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	788	2	278	1305	150	391
Shared Lane Traffic (%)						
Lane Group Flow (vph)	790	0	278	1305	150	391
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	26.0		18.0	44.0	24.0	24.0
Total Split (%)	38.2%		26.5%	64.7%	35.3%	35.3%
Maximum Green (s)	22.0		14.0	40.0	20.0	20.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Walk Time (s)	5.0			5.0	5.0	5.0
Flash Dont Walk (s)	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effect Green (s)	17.5		31.0	31.0	9.9	9.9
Actuated g/C Ratio	0.35		0.63	0.63	0.20	0.20
v/c Ratio	0.63		0.56	0.59	0.42	0.62
Control Delay	16.6		9.8	6.9	22.8	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	16.6		9.8	6.9	22.8	7.5
LOS	B		A	A	C	A

Lanes, Volumes, Timings

6: Kimmick & Paseo

6/12/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	16.6			7.4	11.8	
Approach LOS	B			A	B	
Queue Length 50th (ft)	90		27	87	37	0
Queue Length 95th (ft)	182		82	176	91	55
Internal Link Dist (ft)	468			1	1145	
Turn Bay Length (ft)			160		125	
Base Capacity (vph)	1642		646	2908	746	894
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	0.48		0.43	0.45	0.20	0.44

Intersection Summary

Area Type: Other

Cycle Length: 68

Actuated Cycle Length: 49.3

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 50.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Kimmick & Paseo

 p2	 p3	 p4
24 s	18 s	26 s
	 p8	
	44 s	

Lanes, Volumes, Timings
5: Paseo & Golf Course

6/12/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	708	335	662	1053	824	333	1080	307	432	885	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		265	650		450	150		200	350		0
Storage Lanes	1		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3461	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3461	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			267			208		17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5784			1445			1384			1426	
Travel Time (s)		131.5			32.8			31.5			32.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	120	722	342	676	1074	841	340	1102	313	441	903	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	722	342	676	1074	841	340	1102	313	441	1056	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	31.0	31.0	30.0	49.0	49.0	17.0	40.0	40.0	19.0	42.0	
Total Split (%)	10.0%	25.8%	25.8%	25.0%	40.8%	40.8%	14.2%	33.3%	33.3%	15.8%	35.0%	
Maximum Green (s)	8.0	27.0	27.0	26.0	45.0	45.0	13.0	36.0	36.0	15.0	38.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	8.0	27.4	27.4	25.6	45.0	45.0	13.0	36.0	36.0	15.0	38.0	
Actuated g/C Ratio	0.07	0.23	0.23	0.21	0.38	0.38	0.11	0.30	0.30	0.12	0.32	
v/c Ratio	1.02	0.89	0.65	0.93	0.81	1.11	0.92	1.04	0.50	1.03	0.95	
Control Delay	142.9	59.6	21.6	65.9	39.5	91.1	83.0	79.4	14.6	102.2	57.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	142.9	59.6	21.6	65.9	39.5	91.1	83.0	79.4	14.6	102.2	57.9	
LOS	F	E	C	E	D	F	F	E	B	F	E	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/12/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		57.1			63.2			68.5			70.9	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	~96	288	86	264	388	~606	136	~484	61	~188	415	
Queue Length 95th (ft)	#222	#398	193	#371	476	#853	#223	#619	149	#292	#556	
Internal Link Dist (ft)		5704			1365			1304			1346	
Turn Bay Length (ft)	140		265	650		450	150		200	350		
Base Capacity (vph)	118	809	528	743	1327	760	371	1061	620	429	1107	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.02	0.89	0.65	0.91	0.81	1.11	0.92	1.04	0.50	1.03	0.95	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 65.1

Intersection LOS: E

Intersection Capacity Utilization 97.4%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Paseo & Golf Course

19 s	40 s	30 s	31 s
17 s	42 s	12 s	49 s

Lanes, Volumes, Timings
17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	7	1180	19	8	24	620	550	22	7	678	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.994			0.992	
Flt Protected	0.950				0.966		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1799	1583	3433	3518	0	1770	3511	0
Flt Permitted	0.950				0.966		0.135			0.393		
Satd. Flow (perm)	1770	1508	1504	0	1799	1583	488	3518	0	732	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		518	518			118		4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	70	8	1405	23	10	29	738	655	26	8	807	43
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	70	711	702	0	33	29	738	681	0	8	850	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	38.0	38.0	38.0	20.0	20.0	20.0	26.0	54.0		8.0	36.0	
Total Split (%)	31.7%	31.7%	31.7%	16.7%	16.7%	16.7%	21.7%	45.0%		6.7%	30.0%	
Maximum Green (s)	34.0	34.0	34.0	16.0	16.0	16.0	22.0	50.0		4.0	32.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	28.3	28.3	28.3		7.5	7.5	58.4	56.9		36.8	32.7	
Actuated g/C Ratio	0.27	0.27	0.27		0.07	0.07	0.56	0.55		0.35	0.31	
v/c Ratio	0.15	0.90	0.89		0.25	0.13	0.83	0.35		0.03	0.77	
Control Delay	29.8	26.3	25.0		53.9	1.2	33.5	16.3		16.0	40.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	29.8	26.3	25.0		53.9	1.2	33.5	16.3		16.0	40.0	
LOS	C	C	C		D	A	C	B		B	D	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		25.9			29.2			25.2			39.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	36	148	137		23	0	200	145		3	299	
Queue Length 95th (ft)	68	283	270		51	0	#262	208		10	355	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	591	848	847		282	348	910	1929		299	1106	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.12	0.84	0.83		0.12	0.08	0.81	0.35		0.03	0.77	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 103.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 81.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Rainbow & Unser

