
MINOR STREET STOP AND ALL-WAY STOP CONTROLLED INTERSECTION LEVEL OF SERVICE
HIGHWAY CAPACITY MANUAL OPERATIONAL ANALYSIS METHOD

The Highway Capacity Manual (HCM) analysis method for evaluating minor street stop intersections is based on the average total delay for each impeded movement. For all-way stop controlled intersections it is based on the average total delay for the entire intersection. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The resulting delay is used to determine the level of service as shown in the following table.

Average Total Delay	Level of Service (LOS) Characteristics
0-10	LOS A – Little or no delay
>10 – 15	LOS B – Short traffic delay
>15 – 25	LOS C – Average traffic delay
>25 – 35	LOS D – Long traffic delays
>35 – 50	LOS E – Very long traffic delays
>50	LOS F – When the demand exceeds the capacity of the lane, extreme delays will be encountered and queuing may cause severe congestion to the intersection.

Source: Highway Capacity Manual 2000, Exhibit 17-22

County of San Diego
Measure of Significant Project Impacts

Roadway Segment LOS	Allowable Increase on Congested Segments				Intersection LOS	Allowable Increase at Congested Intersections	
	2-Lane Road	4-Lane Road	6-Lane Road	2-Lane Highway		Signalized	Unsignalized
LOS E	200 ADT	400 ADT	600 ADT	325 ADT	LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	100 ADT	200 ADT	300 ADT	225 ADT	LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

Note: A critical movement is one that is experiencing excessive queues.

2008 CMP Roadway Network



Table 2.3
CMP System Roadways

CMP Freeways:
Interstate 5 (I-5): Orange County Line to United States/Mexico Border
Interstate 8: Nimitz Boulevard to Imperial County Line
Interstate 15: Riverside County Line to I-5
Interstate 805: I-5 (North) to I-5 (South)
State Route 52 (SR 52): I-5 to SR 125
State Route 54: I-5 to Briarwood Road
State Route 56: I-5 to I-15
State Route 67: Maplevue Street to I-8
State Route 78: I-5 to North Broadway
State Route 94: I-5 to Avocado Boulevard
State Route 125: SR 54 to SR 52
State Route 125: SR 905 to San Miguel Road ¹
State Route 163: I-15 to I-5
State Route 905: Oro Vista Road to Otay Mesa Road
CMP Highways:
State Route 54: SR 94 to Grove Road
State Route 67: SR 78 to Maplevue Road
State Route 75: I-5 (North) to I-5 (South)
State Route 76: Coast Highway to SR 79
State Route 78: North Broadway to Imperial County Line
State Route 79: Riverside County Line to I-8
State Route 94: Avocado Boulevard to Old Highway 80
State Route 282: Alameda Boulevard to Orange Avenue
CMP Arterials:
(1) Manchester Avenue/El Camino Real: I-5 to SR 76/Mission Avenue
(2) Palomar Airport Road/San Marcos Boulevard: I-5 to SR 78
(3) Olivenhain Road/Rancho Santa Fe Road: El Camino Real to SR 78
(4) Centre City Parkway: I-15 (North) to I-15 (South)
(5) Scripps Poway Parkway: I-15 to SR 67
(6) La Jolla Village Drive/Miramar Road: I-5 to I-15
(7) Balboa Avenue: I-5 to I-15
(8) Sea World Drive/Friars Road/Mission Gorge Road/Woodside Avenue: I-5 to SR 67
(9) Fletcher Parkway/Broadway/E. Main Street: I-8 (West) to I-8 (East)
(10) Nimitz Boulevard/North Harbor Drive/Grape Hawthorne Streets/Pacific Highway/Harbor Drive: I-8 to I-5
(11) Otay Mesa Road-Interim State Route 905: SR 905 (West) to SR 905 (East) ²

¹ This portion of SR 125 is a privately-funded toll road that opened to traffic in November 2007. Currently, LOS data are not available.

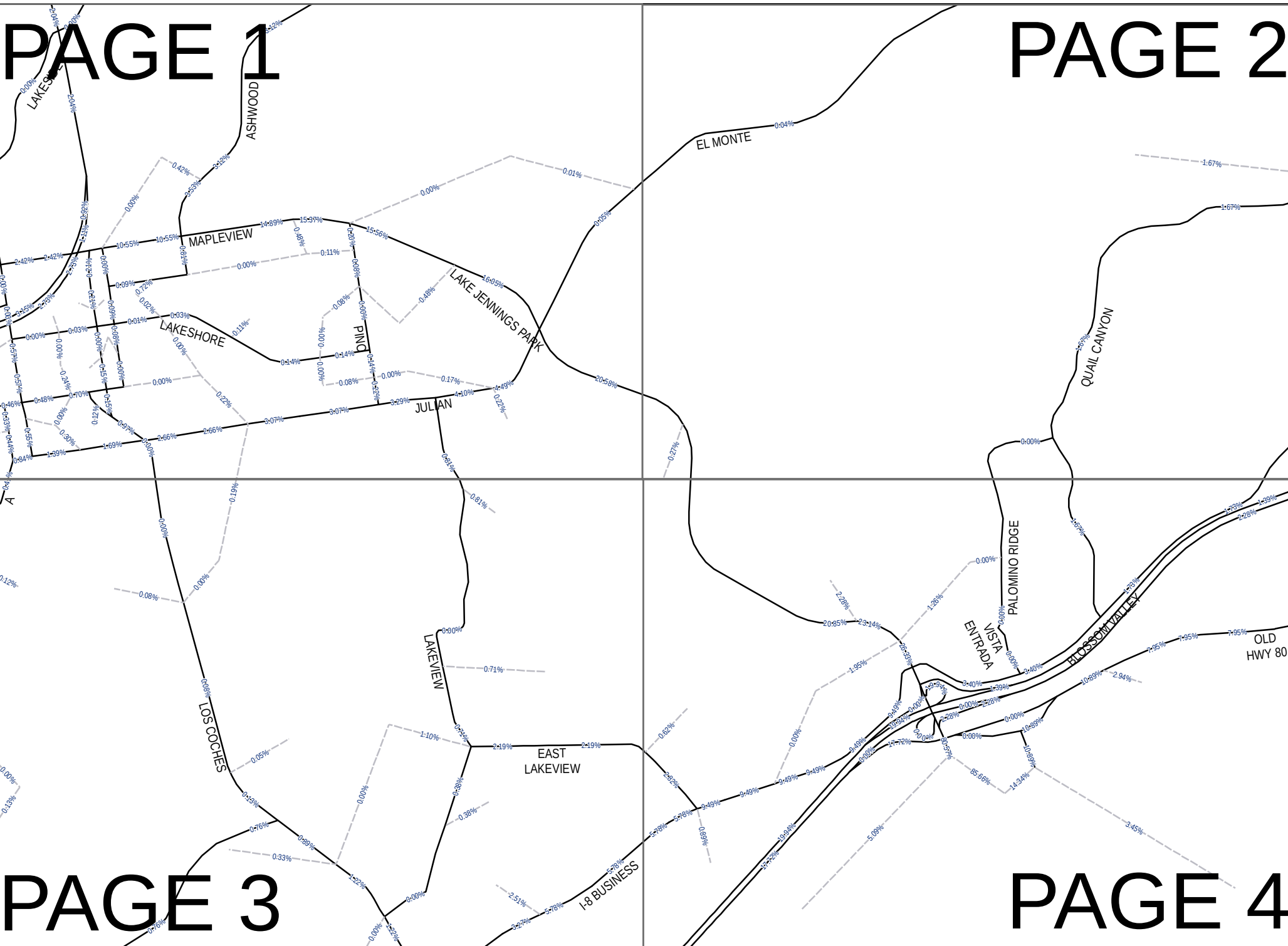
² This CMP Arterial is designated as an interim facility on the CMP network and will be replaced by a state highway following its construction.

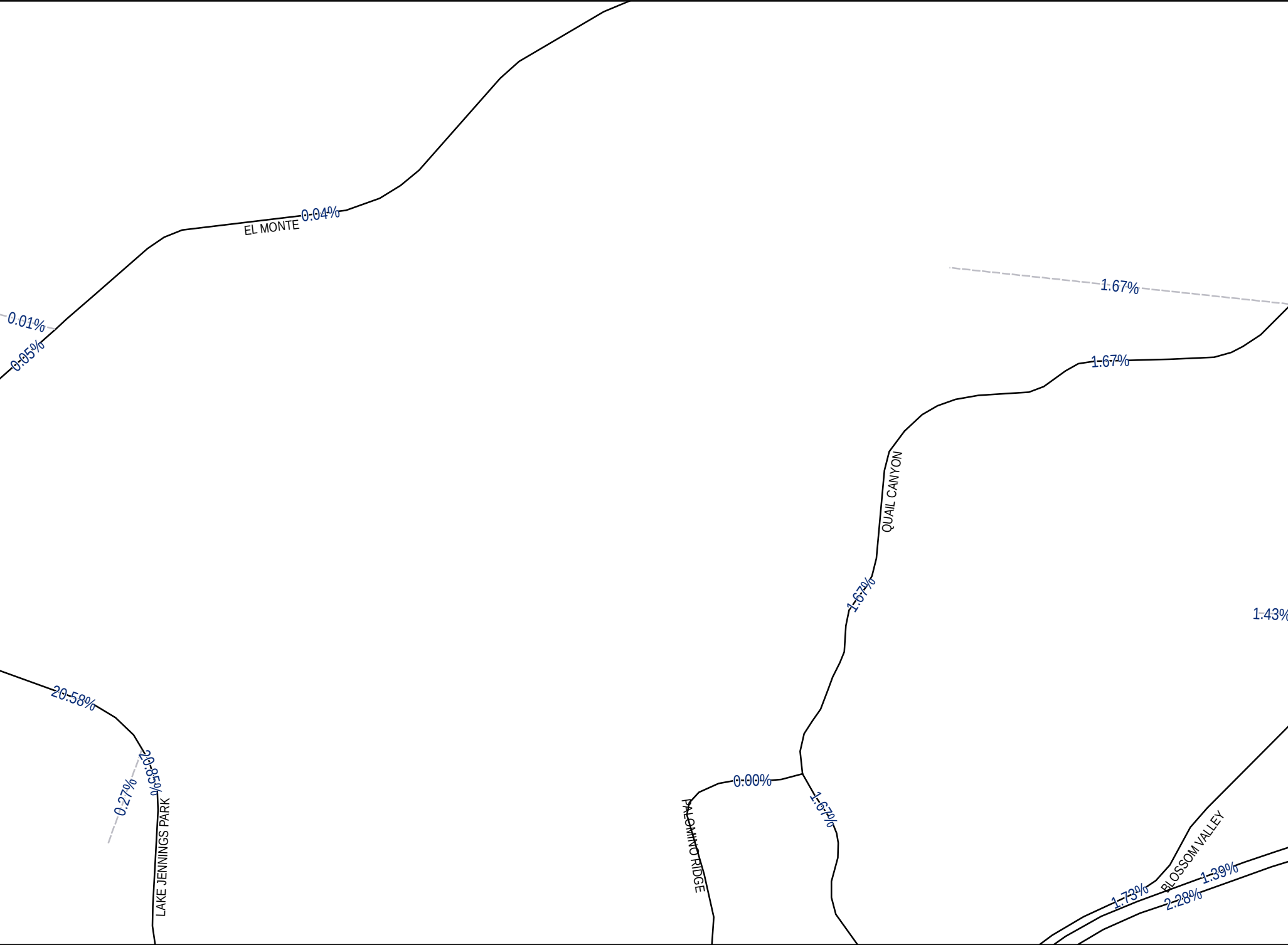
APPENDIX B

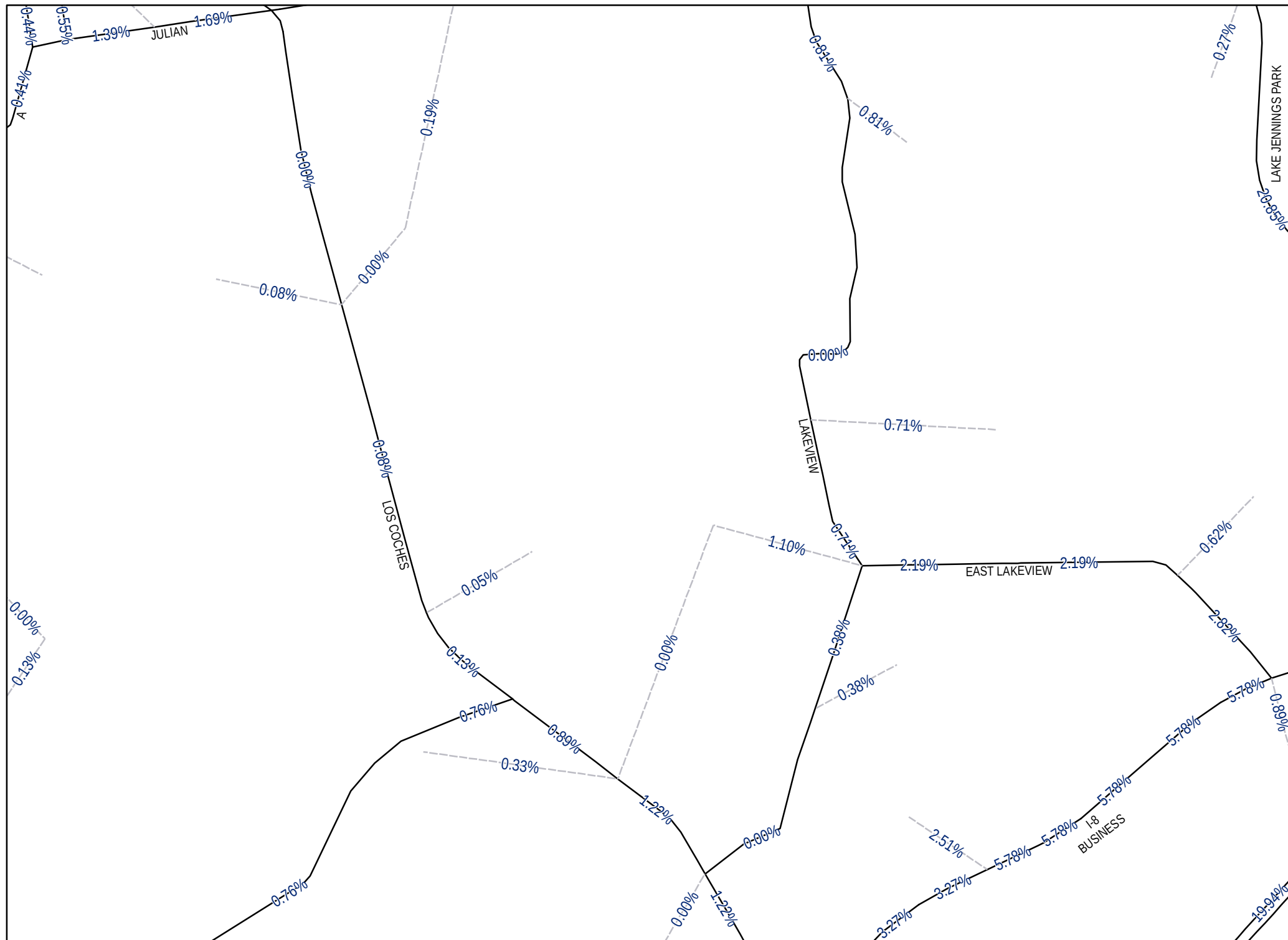
MODELING INFORMATION / TRIP GENERATION

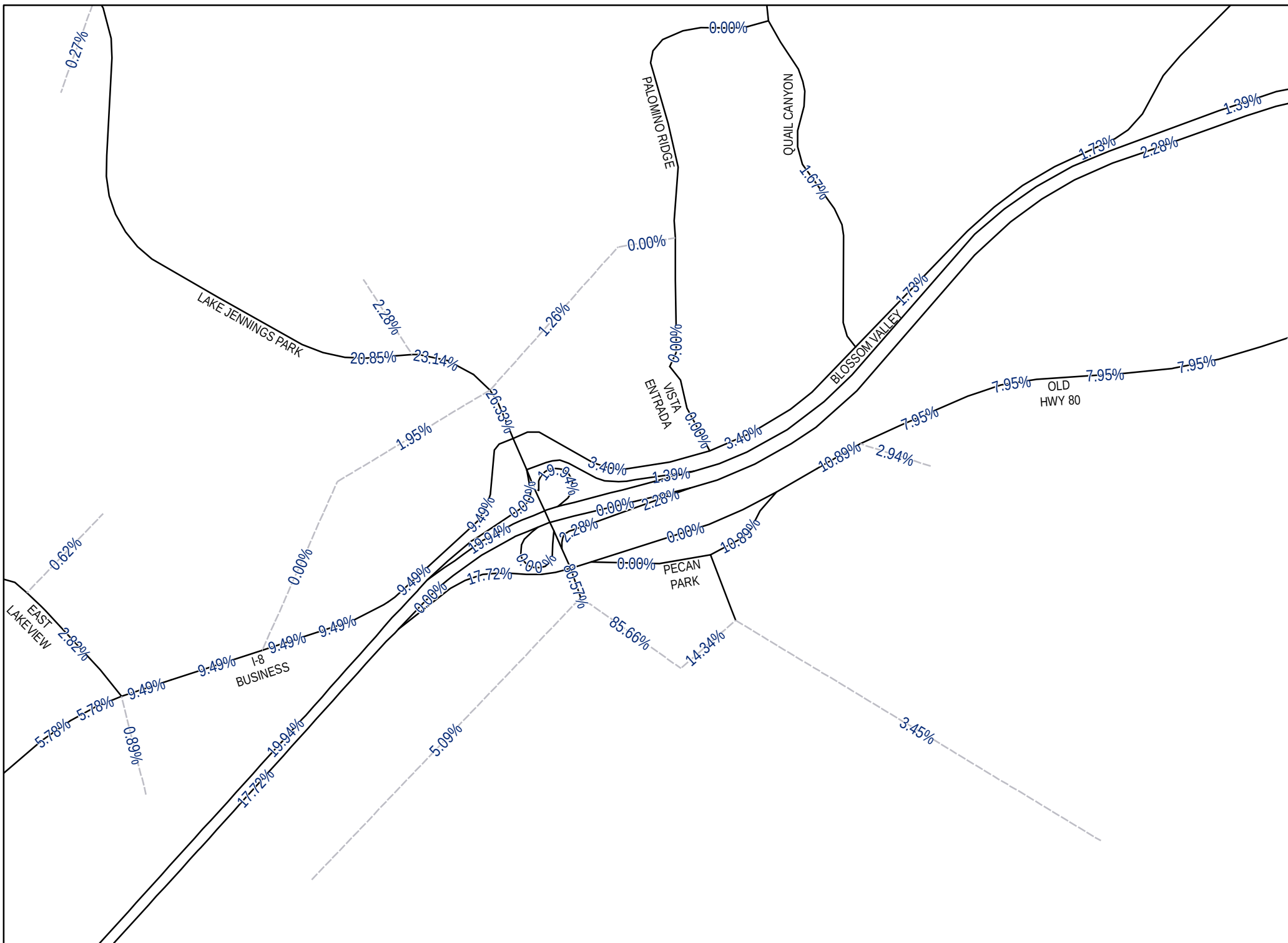
PAGE 1

PAGE 2









(NOT SO)
BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES
FOR THE SAN DIEGO REGION

APRIL 2002



401 B Street, Suite 800
San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a *guide* of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. *Always check with local jurisdictions for their preferred or applicable rates.*

LAND USE	TRIP CATEGORIES (PRIMARY:DIVERTED:PASS-BY)*	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M. Between 3:00-6:30 P.M.		TRIP LENGTH (Miles) ¹
AGRICULTURE (Open Space)	[80:18:2]	2/acre**			10.8
AIRPORT	[78:20:2]				12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft. **	5% (6:4)	4% (5:5)	
General Aviation		6/acre, 2/flight, 6/hased aircraft **	9% (7:3)	19% (5:5)	
Heliports		100/acre**			
AUTOMOBILE*					
Car Wash					
Automatic		900/site, 600/acre**	4% (5:5)	9% (5:5)	
Self-serve		100/wash stall**	4% (5:5)	8% (5:5)	
Gasoline	[21:51:28]				2.8
with/Food Mart		160/vehicle fueling space**	7% (5:5)	8% (5:5)	
with/Food Mart & Car Wash		155/vehicle fueling space**	8% (5:5)	9% (5:5)	
Older Service Station Design		150/vehicle fueling space, 900/station**	7% (5:5)	9% (5:5)	
Sales (Dealer & Repair)		50/1000 sq. ft., 300/acre, 60/service stall**	5% (7:3)	8% (4:6)	
Auto Repair Center		20/1000 sq. ft., 400/acre, 20/service stall*	8% (7:3)	11% (4:6)	
Auto Parts Sales		60/1000 sq. ft., **	4%	10%	
Quick Lube		40/service stall**	7% (6:4)	10% (5:5)	
Tire Store		25/1000 sq. ft., 30/service stall**	7% (6:4)	11% (5:5)	
CEMETERY		5/acre*			
CHURCH (or Synagogue)	[64:25:11]	9/1000 sq. ft., 30/acre** (quadruple rates for Sunday, or days of assembly)	5% (6:4)	8% (5:5)	5.1
COMMERCIAL/RETAIL*					
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3+ major stores)		35/1000 sq. ft., 400/acre*	4% (7:3)	10% (5:5)	
Regional Shopping Center	[54:35:11]	50/1000 sq. ft., 500/acre*	4% (7:3)	9% (5:5)	5.2
(40-80 acres, 400,000-800,000 sq. ft., w/usually 2+ major stores)					
Community Shopping Center	[47:31:22]	80/1000 sq. ft., 700/acre* **	4% (6:4)	10% (5:5)	3.6
(15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)					
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		120/1000 sq. ft., 1200/acre* **	4% (6:4)	10% (5:5)	
Commercial Shops	[45:40:15]				4.3
Specialty Retail/Strip Commercial		40/1000 sq. ft., 400/acre*	3% (6:4)	9% (5:5)	
Electronics Superstore		50/1000 sq. ft.**		10% (5:5)	
Factory Outlet		40/1000 sq. ft.**	3% (7:3)	9% (5:5)	