 p1	 p2	 p4	 p8
8 s	54 s	38 s	20 s
 p5	 p6		
26 s	36 s		

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	922	164	48	394	107	78	565	121	258	704	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.392			0.063			0.103			0.093		
Satd. Flow (perm)	730	1863	1583	117	1863	1583	192	1863	1583	173	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			100			78			43
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		760			3812			670			7058	
Travel Time (s)		17.3			86.6			15.2			160.4	
Confl. Peds. (#/hr)				7								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	971	173	51	415	113	82	595	127	272	741	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	971	173	51	415	113	82	595	127	272	741	69
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	67.0	67.0	67.0	67.0	67.0	67.0	8.0	43.0	43.0	18.0	53.0	53.0
Total Split (%)	52.3%	52.3%	52.3%	52.3%	52.3%	52.3%	6.3%	33.6%	33.6%	14.1%	41.4%	41.4%
Maximum Green (s)	63.0	63.0	63.0	63.0	63.0	63.0	4.0	39.0	39.0	14.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effect Green (s)	63.0	63.0	63.0	63.0	63.0	63.0	43.0	39.0	39.0	57.0	49.0	49.0
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.30	0.30	0.45	0.38	0.38
v/c Ratio	0.26	1.06	0.21	0.89	0.45	0.14	0.73	1.05	0.24	1.08	1.04	0.11
Control Delay	21.5	79.2	7.7	128.0	23.3	4.6	60.1	94.5	15.2	114.3	83.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.5	79.2	7.7	128.0	23.3	4.6	60.1	94.5	15.2	114.3	83.2	12.1
LOS	C	E	A	F	C	A	E	F	B	F	F	B
Approach Delay	64.8			28.9			78.5			86.5		
Approach LOS	E			C			E			F		
Queue Length 50th (ft)	45	~883	27	37	219	5	39	~536	29	~201	~662	13
Queue Length 95th (ft)	85	#1138	68	#126	307	37	#99	#764	79	#379	#902	45
Internal Link Dist (ft)	680			3732			590			6978		
Turn Bay Length (ft)	200				140	140			200	200		
Base Capacity (vph)	359	916	834	57	916	829	113	567	536	251	713	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	1.06	0.21	0.89	0.45	0.14	0.73	1.05	0.24	1.08	1.04	0.11

Intersection Summary

Area Type: Other

Cycle Length: 128

Actuated Cycle Length: 128

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 68.5

Intersection LOS: E

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

 ø1	 ø2	 ø4
18 s	43 s	67 s
 ø5	 ø6	 ø8
8 s	53 s	67 s

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	306	453	52	105	184	145	16	295	129	373	593	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.327			0.173			0.253			0.299		
Satd. Flow (perm)	609	1863	1583	322	1863	1583	471	1863	1583	557	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			191			155			366
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			1486			907			953	
Travel Time (s)		23.5			33.8			20.6			21.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	360	533	61	124	216	171	19	347	152	439	698	406
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	533	61	124	216	171	19	347	152	439	698	406
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	24.0	44.0	44.0	10.0	30.0		8.0	39.0	39.0	27.0	58.0	
Total Split (%)	20.0%	36.7%	36.7%	8.3%	25.0%		6.7%	32.5%	32.5%	22.5%	48.3%	
Maximum Green (s)	20.0	40.0	40.0	6.0	26.0		4.0	35.0	35.0	23.0	54.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	46.3	36.2	36.2	29.1	23.1	115.1	39.2	35.2	35.2	60.8	57.7	115.1
Actuated g/C Ratio	0.40	0.31	0.31	0.25	0.20	1.00	0.34	0.31	0.31	0.53	0.50	1.00
v/c Ratio	0.82	0.91	0.11	0.79	0.58	0.11	0.09	0.61	0.26	0.84	0.75	0.26
Control Delay	43.0	58.9	0.4	60.7	48.8	0.1	17.5	40.9	5.9	34.2	30.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	58.9	0.4	60.7	48.8	0.1	17.5	40.9	5.9	34.2	30.9	0.4
LOS	D	E	A	E	D	A	B	D	A	C	C	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		49.2			35.4			29.8			23.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	201	384	0	59	149	0	7	234	0	211	404	0
Queue Length 95th (ft)	#273	#500	0	#120	215	0	18	314	40	#291	580	0
Internal Link Dist (ft)		956			1406			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	447	650	629	157	422	1583	205	569	591	538	934	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.82	0.10	0.79	0.51	0.11	0.09	0.61	0.26	0.82	0.75	0.26

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 115.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 33.2

Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Paseo & Universe

 ø1	 ø2	 ø3	 ø4
27 s	39 s	10 s	44 s
 ø5	 ø6	 ø7	 ø8
8 s	58 s	24 s	30 s

Lanes, Volumes, Timings

3: Access B & Paseo

6/13/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1012	79	164	374	79	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	150		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	750			760	132	
Travel Time (s)	17.0			17.3	3.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1065	83	173	394	83	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	83	173	394	83	173
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	76.7%			ICU Level of Service D		
Analysis Period (min)	15					