Supermarket		150/1000 sq. ft., 2000/acre* **	4% (7:3)	10% (5:5)	
Drugstore		90/1000 sq. ft.**	4% (6:4)	10% (5:5)	
Convenience Market (15-16 hours)		500/1000 sq. ft.**	8% (5:5)	8% (5:5)	
Convenience Market (24 hours)		700/1000 sq. ft.**	9% (5:5)	7% (5:5)	
Convenience Market (w/gasoline pumps)		850/1000 sq. ft., 550/vehicle fueling space**	6% (5:5)	7% (5:5)	
Discount Club		60/1000 sq. ft., 600/acre* **	1% (7:3)	9% (5:5)	
Discount Store		60/1000 sq. ft., 600/acre**	3% (6:4)	8% (5:5)	
Furniture Store		6/1000 sq. ft., 100/acre**	4% (7:3)	9% (5:5)	
Lumber Store		30/1000 sq. ft., 150/acre**	7% (6:4)	9% (5:5)	
Home Improvement Superstore		40/1000 sq. ft.**	8% (6:4)	8% (5:5)	
Hardware/Paint Store		60/1000 sq. ft., 600/acre**	2% (6:4)	9% (5:5)	
Garden Nursery		40/1000 sq. ft., 90/acre**	3% (6:4)	10% (5:5)	
Mixed Use: Commercial (w/supermarket)/Residential		110/1000 sq. ft., 2000/acre* (commercial only) 15/dwelling unit, 200/acre* (residential only)	3% (6:4) 9%	9% (5:5) 13% (6:4)	
EDUCATION					
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10% (8:2)	9% (3:7)	8.9
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre* **	12% (8:2)	9% (6:4)	9.0
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre* **	20% (7:3)	10% (4:6)	4.8
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft. 50/acre**	30% (6:4)	9% (4:6)	5.0
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre* **	32% (6:4)	9% (4:6)	3.4
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.**	17% (5:5)	18% (5:5)	3.7
FINANCIAL*	[35:42:23]				3.4
Bank (Walk-in only)		150/1000 sq. ft., 1000/acre* **	4% (7:3)	8% (4:6)	
with Drive-Through		200/1000 sq. ft., 1500/acre*	5% (6:4)	10% (5:5)	
Drive-Through only		250 (125 one-way)/lane*	3% (5:5)	13% (5:5)	
Savings & Loan		60/1000 sq. ft., 600/acre**	2%	9%	
Drive-Through only		100 (50 one-way)/lane**	4%	15%	
HOSPITAL	[73:25:2]				8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8% (7:3)	10% (4:6)	
Convalescent/Nursing		3/bed**	7% (6:4)	7% (4:6)	
INDUSTRIAL					
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre* **	12% (8:2)	12% (2:8)	9.0
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre**	11% (9:1)	12% (2:8)	
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14% (8:2)	15% (3:7)	11.7
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19% (9:1)	20% (2:8)	
Warehousing		5/1000 sq. ft., 60/acre**	13% (7:3)	15% (4:6)	
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	6% (5:5)	9% (5:5)	
Science Research & Development		8/1000 sq. ft., 80/acre*	16% (9:1)	14% (1:9)	
Landfill & Recycling Center		6/acre	11% (5:5)	10% (4:6)	

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista and County of San Diego.
ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

LAND USE	TRIP CATEGORIES (PRIMARY:DIVERTED:PASS-BY)*	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M. Between 3:00-6:30 P.M.		TRIP LENGTH (Miles) ¹		
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre**	2%	(7:3)	10% (5:5)	3.9	
LODGING	[58:38:4]					7.6	
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	6%	(6:4)	8%	(6:4)	
Motel		9/occupied room, 200/acre*	8%	(4:6)	9%	(6:4)	
Resort Hotel		8/occupied room, 100/acre*	5%	(6:4)	7%	(4:6)	
Business Hotel		7/occupied room**	8%	(4:6)	9%	(6:4)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9%	(9:1)	10%	(2:8)	11.2
OFFICE							
Standard Commercial Office	[77:19:4]	20/1000 sq. ft., 300/acre*	14%	(9:1)	13%	(2:8)	8.8
(less than 100,000 sq. ft.)							
Large (High-Rise) Commercial Office	[82:15:3]	17/1000 sq. ft., 600/acre*	13%	(9:1)	14%	(2:8)	10.0
(more than 100,000 sq. ft., 6+ stories)							
Office Park (400,000+ sq. ft.)		12/1000 sq. ft., 200/acre* **	13%	(9:1)	13%	(2:8)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15%	(9:1)	15%	(2:8)	
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17%	(9:1)	16%	(1:9)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.**	9%	(9:1)	12%	(3:7)	6.0
Post Office							
Central/Walk-In Only		90/1000 sq. ft.**	5%		7%		
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	6%	(6:4)	9%	(5:5)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	7%	(5:5)	10%	(5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7%	(5:5)	12%	(5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre**	6%	(6:4)	10%	(4:6)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	6%	(8:2)	11%	(3:7)	6.4
PARKS	[66:28:6]						
City (developed w/meeting rooms and sports facilities)		50/acre*	4%		8%		
Regional (developed)		20/acre*	13%	(5:5)	9%	(5:5)	
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site* **					
State (average 1000 acres)		1/acre, 10/picnic site**					
Amusement (Theme)		80/acre, 130/acre (summer only)* **			6%	(6:4)	
San Diego Zoo		115/acre*					
Sea World		80/acre*					
RECREATION							
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*				6.3	
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*					
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane **	7%	(7:3)	11%	(4:6)	
Campground		4/campsite**	4%		8%		
Golf Course		7/acre, 40/hole, 700/course* **	7%	(8:2)	9%	(3:7)	
Driving Range only		70/acre, 14/tee box*	3%	(7:3)	9%	(5:5)	
Marinas		4/berth, 20/acre* **	3%	(3:7)	7%	(6:4)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2%		6%		
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4%	(6:4)	9%	(6:4)	
Tennis Courts		16/acre, 30/court**	5%		11%	(5:5)	
Sports Facilities							
Outdoor Stadium		50/acre, 0.2/seat*					
Indoor Arena		30/acre, 0.1/seat*					
Racetrack		40/acre, 0.6/seat*					
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	12%		8%	(6:4)	6.1
RESIDENTIAL	[86:11:3]						
Estate, Urban or Rural		12/dwelling unit**	8%	(3:7)	10%	(7:3)	7.9
(average 1-2 DU/acre)							
Single Family Detached		10/dwelling unit**	8%	(3:7)	10%	(7:3)	
(average 3-6 DU/acre)							
Condominium		8/dwelling unit**	8%	(2:8)	10%	(7:3)	
(or any multi-family 6-20 DU/acre)							
Apartment		6/dwelling unit**	8%	(2:8)	9%	(7:3)	
(or any multi-family units more than 20 DU/acre)							
Military Housing (off-base, multi-family)							
(less than 6 DU/acre)		8/dwelling unit	7%	(3:7)	9%	(6:4)	
(6-20 DU/acre)		6/dwelling unit	7%	(3:7)	9%	(6:4)	
Mobile Home							
Family		5/dwelling unit, 40/acre*	8%	(3:7)	11%	(6:4)	
Adults Only		3/dwelling unit, 20/acre*	9%	(3:7)	10%	(6:4)	
Retirement Community		4/dwelling unit**	5%	(4:6)	7%	(6:4)	
Congregate Care Facility		2.5/dwelling unit**	4%	(6:4)	8%	(5:5)	
RESTAURANT ²	[51:37:12]					4.7	
Quality		100/1000 sq. ft., 3/seat, 500/acre* **	7%	(6:4)	8%	(7:3)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre* **	8%	(5:5)	8%	(6:4)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre* **	7%	(5:5)	7%	(5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.**	5%	(6:4)	7%	(5:5)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9%	(6:4)	3%	(3:7)	
TRANSPORTATION							
Bus Depot		25/1000 sq. ft.**					
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre**	9%	(4:6)	8%	(5:5)	
Waterport/Marine Terminal		170/berth, 12/acre**					
Transit Station (Light Rail w/parking)		300/acre, 2 ^{1/2} /parking space (4/occupied)* **	14%	(7:3)	15%	(3:7)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14%	(7:3)	15%	(3:7)	

* Primary source: San Diego Traffic Generators.

* Other sources: ITE Trip Generation Report (6th Edition), Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

* Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG Analysis of Trip Diversion, revised November, 1990):

PRIMARY - one trip directly between origin and primary destination.

DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.

PASS-BY - undiverted or diverted < 1 mile.

¹ Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

² Fitted curve equation: $\ln(T) = 0.502 \ln(x) + 6.945$ } T = total trips, x = 1,000 sq. ft.