Lanes, Volumes, Timings

4: Unser & Paradise

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	283	516	83	45	322	269	105	804	55	424	884	426
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	250		400	130		80	200		500
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.979				0.850		0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3465	0	1770	1863	1583	1770	3504	0	3433	1863	1583
Flt Permitted	0.148			0.174			0.950			0.950		
Satd. Flow (perm)	276	3465	0	324	1863	1583	1770	3504	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				349		7				296
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1086			1234			184			937	
Travel Time (s)		24.7			28.0			4.2			21.3	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Adj. Flow (vph)	435	794	128	69	495	414	162	1237	85	652	1360	655
Shared Lane Traffic (%)												
Lane Group Flow (vph)	435	922	0	69	495	414	162	1322	0	652	1360	655
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free						6
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	18.0	37.0		8.0	27.0		11.0	50.0		25.0	64.0	64.0
Total Split (%)	15.0%	30.8%		6.7%	22.5%		9.2%	41.7%		20.8%	53.3%	53.3%
Maximum Green (s)	14.0	33.0		4.0	23.0		7.0	46.0		21.0	60.0	60.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	41.0	33.0		27.0	23.0	120.0	7.0	46.0		21.0	60.0	60.0
Actuated g/C Ratio	0.34	0.28		0.22	0.19	1.00	0.06	0.38		0.18	0.50	0.50
v/c Ratio	1.62	0.96		0.57	1.39	0.26	1.57	0.98		1.09	1.46	0.70
Control Delay	322.8	62.8		49.5	227.7	0.4	335.9	57.2		108.9	240.3	16.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	322.8	62.8		49.5	227.7	0.4	335.9	57.2		108.9	240.3	16.4
LOS	F	E		D	F	A	F	E		F	F	B
Approach Delay		146.1			118.9			87.6			153.2	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~438	365		36	~510	0	~178	524		~292	~1441	209
Queue Length 95th (ft)	#388	290		50	#441	0	#207	382		228	#1022	146
Internal Link Dist (ft)		1006			1154			104			857	

Lanes, Volumes, Timings

4: Unser & Paradise

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	270			250		400	130			200		500
Base Capacity (vph)	268	963		121	357	1583	103	1347		600	931	939
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.62	0.96		0.57	1.39	0.26	1.57	0.98		1.09	1.46	0.70

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Pretimed

Maximum v/c Ratio: 1.62

Intersection Signal Delay: 131.5

Intersection LOS: F

Intersection Capacity Utilization 98.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Unser & Paradise

 ø1	 ø2 (R)	 ø3	 ø4
25 s	50 s	8 s	37 s
 ø5	 ø6 (R)	 ø7	 ø8
11 s	64 s	18 s	27 s

Lanes, Volumes, Timings

7: Access C & Paseo

6/13/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	978	57	113	340	57	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	150		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	1486			750	124	
Travel Time (s)	33.8			17.0	2.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1029	60	119	358	60	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1029	60	119	358	60	119
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	71.1%			ICU Level of Service C		
Analysis Period (min)	15					

Lanes, Volumes, Timings
17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	7	1180	19	8	24	620	550	22	7	678	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.994			0.992	
Flt Protected	0.950				0.966		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1799	1583	3433	3518	0	1770	3511	0
Flt Permitted	0.950				0.966		0.135			0.393		
Satd. Flow (perm)	1770	1508	1504	0	1799	1583	488	3518	0	732	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		518	518			118		4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	70	8	1405	23	10	29	738	655	26	8	807	43
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	70	711	702	0	33	29	738	681	0	8	850	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	38.0	38.0	38.0	20.0	20.0	20.0	26.0	54.0		8.0	36.0	
Total Split (%)	31.7%	31.7%	31.7%	16.7%	16.7%	16.7%	21.7%	45.0%		6.7%	30.0%	
Maximum Green (s)	34.0	34.0	34.0	16.0	16.0	16.0	22.0	50.0		4.0	32.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	28.3	28.3	28.3		7.5	7.5	58.4	56.9		36.8	32.7	
Actuated g/C Ratio	0.27	0.27	0.27		0.07	0.07	0.56	0.55		0.35	0.31	
v/c Ratio	0.15	0.90	0.89		0.25	0.13	0.83	0.35		0.03	0.77	
Control Delay	29.8	26.3	25.0		53.9	1.2	33.5	16.3		16.0	40.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	29.8	26.3	25.0		53.9	1.2	33.5	16.3		16.0	40.0	
LOS	C	C	C		D	A	C	B		B	D	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		25.9			29.2			25.2			39.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	36	148	137		23	0	200	145		3	299	
Queue Length 95th (ft)	68	283	270		51	0	#262	208		10	355	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	591	848	847		282	348	910	1929		299	1106	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.12	0.84	0.83		0.12	0.08	0.81	0.35		0.03	0.77	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 103.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 81.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Rainbow & Unser

 p1	 p2	 p4	 p8
8 s	54 s	38 s	20 s
 p5	 p6		
26 s	36 s		

Lanes, Volumes, Timings

21: Unser

6/13/2017

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	792	0	0	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	177		7058			184
Travel Time (s)	4.0		160.4			4.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	861	0	0	908
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	861	0	0	908
Sign Control	Free		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.3%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings

23: Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 				
Volume (vph)	0	0	0	0	0	0	0	524	0	0	601	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	0	0	0	3539	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	0	0	3539	0	0	1863	0
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	158			146			1351			4470		
Travel Time (s)	3.6			3.3			30.7			101.6		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	570	0	0	653	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	570	0	0	653	0
Sign Control	Free			Free			Free			Free		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	35.0%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings

26: Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 							
Volume (vph)	0	1025	0	0	332	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	3539	0	0	0	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	3539	0	0	0	0	0	0	0
Link Speed (mph)	30				30				30			
Link Distance (ft)	3812				274				171			
Travel Time (s)	86.6				6.2				3.9			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1114	0	0	361	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1114	0	0	361	0	0	0	0	0	0	0
Sign Control	Free				Free				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	57.3%				ICU Level of Service B							
Analysis Period (min)	15											

Lanes, Volumes, Timings

29: Unser & Access A

6/13/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	130	23	23	634	786	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	186			4470	670	
Travel Time (s)	4.2			101.6	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	137	24	24	667	827	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	137	24	24	667	827	137
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.2%			ICU Level of Service B		
Analysis Period (min)	15					

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	922	164	48	394	107	78	565	121	258	704	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.392			0.063			0.103			0.093		
Satd. Flow (perm)	730	1863	1583	117	1863	1583	192	1863	1583	173	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			100			78			43
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		760			3812			670			7058	
Travel Time (s)		17.3			86.6			15.2			160.4	
Confl. Peds. (#/hr)				7								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	971	173	51	415	113	82	595	127	272	741	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	971	173	51	415	113	82	595	127	272	741	69
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	67.0	67.0	67.0	67.0	67.0	67.0	8.0	43.0	43.0	18.0	53.0	53.0
Total Split (%)	52.3%	52.3%	52.3%	52.3%	52.3%	52.3%	6.3%	33.6%	33.6%	14.1%	41.4%	41.4%
Maximum Green (s)	63.0	63.0	63.0	63.0	63.0	63.0	4.0	39.0	39.0	14.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effect Green (s)	63.0	63.0	63.0	63.0	63.0	63.0	43.0	39.0	39.0	57.0	49.0	49.0
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.30	0.30	0.45	0.38	0.38
v/c Ratio	0.26	1.06	0.21	0.89	0.45	0.14	0.73	1.05	0.24	1.08	1.04	0.11
Control Delay	21.5	79.2	7.7	128.0	23.3	4.6	60.1	94.5	15.2	114.3	83.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.5	79.2	7.7	128.0	23.3	4.6	60.1	94.5	15.2	114.3	83.2	12.1
LOS	C	E	A	F	C	A	E	F	B	F	F	B
Approach Delay	64.8			28.9			78.5			86.5		
Approach LOS	E			C			E			F		
Queue Length 50th (ft)	45	~883	27	37	219	5	39	~536	29	~201	~662	13
Queue Length 95th (ft)	85	#1138	68	#126	307	37	#99	#764	79	#379	#902	45
Internal Link Dist (ft)	680			3732			590			6978		
Turn Bay Length (ft)	200				140	140			200	200		
Base Capacity (vph)	359	916	834	57	916	829	113	567	536	251	713	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	1.06	0.21	0.89	0.45	0.14	0.73	1.05	0.24	1.08	1.04	0.11

Intersection Summary

Area Type: Other

Cycle Length: 128

Actuated Cycle Length: 128

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 68.5

Intersection LOS: E

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

 ø1	 ø2	 ø4
18 s	43 s	67 s
 ø5	 ø6	 ø8
8 s	53 s	67 s

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	306	453	52	105	184	145	16	295	129	373	593	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.327			0.173			0.253			0.299		
Satd. Flow (perm)	609	1863	1583	322	1863	1583	471	1863	1583	557	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			191			155			366
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			1486			907			953	
Travel Time (s)		23.5			33.8			20.6			21.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	360	533	61	124	216	171	19	347	152	439	698	406
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	533	61	124	216	171	19	347	152	439	698	406
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	24.0	44.0	44.0	10.0	30.0		8.0	39.0	39.0	27.0	58.0	
Total Split (%)	20.0%	36.7%	36.7%	8.3%	25.0%		6.7%	32.5%	32.5%	22.5%	48.3%	
Maximum Green (s)	20.0	40.0	40.0	6.0	26.0		4.0	35.0	35.0	23.0	54.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	46.3	36.2	36.2	29.1	23.1	115.1	39.2	35.2	35.2	60.8	57.7	115.1
Actuated g/C Ratio	0.40	0.31	0.31	0.25	0.20	1.00	0.34	0.31	0.31	0.53	0.50	1.00
v/c Ratio	0.82	0.91	0.11	0.79	0.58	0.11	0.09	0.61	0.26	0.84	0.75	0.26
Control Delay	43.0	58.9	0.4	60.7	48.8	0.1	17.5	40.9	5.9	34.2	30.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	58.9	0.4	60.7	48.8	0.1	17.5	40.9	5.9	34.2	30.9	0.4
LOS	D	E	A	E	D	A	B	D	A	C	C	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		49.2			35.4			29.8			23.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	201	384	0	59	149	0	7	234	0	211	404	0
Queue Length 95th (ft)	#273	#500	0	#120	215	0	18	314	40	#291	580	0
Internal Link Dist (ft)		956			1406			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	447	650	629	157	422	1583	205	569	591	538	934	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.82	0.10	0.79	0.51	0.11	0.09	0.61	0.26	0.82	0.75	0.26

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 115.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 33.2

Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Paseo & Universe

 ø1	 ø2	 ø3	 ø4
27 s	39 s	10 s	44 s
 ø5	 ø6	 ø7	 ø8
8 s	58 s	24 s	30 s

Lanes, Volumes, Timings
1439: Kimmick & Paseo

6/13/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Volume (vph)	1439	7	214	505	32	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		125	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1770	3539	1770	1583
Flt Permitted			0.111		0.950	
Satd. Flow (perm)	3536	0	207	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					203
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			52	1225	
Travel Time (s)	12.5			1.2	27.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1635	8	243	574	36	206
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1643	0	243	574	36	206
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	36.0		11.0	47.0	21.0	21.0
Total Split (%)	52.9%		16.2%	69.1%	30.9%	30.9%
Maximum Green (s)	32.0		7.0	43.0	17.0	17.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Max	Max
Walk Time (s)	5.0			5.0	5.0	5.0
Flash Dont Walk (s)	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effect Green (s)	32.0		43.0	43.0	17.0	17.0
Actuated g/C Ratio	0.47		0.63	0.63	0.25	0.25
v/c Ratio	0.99		0.84	0.26	0.08	0.38
Control Delay	38.9		38.3	5.8	20.2	6.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.9		38.3	5.8	20.2	6.0
LOS	D		D	A	C	A

Lanes, Volumes, Timings
1439: Kimmick & Paseo

6/13/2017

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	38.9			15.5	8.1	
Approach LOS	D			B	A	
Queue Length 50th (ft)	336		48	47	12	1
Queue Length 95th (ft)	#490		#157	67	31	44
Internal Link Dist (ft)	468			1	1145	
Turn Bay Length (ft)			160		125	
Base Capacity (vph)	1664		291	2237	442	548
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	0.99		0.84	0.26	0.08	0.38

Intersection Summary

Area Type: Other

Cycle Length: 68

Actuated Cycle Length: 68

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 29.1

Intersection LOS: C

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1439: Kimmick & Paseo

↖ ø2	↘ ø3	→ ø4
21 s	11 s	36 s
	↙ ø8	
	47 s	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	1311	314	88	375	161	250	540	332	928	955	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		265	650		450	150		200	350		0
Storage Lanes	1		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3500	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			244			164			155			8
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5784			1445			1384			1426	
Travel Time (s)		131.5			32.8			31.5			32.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	73	1338	320	90	383	164	255	551	339	947	974	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	1338	320	90	383	164	255	551	339	947	1052	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	
Total Split (s)	14.0	50.0	50.0	8.0	44.0	44.0	15.0	24.0	24.0	38.0	47.0	
Total Split (%)	11.7%	41.7%	41.7%	6.7%	36.7%	36.7%	12.5%	20.0%	20.0%	31.7%	39.2%	
Maximum Green (s)	10.0	46.0	46.0	4.0	40.0	40.0	11.0	20.0	20.0	34.0	43.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	9.0	46.0	46.0	4.0	43.1	43.1	11.0	20.0	20.0	34.0	43.0	
Actuated g/C Ratio	0.08	0.38	0.38	0.03	0.36	0.36	0.09	0.17	0.17	0.28	0.36	
v/c Ratio	0.55	0.99	0.42	0.79	0.30	0.24	0.81	0.94	0.86	0.97	0.83	
Control Delay	69.3	58.5	8.6	99.1	29.4	5.2	74.2	73.8	48.2	66.2	42.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.3	58.5	8.6	99.1	29.4	5.2	74.2	73.8	48.2	66.2	42.0	
LOS	E	E	A	F	C	A	E	E	D	E	D	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		49.7			33.0			66.3			53.5	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	55	534	38	36	116	0	101	224	145	374	387	
Queue Length 95th (ft)	106	#697	109	#83	158	47	#167	#331	#311	#511	476	
Internal Link Dist (ft)		5704			1365			1304			1346	
Turn Bay Length (ft)	140		265	650		450	150		200	350		
Base Capacity (vph)	147	1356	757	114	1270	673	314	589	393	972	1260	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.99	0.42	0.79	0.30	0.24	0.81	0.94	0.86	0.97	0.83	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 52.6

Intersection LOS: D

Intersection Capacity Utilization 94.3%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Paseo & Golf Course

 ø1	 ø2	 ø3	 ø4
38 s	24 s	8 s	50 s
 ø5	 ø6	 ø7	 ø8
15 s	47 s	14 s	44 s

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	978	57	113	340	57	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1029	60	119	358	60	119
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1029	0	1625	1029
Stage 1	-	-	-	-	1029	-
Stage 2	-	-	-	-	596	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	675	-	113	284
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	550	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	675	-	93	284
Mov Cap-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	453	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.9		26.8	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	220	284	-	-	675	-
HCM Lane V/C Ratio	0.273	0.419	-	-	0.176	-
HCM Control Delay (s)	27.4	26.5	-	-	11.5	-
HCM Lane LOS	D	D	-	-	B	-
HCM 95th %tile Q(veh)	1.1	2	-	-	0.6	-

Intersection

Int Delay, s/veh 6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1012	79	164	374	79	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	83	173	394	83	173

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1065
Stage 1	-	-	1065
Stage 2	-	-	739
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	654	87
Stage 1	-	-	331
Stage 2	-	-	472
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	654	~ 64
Mov Cap-2 Maneuver	-	-	184
Stage 1	-	-	331
Stage 2	-	-	347

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	39.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	184	270	-	-	654	-
HCM Lane V/C Ratio	0.452	0.639	-	-	0.264	-
HCM Control Delay (s)	39.8	39.3	-	-	12.5	-
HCM Lane LOS	E	E	-	-	B	-
HCM 95th %tile Q(veh)	2.1	4	-	-	1.1	-