³ Fitted curve equation: $\ln(T) = 0.756 \ln(x) + 3.950$ }

⁴ Fitted curve equation: $\ln = -2.169 \ln(d) + 12.85$ } (= trips/DU, d = density (DU/acre), DU = dwelling unit

⁵ Suggested PASS-BY (undiverted or diverted < 1 mile) percentages for trip rate reductions only during P.M. peak period (based on combination of local data review and other sources **):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community	30%
Neighborhood	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

⁶ Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

Growth multiplier factors

	<i>full period growth</i>	<i>yrs</i>	<i>2008- 2035</i>		<i>perc. Growth 2014- 2017</i>	<i>2017 percent over base</i>	<i>2017 mult. factor</i>
<i>streets</i>	<i>2008- 2035</i>		<i>2035</i>	<i>per year</i>			
generally	145%	27		1.68%	5.03%	105.033%	1.05033

Growth multiplier factors

	<i>full period growth</i>	<i>yrs</i>	<i>2008- 2035</i>		<i>perc. Growth 2014- 2035</i>	<i>BO percent over base</i>	<i>BO mult. factor</i>
<i>streets</i>	<i>2008- 2035</i>		<i>2035</i>	<i>per year</i>			
generally	145%	27		1.68%	35.23%	135.233%	1.35233

APPENDIX C

TRAFFIC COUNT DATA

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/23/14
THURSDAY

LOCATION: LAKESIDE
NORTH & SOUTH: LAKE JENNINGS
EAST & WEST: EL MONTE

PROJECT #: PTD14-0124-01
LOCATION #: 1
CONTROL: 4-WAY STOP

NOTES:

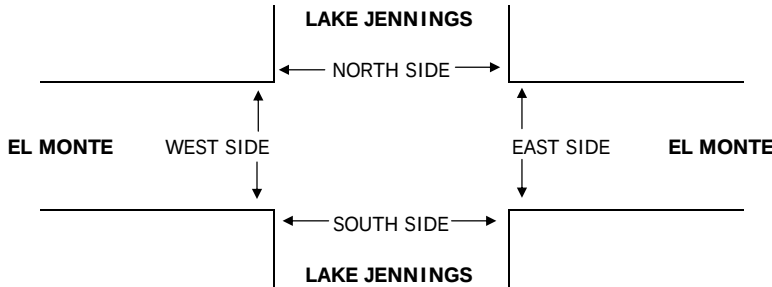
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND LAKE JENNINGS			SOUTHBOUND LAKE JENNINGS			EASTBOUND EL MONTE			WESTBOUND EL MONTE			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	0	1	2	0	0	1	1	0	1	1	

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		

AM	7:00 AM	27	80	3	4	51	4	20	7	26	13	10	4	249
	7:15 AM	46	105	8	4	52	5	16	7	18	9	9	5	284
	7:30 AM	22	106	4	6	54	2	11	7	29	5	11	9	266
	7:45 AM	42	102	7	3	41	5	10	5	23	7	7	5	257
	8:00 AM	35	73	3	3	47	3	4	6	32	15	7	6	234
	8:15 AM	29	61	5	3	56	12	13	5	27	6	7	7	231
	8:30 AM	19	63	6	6	51	1	11	4	26	10	6	9	212
	8:45 AM	17	53	3	3	44	1	11	5	22	2	4	4	169
	VOLUMES	237	643	39	32	396	33	96	46	203	67	61	49	1,902
	APPROACH %	26%	70%	4%	7%	86%	7%	28%	13%	59%	38%	34%	28%	
PM	APP/DEPART	919	/	788	461	/	666	345	/	117	177	/	331	0
	BEGIN PEAK HR	7:00 AM												
	VOLUMES	137	393	22	17	198	16	57	26	96	34	37	23	1,056
	APPROACH %	25%	71%	4%	7%	86%	7%	32%	15%	54%	36%	39%	24%	
	PEAK HR FACTOR	0.868			0.931			0.844			0.870			0.930
	APP/DEPART	552	/	473	231	/	328	179	/	65	94	/	190	0
	4:00 PM	28	63	8	9	101	6	7	11	41	10	3	10	297
	4:15 PM	36	72	4	5	98	7	6	10	32	12	5	4	291
	4:30 PM	19	75	5	9	108	7	5	5	39	7	6	7	292
	4:45 PM	20	65	5	5	109	9	11	7	35	5	10	5	286
PM	5:00 PM	23	58	7	10	113	4	10	12	55	20	7	3	322
	5:15 PM	22	72	5	3	108	8	10	8	34	10	10	14	304
	5:30 PM	19	72	4	5	111	12	10	4	34	16	10	5	302
	5:45 PM	15	51	5	15	101	8	4	1	28	9	8	13	258
	VOLUMES	182	528	43	61	849	61	63	58	298	89	59	61	2,352
	APPROACH %	24%	70%	6%	6%	87%	6%	15%	14%	71%	43%	28%	29%	
	APP/DEPART	753	/	652	971	/	1,236	419	/	162	209	/	302	0
	BEGIN PEAK HR	4:45 PM												
	VOLUMES	84	267	21	23	441	33	41	31	158	51	37	27	1,214
	APPROACH %	23%	72%	6%	5%	89%	7%	18%	13%	69%	44%	32%	23%	
	PEAK HR FACTOR	0.939			0.971			0.747			0.846			0.943
	APP/DEPART	372	/	335	497	/	650	230	/	75	115	/	154	0

					0
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					0
					0
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0	0	0	0	0	0



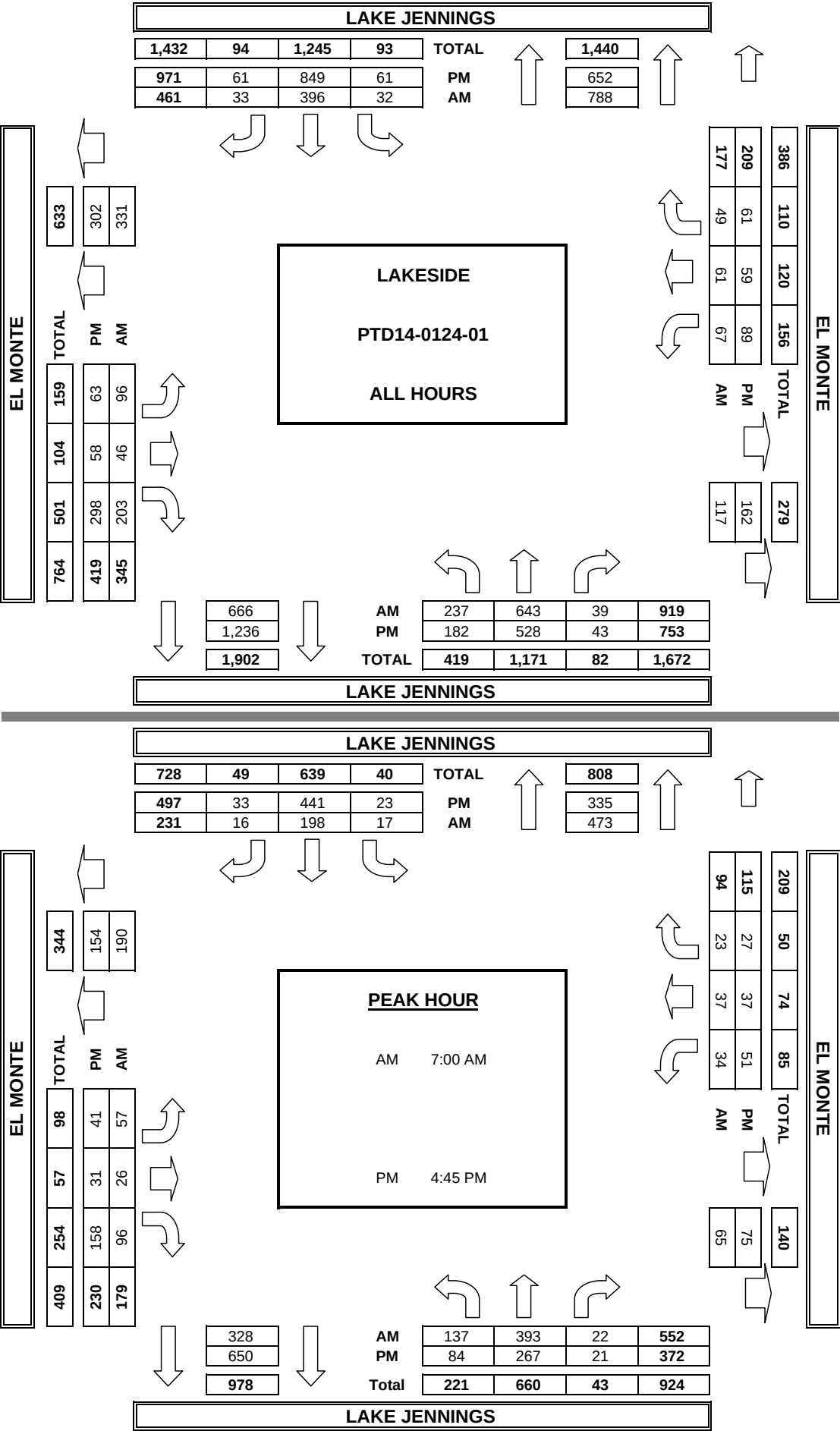
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
					0
					0
					0
					0
					0
					0
					0
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0	0	0	0	0	0
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0	0	0	0	0	0

PEDESTRIAN ACTIVATIONS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
					0
					0
					0
					0
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					0
0	0	0	0	0	0
					0
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0	0	0	0	0	0

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
					0
					0
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					0
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					0
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					0
0	0	0	0	0	0
					0
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					0
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					0
					0
0	0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/23/14
THURSDAY

LOCATION: LAKESIDE
NORTH & SOUTH: LAKE JENNINGS
EAST & WEST: HARRITT

PROJECT #: PTD14-0124-01
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

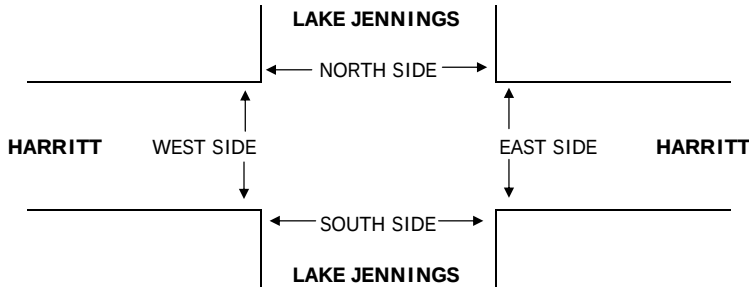
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND LAKE JENNINGS			SOUTHBOUND LAKE JENNINGS			EASTBOUND HARRITT			WESTBOUND HARRITT			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	1	1	1	1	X	X	X	X	0.5	X	0.5	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM		102	7	3	95					20		12	239
	7:15 AM		148	4	3	82					22		5	264
	7:30 AM		128	10	2	88					30		12	270
	7:45 AM		129	7	6	70					20		6	238
	8:00 AM		98	17	6	89					24		7	241
	8:15 AM		80	10	4	84					27		5	210
	8:30 AM		92	11	3	92					24		7	229
	8:45 AM		65	15	4	60					26		5	175
	VOLUMES	0	842	81	31	660	0	0	0	0	193	0	59	1,866
	APPROACH %	0%	91%	9%	4%	96%	0%	0%	0%	0%	77%	0%	23%	
APP/DEPART	923	/	901	691	/	853	0	/	112	252	/	0	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	0	503	38	17	329	0	0	0	0	96	0	30	1,013	
APPROACH %	0%	93%	7%	5%	95%	0%	0%	0%	0%	76%	0%	24%		
PEAK HR FACTOR	0.890													
APP/DEPART	541	/	533	346	/	425	0	/	55	126	/	0	0	
PM	4:00 PM		96	6	13	130					20		6	271
	4:15 PM		116	19	9	140					15		8	307
	4:30 PM		97	27	10	152					11		5	302
	4:45 PM		90	23	7	138					22		3	283
	5:00 PM		83	27	10	172					21		5	318
	5:15 PM		106	23	16	144					22		7	318
	5:30 PM		76	21	12	148					15		6	278
	5:45 PM		73	14	10	136					14		8	255
	VOLUMES	0	737	160	87	1,160	0	0	0	0	140	0	48	2,332
	APPROACH %	0%	82%	18%	7%	93%	0%	0%	0%	0%	74%	0%	26%	
	APP/DEPART	897	/	785	1,247	/	1,300	0	/	247	188	/	0	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	376	100	43	606	0	0	0	0	76	0	20	1,221
	APPROACH %	0%	79%	21%	7%	93%	0%	0%	0%	0%	79%	0%	21%	
PEAK HR FACTOR	0.922													
APP/DEPART	476	/	396	649	/	682	0	/	143	96	/	0	0	

				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0



AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

LAKESIDE
PTD14-0124-01
ALL HOURS

LAKE JENNINGS

1,938	0	1,820	118	TOTAL	1,686
1,247	0	1,160	87	PM	785
691	0	660	31	AM	901

HARRITT

440	107	0	333	TOTAL	359
188	48	0	140	PM	247
252	59	0	193	AM	112

LAKE JENNINGS

853	0	842	81	AM	923
1,300	0	737	160	PM	897
2,153	0	1,579	241	TOTAL	1,820

LAKE JENNINGS

LAKE JENNINGS

995	0	935	60	TOTAL	929
649	0	606	43	PM	396
346	0	329	17	AM	533

HARRITT

222	50	0	172	TOTAL	198
96	20	0	76	PM	143
126	30	0	96	AM	55

LAKE JENNINGS

425	0	503	38	AM	541
682	0	376	100	PM	476
1,107	0	879	138	Total	1,017

LAKE JENNINGS

PEAK HOUR

AM 7:15 AM

PM 4:30 PM

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

<u>DATE:</u> 1/23/14 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	LAKESIDE LAKE JENNINGS BLOSSOM VALLEY	PROJECT #: LOCATION #: CONTROL:	PTD14-0124-01 3 SIGNAL
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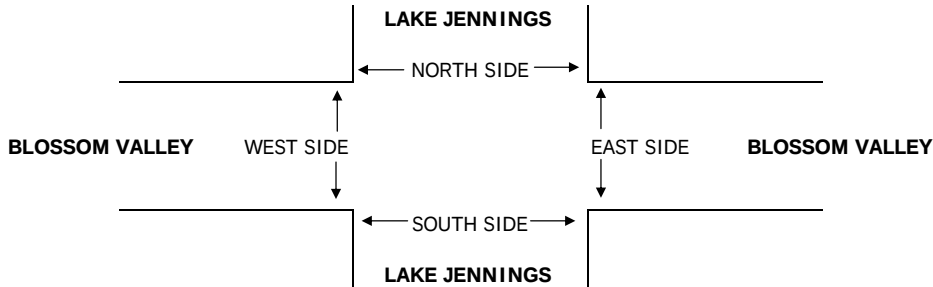
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND LAKE JENNINGS			SOUTHBOUND LAKE JENNINGS			EASTBOUND BLOSSOM VALLEY			WESTBOUND BLOSSOM VALLEY			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	0	1	1	1	0.5	0.5	1	0	1	0	

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		

AM	7:00 AM	20	91	13	4	114	16	10	7	47	45	1	11	379
	7:15 AM	23	101	12	6	98	17	20	14	53	60	9	14	427
	7:30 AM	33	116	14	17	118	11	10	26	58	58	7	10	478
	7:45 AM	24	109	28	9	83	10	11	21	48	64	16	17	440
	8:00 AM	25	87	27	13	104	16	7	4	47	44	22	18	414
	8:15 AM	32	72	23	4	102	15	13	4	45	42	8	11	371
	8:30 AM	26	78	16	9	101	17	8	6	69	31	5	10	376
	8:45 AM	41	65	20	6	70	14	8	4	35	32	6	3	304
	VOLUMES	224	719	153	68	790	116	87	86	402	376	74	94	3,189
	APPROACH %	20%	66%	14%	7%	81%	12%	15%	15%	70%	69%	14%	17%	
PM	APP/DEPART	1,096	/	900	974	/	1,568	575	/	307	544	/	414	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	105	413	81	45	403	54	48	65	206	226	54	59	1,759
	APPROACH %	18%	69%	14%	9%	80%	11%	15%	20%	65%	67%	16%	17%	
	PEAK HR FACTOR	0.919			0.860			0.848			0.874			0.920
	APP/DEPART	599	/	520	502	/	835	319	/	191	339	/	213	0
	4:00 PM	46	105	40	3	115	13	24	10	39	34	8	9	446
	4:15 PM	38	123	49	17	129	13	18	9	41	37	4	4	482
	4:30 PM	29	112	44	12	129	21	15	8	40	39	6	3	458
	4:45 PM	31	122	45	13	125	22	16	9	43	41	9	4	480
PM	5:00 PM	38	113	38	10	153	15	12	6	39	41	5	4	474
	5:15 PM	37	111	32	11	136	16	10	7	40	39	5	5	449
	5:30 PM	42	94	38	13	123	18	8	7	27	26	3	10	409
	5:45 PM	24	85	40	7	126	12	6	7	33	38	2	8	388
	VOLUMES	285	865	326	86	1,036	130	109	63	302	295	42	47	3,586
	APPROACH %	19%	59%	22%	7%	83%	10%	23%	13%	64%	77%	11%	12%	
	APP/DEPART	1,476	/	1,021	1,252	/	1,633	474	/	475	384	/	457	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	136	470	176	52	536	71	61	32	163	158	24	15	1,894
	APPROACH %	17%	60%	23%	8%	81%	11%	24%	13%	64%	80%	12%	8%	
	PEAK HR FACTOR	0.931			0.926			0.941			0.912			0.982
	APP/DEPART	782	/	546	659	/	857	256	/	260	197	/	231	0