Notes

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

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	130	23	23	634	786	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	24	24	667	827	137
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1543	827	827	0	-	0
Stage 1	827	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 126	371	804	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 122	371	804	-	-	-
Mov Cap-2 Maneuver	261	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	30.4	0.3		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	804	-	261	371	-	-
HCM Lane V/C Ratio	0.03	-	0.524	0.065	-	-
HCM Control Delay (s)	9.6	-	33	15.4	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.8	0.2	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Lanes, Volumes, Timings
17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	3	432	18	5	18	1001	733	17	11	682	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		800	0		80	150		0	200		0
Storage Lanes	1		1	0		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.852	0.850			0.850		0.997			0.988	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1770	1508	1504	0	1792	1583	3433	3529	0	1770	3497	0
Flt Permitted	0.950				0.962		0.157			0.350		
Satd. Flow (perm)	1770	1508	1504	0	1792	1583	567	3529	0	652	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		230	230			155		2			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1130			880			1520			1351	
Travel Time (s)		25.7			20.0			34.5			30.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	52	3	460	19	5	19	1065	780	18	12	726	64
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	52	233	230	0	24	19	1065	798	0	12	790	0
Turn Type	Split	NA	Perm	Split	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			3	2			6		
Detector Phase	4	4	4	8	8	3	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	31.0	52.0		8.0	29.0	
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%	25.8%	43.3%		6.7%	24.2%	
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	27.0	48.0		4.0	25.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)	9.1	9.1	9.1		6.8	5.6	57.5	56.2		29.8	25.7	
Actuated g/C Ratio	0.11	0.11	0.11		0.08	0.07	0.70	0.69		0.36	0.31	
v/c Ratio	0.26	0.63	0.62		0.16	0.08	0.78	0.33		0.04	0.72	
Control Delay	39.3	13.8	13.4		42.5	0.6	22.5	9.0		12.7	32.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.3	13.8	13.4		42.5	0.6	22.5	9.0		12.7	32.0	
LOS	D	B	B		D	A	C	A		B	C	

Lanes, Volumes, Timings

17: Rainbow & Unser

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.2			24.0			16.7			31.7	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	22	1	0		10	0	134	40		2	154	
Queue Length 95th (ft)	65	73	70		41	0	#444	234		12	#378	
Internal Link Dist (ft)		1050			800			1440			1271	
Turn Bay Length (ft)	300		800			80	150			200		
Base Capacity (vph)	354	486	485		358	440	1366	2419		292	1099	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.15	0.48	0.47		0.07	0.04	0.78	0.33		0.04	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 82

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Rainbow & Unser

 p1	 p2	 p3	 p4	 p8
8 s	52 s	20 s	20 s	20 s
 p5	 p6			
31 s	29 s			

Lanes, Volumes, Timings

4: Unser & Paradise

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	203	264	37	50	453	451	96	462	41	296	721	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	250		400	130		80	200		500
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.981				0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	1863	1583	1770	3497	0	3433	1863	1583
Flt Permitted	0.111			0.556			0.950			0.950		
Satd. Flow (perm)	207	3472	0	1036	1863	1583	1770	3497	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				485		9				234
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1086			1234			184			937	
Travel Time (s)		24.7			28.0			4.2			21.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	218	284	40	54	487	485	103	497	44	318	775	413
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	324	0	54	487	485	103	541	0	318	775	413
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free						6
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	14.0	42.0		8.0	36.0		12.0	49.0		21.0	58.0	58.0
Total Split (%)	11.7%	35.0%		6.7%	30.0%		10.0%	40.8%		17.5%	48.3%	48.3%
Maximum Green (s)	10.0	38.0		4.0	32.0		8.0	45.0		17.0	54.0	54.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	46.0	38.0		36.0	32.0	120.0	8.0	45.0		17.0	54.0	54.0
Actuated g/C Ratio	0.38	0.32		0.30	0.27	1.00	0.07	0.38		0.14	0.45	0.45
v/c Ratio	1.04	0.29		0.16	0.98	0.31	0.87	0.41		0.65	0.92	0.49
Control Delay	103.9	30.5		25.8	80.4	0.5	110.0	28.4		55.8	49.4	11.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	103.9	30.5		25.8	80.4	0.5	110.0	28.4		55.8	49.4	11.6
LOS	F	C		C	F	A	F	C		E	D	B
Approach Delay		60.0			39.7			41.4			40.4	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	~131	95		26	376	0	81	158		121	554	88
Queue Length 95th (ft)	#292	134		54	#594	0	#187	208		171	#812	176
Internal Link Dist (ft)		1006			1154			104			857	

Lanes, Volumes, Timings

4: Unser & Paradise

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	270			250		400	130			200		500
Base Capacity (vph)	209	1108		335	496	1583	118	1317		486	838	841
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.04	0.29		0.16	0.98	0.31	0.87	0.41		0.65	0.92	0.49

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 43.2

Intersection LOS: D

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

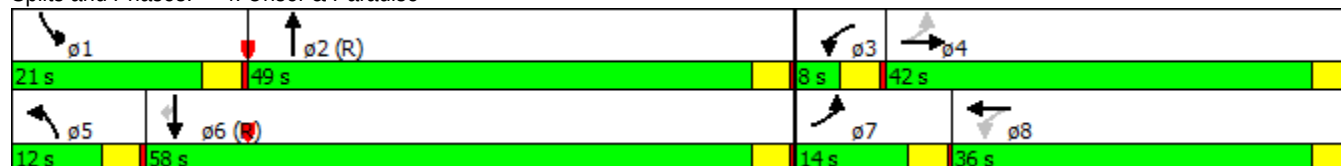
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Unser & Paradise



Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	685	114	150	1084	210	117	626	62	209	643	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	140		140	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.055			0.262			0.138			0.129		
Satd. Flow (perm)	102	1863	1583	488	1863	1583	257	1863	1583	240	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			98			45			63
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		770			1906			670			7058	
Travel Time (s)		17.5			43.3			15.2			160.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	119	692	115	152	1095	212	118	632	63	211	649	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	692	115	152	1095	212	118	632	63	211	649	112
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	77.0	77.0	77.0	77.0	77.0	77.0	8.0	33.0	33.0	10.0	35.0	35.0
Total Split (%)	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%	6.7%	27.5%	27.5%	8.3%	29.2%	29.2%
Maximum Green (s)	73.0	73.0	73.0	73.0	73.0	73.0	4.0	29.0	29.0	6.0	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effect Green (s)	73.0	73.0	73.0	73.0	73.0	73.0	33.0	29.0	29.0	37.0	31.0	31.0
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.28	0.24	0.24	0.31	0.26	0.26
v/c Ratio	1.92	0.61	0.11	0.51	0.97	0.21	0.98	1.40	0.15	1.41	1.35	0.25
Control Delay	489.1	17.6	2.0	21.0	43.1	6.0	112.9	230.3	15.9	247.1	206.4	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	489.1	17.6	2.0	21.0	43.1	6.0	112.9	230.3	15.9	247.1	206.4	18.2
LOS	F	B	A	C	D	A	F	F	B	F	F	B

Lanes, Volumes, Timings

1: Unser & Paseo

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		76.2			35.4			196.7			193.6	
Approach LOS		E			D			F			F	
Queue Length 50th (ft)	~94	314	0	63	757	35	66	~656	11	~167	~658	29
Queue Length 95th (ft)	#219	432	23	131	#1108	70	#177	#883	48	#328	#887	77
Internal Link Dist (ft)		690			1826			590			6978	
Turn Bay Length (ft)	200		200	140		140	200		200	200		200
Base Capacity (vph)	62	1133	1008	296	1133	1001	121	450	416	150	481	455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.92	0.61	0.11	0.51	0.97	0.21	0.98	1.40	0.15	1.41	1.35	0.25

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.92

Intersection Signal Delay: 112.8

Intersection LOS: F

Intersection Capacity Utilization 121.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Unser & Paseo

 ø1	 ø2	 ø4
10 s	33 s	77 s
 ø5	 ø6	 ø8
8 s	35 s	77 s

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	238	323	9	129	454	519	13	637	81	277	415	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		140	200		200	110		70	500		500
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.119			0.308			0.493			0.076		
Satd. Flow (perm)	222	1863	1583	574	1863	1583	918	1863	1583	142	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			309			118			316
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1036			1476			907			953	
Travel Time (s)		23.5			33.5			20.6			21.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	248	336	9	134	473	541	14	664	84	289	432	316
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	336	9	134	473	541	14	664	84	289	432	316
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2		2	6		Free
Detector Phase	7	4	4	3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	16.0	37.0	37.0	14.0	35.0		8.0	50.0	50.0	19.0	61.0	
Total Split (%)	13.3%	30.8%	30.8%	11.7%	29.2%		6.7%	41.7%	41.7%	15.8%	50.8%	
Maximum Green (s)	12.0	33.0	33.0	10.0	31.0		4.0	46.0	46.0	15.0	57.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	45.4	33.5	33.5	40.5	31.0	120.0	50.0	46.0	46.0	65.0	61.8	120.0
Actuated g/C Ratio	0.38	0.28	0.28	0.34	0.26	1.00	0.42	0.38	0.38	0.54	0.52	1.00
v/c Ratio	1.04	0.65	0.02	0.47	0.98	0.34	0.03	0.93	0.12	1.03	0.45	0.20
Control Delay	100.4	45.0	0.1	29.9	81.8	0.6	13.9	56.5	2.0	96.4	21.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.4	45.0	0.1	29.9	81.8	0.6	13.9	56.5	2.0	96.4	21.0	0.3
LOS	F	D	A	C	F	A	B	E	A	F	C	A

Lanes, Volumes, Timings

2: Paseo & Universe

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		67.5			37.5			49.8			35.7	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	~157	231	0	67	365	0	5	487	0	~191	192	0
Queue Length 95th (ft)	#326	335	0	113	#582	0	15	#724	15	#369	315	0
Internal Link Dist (ft)		956			1396			827			873	
Turn Bay Length (ft)	140		140	200		200	110		70	500		500
Base Capacity (vph)	239	519	526	295	481	1583	410	714	679	280	959	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.65	0.02	0.45	0.98	0.34	0.03	0.93	0.12	1.03	0.45	0.20

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 44.6

Intersection LOS: D

Intersection Capacity Utilization 99.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Paseo & Universe