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0	0	0	0	0



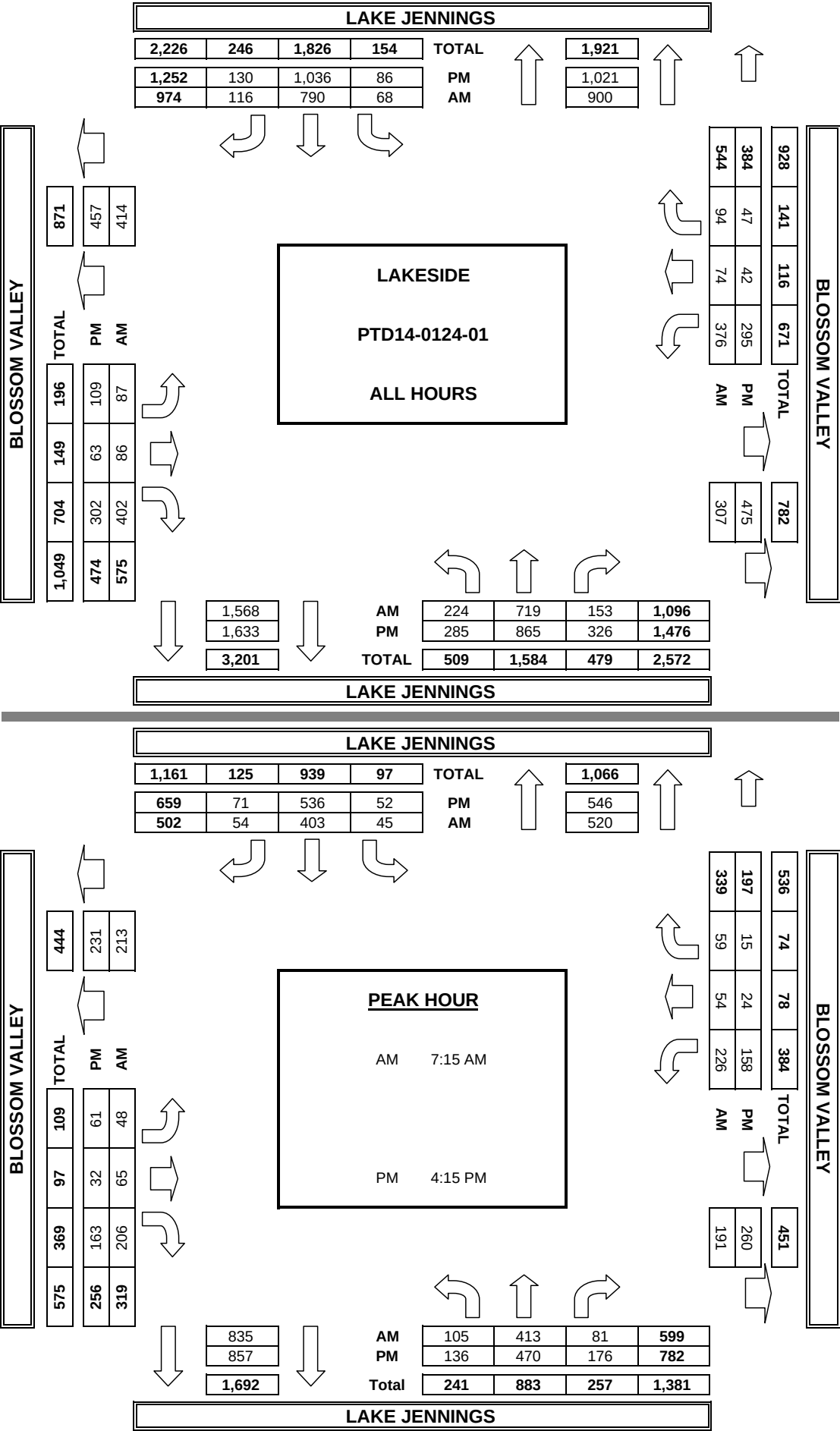
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	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
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				0
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				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
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0	0	0	0	0
				0
				0
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				0
				0
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				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
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0	0	0	0	0
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0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/23/14
THURSDAY

LOCATION: LAKESIDE
NORTH & SOUTH: LAKE JENNINGS
EAST & WEST: I-8 WB RAMPS

PROJECT #: PTD14-0124-01
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

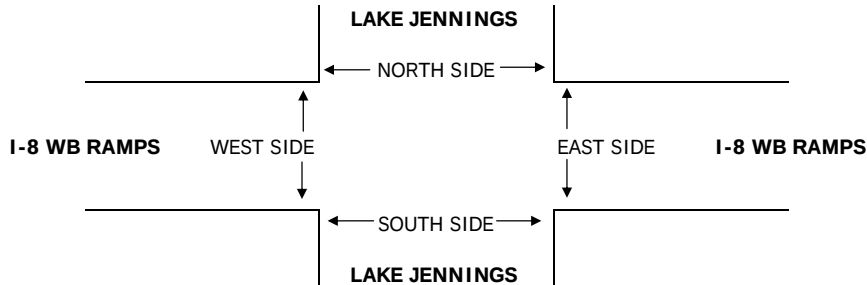
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND LAKE JENNINGS			SOUTHBOUND LAKE JENNINGS			EASTBOUND I-8 WB RAMPS			WESTBOUND I-8 WB RAMPS			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	1	1	X	1	1	X	X	X	1	X	1	

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		

AM	7:00 AM		70	97		66	116				4		66	419
	7:15 AM		78	104		65	123				2		68	440
	7:30 AM		66	115		71	151				4		74	481
	7:45 AM		101	124		81	123				3		66	498
	8:00 AM		84	118		77	135				6		57	477
	8:15 AM		80	97		91	90				4		51	413
	8:30 AM		89	103		106	84				12		54	448
	8:45 AM		81	94		80	81				9		43	388
	VOLUMES	0	649	852	0	637	903	0	0	0	44	0	479	3,564
	APPROACH %	0%	43%	57%	0%	41%	59%	0%	0%	0%	8%	0%	92%	
PM	APP/DEPART	1,501	/	1,128	1,540	/	681	0	/	852	523	/	903	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	329	461	0	294	532	0	0	0	15	0	265	1,896
	APPROACH %	0%	42%	58%	0%	36%	64%	0%	0%	0%	5%	0%	95%	
	PEAK HR FACTOR	0.878			0.930			0.000			0.897			0.952
	APP/DEPART	790	/	594	826	/	309	0	/	461	280	/	532	0
	4:00 PM		128	84		111	88				5		51	467
	4:15 PM		135	89		121	70				4		66	485
	4:30 PM		162	95		116	84				3		40	500
	4:45 PM		141	77		131	77				4		52	482
PM	5:00 PM		151	98		142	90				5		35	521
	5:15 PM		148	81		121	75				9		40	474
	5:30 PM		121	92		118	68				8		55	462
	5:45 PM		119	61		124	70				6		42	422
	VOLUMES	0	1,105	677	0	984	622	0	0	0	44	0	381	3,813
	APPROACH %	0%	62%	38%	0%	61%	39%	0%	0%	0%	10%	0%	90%	
	APP/DEPART	1,782	/	1,486	1,606	/	1,028	0	/	677	425	/	622	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	0	589	359	0	510	321	0	0	0	16	0	193	1,988
	APPROACH %	0%	62%	38%	0%	61%	39%	0%	0%	0%	8%	0%	92%	
	PEAK HR FACTOR	0.922			0.895			0.000			0.746			0.954
	APP/DEPART	948	/	782	831	/	526	0	/	359	209	/	321	0