 ø1	 ø2	 ø3	 ø4
19 s	50 s	14 s	37 s
 ø5	 ø6	 ø7	 ø8
8 s	61 s	16 s	35 s

Lanes, Volumes, Timings

6: Kimmick & Paseo

6/13/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↱	↑↑	↱	↱
Volume (vph)	774	11	245	1229	141	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		125	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3532	0	1770	3539	1770	1583
Flt Permitted			0.188		0.950	
Satd. Flow (perm)	3532	0	350	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2					391
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			52	1225	
Travel Time (s)	12.5			1.2	27.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	880	12	278	1397	160	391
Shared Lane Traffic (%)						
Lane Group Flow (vph)	892	0	278	1397	160	391
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	23.0		15.0	38.0	22.0	22.0
Total Split (%)	38.3%		25.0%	63.3%	36.7%	36.7%
Maximum Green (s)	19.0		11.0	34.0	18.0	18.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Walk Time (s)	5.0			5.0	5.0	5.0
Flash Dont Walk (s)	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effect Green (s)	17.2		30.1	30.1	10.0	10.0
Actuated g/C Ratio	0.36		0.62	0.62	0.21	0.21
v/c Ratio	0.71		0.58	0.63	0.44	0.61
Control Delay	17.9		11.1	7.6	21.7	7.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	17.9		11.1	7.6	21.7	7.1
LOS	B		B	A	C	A

Lanes, Volumes, Timings

6: Kimmick & Paseo

6/13/2017

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	17.9			8.2	11.3	
Approach LOS	B			A	B	
Queue Length 50th (ft)	107		27	101	41	0
Queue Length 95th (ft)	194		87	196	85	51
Internal Link Dist (ft)	468			1	1145	
Turn Bay Length (ft)			160		125	
Base Capacity (vph)	1429		549	2551	675	846
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	0.62		0.51	0.55	0.24	0.46

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 48.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 11.5

Intersection LOS: B

Intersection Capacity Utilization 53.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Kimmick & Paseo

 p2	 p3	 p4
22 s	15 s	23 s
	 p8	
	38 s	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	729	378	662	1074	824	376	1080	307	432	885	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		265	650		450	150		200	350		0
Storage Lanes	1		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3454	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			220			263			208		19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5784			1445			1384			1426	
Travel Time (s)		131.5			32.8			31.5			32.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	138	744	386	676	1096	841	384	1102	313	441	903	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	744	386	676	1096	841	384	1102	313	441	1073	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	
Total Split (s)	13.0	33.0	33.0	28.0	48.0	48.0	17.0	40.0	40.0	19.0	42.0	
Total Split (%)	10.8%	27.5%	27.5%	23.3%	40.0%	40.0%	14.2%	33.3%	33.3%	15.8%	35.0%	
Maximum Green (s)	9.0	29.0	29.0	24.0	44.0	44.0	13.0	36.0	36.0	15.0	38.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	9.0	29.0	29.0	24.0	44.0	44.0	13.0	36.0	36.0	15.0	38.0	
Actuated g/C Ratio	0.08	0.24	0.24	0.20	0.37	0.37	0.11	0.30	0.30	0.12	0.32	
v/c Ratio	1.05	0.87	0.70	0.99	0.85	1.13	1.04	1.04	0.50	1.03	0.97	
Control Delay	144.5	55.8	25.1	79.0	42.2	98.8	108.1	79.4	14.6	102.2	60.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	144.5	55.8	25.1	79.0	42.2	98.8	108.1	79.4	14.6	102.2	60.8	
LOS	F	E	C	E	D	F	F	E	B	F	E	

Lanes, Volumes, Timings

5: Paseo & Golf Course

6/13/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		56.1			70.0			74.2			72.9	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	~115	292	118	271	405	~617	~164	~484	61	~188	423	
Queue Length 95th (ft)	#248	#393	236	#395	497	#865	#264	#619	149	#292	#571	
Internal Link Dist (ft)		5704			1365			1304			1346	
Turn Bay Length (ft)	140		265	650		450	150		200	350		
Base Capacity (vph)	132	855	549	686	1297	747	371	1061	620	429	1106	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.05	0.87	0.70	0.99	0.85	1.13	1.04	1.04	0.50	1.03	0.97	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 69.2

Intersection LOS: E

Intersection Capacity Utilization 98.4%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Paseo & Golf Course

 ø1	 ø2	 ø3	 ø4
19 s	40 s	28 s	33 s
 ø5	 ø6	 ø7	 ø8
17 s	42 s	13 s	48 s

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	663	58	116	1058	58	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	670	59	117	1069	59	117

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	670	0	1973	670
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	1303	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	920	-	68	457
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	920	-	59	457
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	222	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	23.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	457	-	-	920	-
HCM Lane V/C Ratio	0.359	0.256	-	-	0.127	-
HCM Control Delay (s)	39	15.6	-	-	9.5	-
HCM Lane LOS	E	C	-	-	A	-
HCM 95th %tile Q(veh)	1.5	1	-	-	0.4	-

Intersection

Int Delay, s/veh 16.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	649	130	268	1044	130	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	656	131	271	1055	131	271

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	656
Stage 1	-	-	656
Stage 2	-	-	1596
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	931	~ 46
Stage 1	-	-	516
Stage 2	-	-	183
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	931	~ 33
Mov Cap-2 Maneuver	-	-	~ 104
Stage 1	-	-	516
Stage 2	-	-	~ 130

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	97.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	104	465	-	-	931	-
HCM Lane V/C Ratio	1.263	0.582	-	-	0.291	-
HCM Control Delay (s)	250.9	23	-	-	10.4	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	8.9	3.6	-	-	1.2	-

Notes

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

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	123	22	22	682	784	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	22	22	689	792	124
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1525	792	792	0	-	0
Stage 1	792	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	130	389	829	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	389	829	-	-	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	27.7		0.3		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	829	-	265	389	-	-
HCM Lane V/C Ratio	0.027	-	0.469	0.057	-	-
HCM Control Delay (s)	9.5	-	30	14.8	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.3	0.2	-	-