					0
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					0
					0
0	0	0	0	0	0



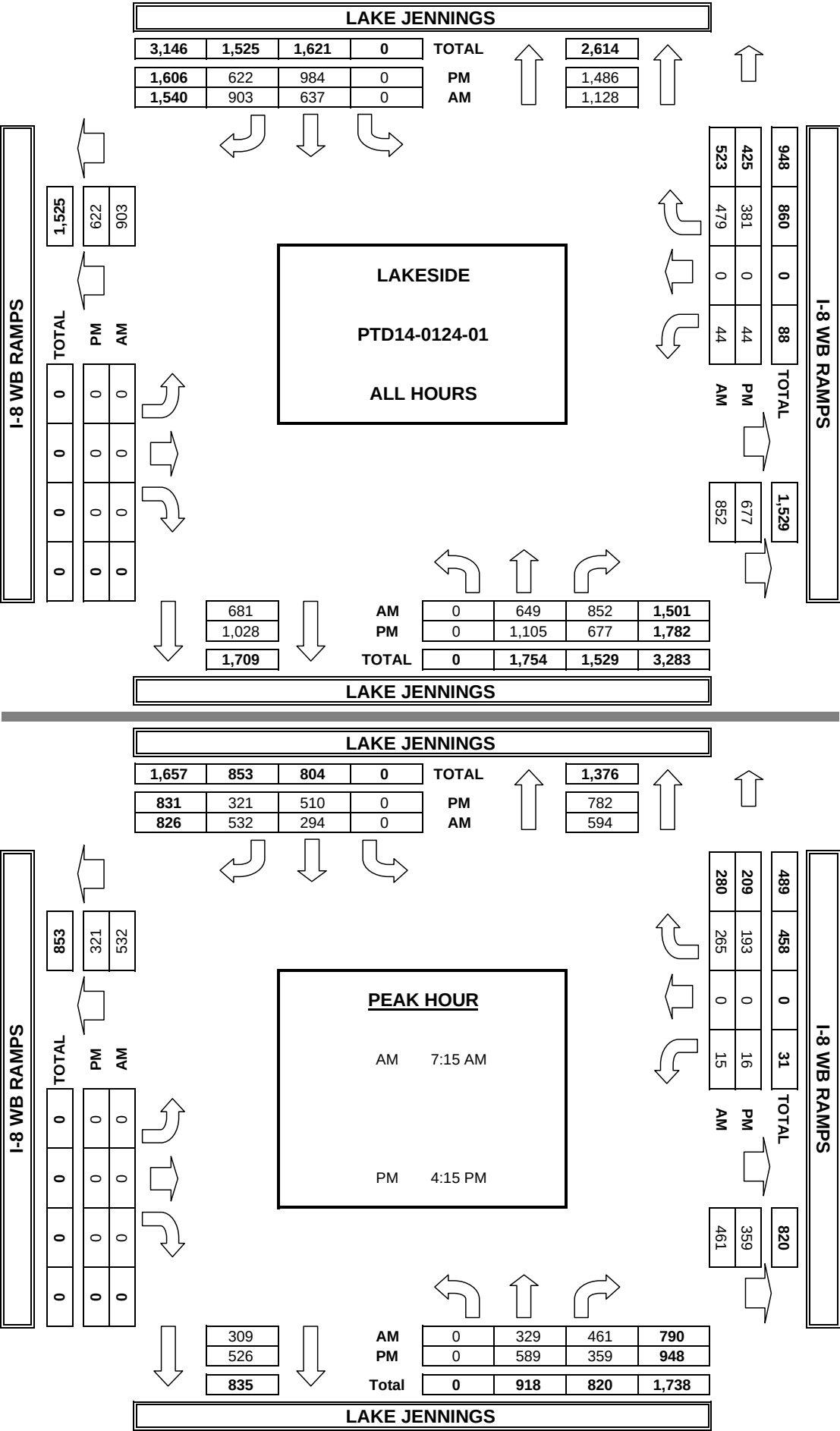
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE: 1/23/14 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	LAKESIDE LAKE JENNINGS OLDE HWY 80	PROJECT #: LOCATION #: CONTROL:	PTD14-0124-01 5 4-WAY STOP
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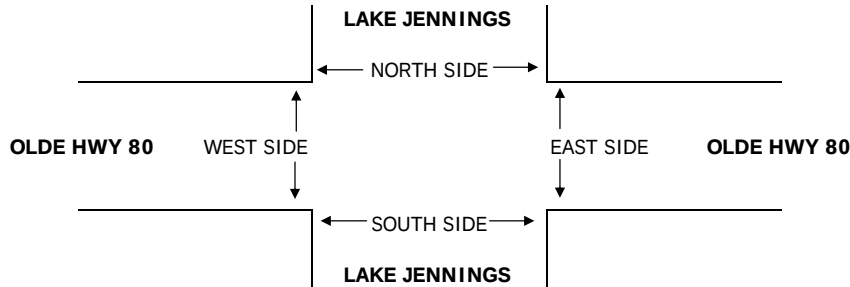
NOTES: THE NB U-TURNS ARE THE VEHICLES GOING ONTO THE I-8 EB ON RAMP	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND LAKE JENNINGS			SOUTHBOUND LAKE JENNINGS			EASTBOUND OLDE HWY 80			WESTBOUND OLDE HWY 80			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	1	0	0	1	0	1	0.5	0.5	1	X	1	

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		

AM	7:00 AM		11	3	27	3	35	32	44	2	1		132	290
	7:15 AM		29	4	26	7	33	27	57	2	0		157	342
	7:30 AM		14	14	34	1	54	44	72	3	2		137	375
	7:45 AM		12	10	30	2	31	54	76	2	4		146	367
	8:00 AM		8	1	45	4	25	56	57	1	9		116	322
	8:15 AM		19	10	36	4	58	40	55	2	4		104	332
	8:30 AM		15	7	42	6	64	39	77	4	9		142	405
	8:45 AM		9	5	39	4	47	31	68	3	5		146	357
	VOLUMES	0	117	54	279	31	347	323	506	19	34	0	1,080	2,790
	APPROACH %	0%	68%	32%	42%	5%	53%	38%	60%	2%	3%	0%	97%	
	APP/DEPART	171	/	1,520	657	/	84	848	/	839	1,114	/	347	0
PM	BEGIN PEAK HR	7:45 AM												
	VOLUMES	0	54	28	153	16	178	189	265	9	26	0	508	1,426
	APPROACH %	0%	66%	34%	44%	5%	51%	41%	57%	2%	5%	0%	95%	
	PEAK HR FACTOR	0.707			0.775			0.877			0.884			0.880
	APP/DEPART	82	/	751	347	/	51	463	/	446	534	/	178	0
	4:00 PM		13	17	44	5	64	71	111	33	6		121	485
	4:15 PM		6	2	53	4	61	110	117	4	8		121	486
	4:30 PM		7	7	46	7	66	116	132	10	5		137	533
	4:45 PM		6	2	51	5	78	95	110	8	6		123	484
	5:00 PM		5	4	47	12	77	102	105	12	8		118	490
	5:15 PM		13	6	45	3	92	100	106	7	6		124	502
	5:30 PM		8	6	44	8	66	101	86	5	4		122	450
	5:45 PM		4	4	63	6	56	89	81	8	6		80	397
	VOLUMES	0	62	48	393	50	560	784	848	87	49	0	946	3,827
	APPROACH %	0%	56%	44%	39%	5%	56%	46%	49%	5%	5%	0%	95%	
	APP/DEPART	110	/	1,792	1,003	/	186	1,719	/	1,289	995	/	560	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	31	19	189	27	313	413	453	37	25	0	502	2,009
	APPROACH %	0%	62%	38%	36%	5%	59%	46%	50%	4%	5%	0%	95%	
	PEAK HR FACTOR	0.658			0.945			0.875			0.928			0.942
	APP/DEPART	50	/	946	529	/	89	903	/	661	527	/	313	0

3					3
8					8
8					8
3					3
8					8
8					8
25					25
12					12
75	0	0	0		75
8					8
7					7
9					9
13					13
8					8
15					15
14					14
9					9
83	0	0	0		83



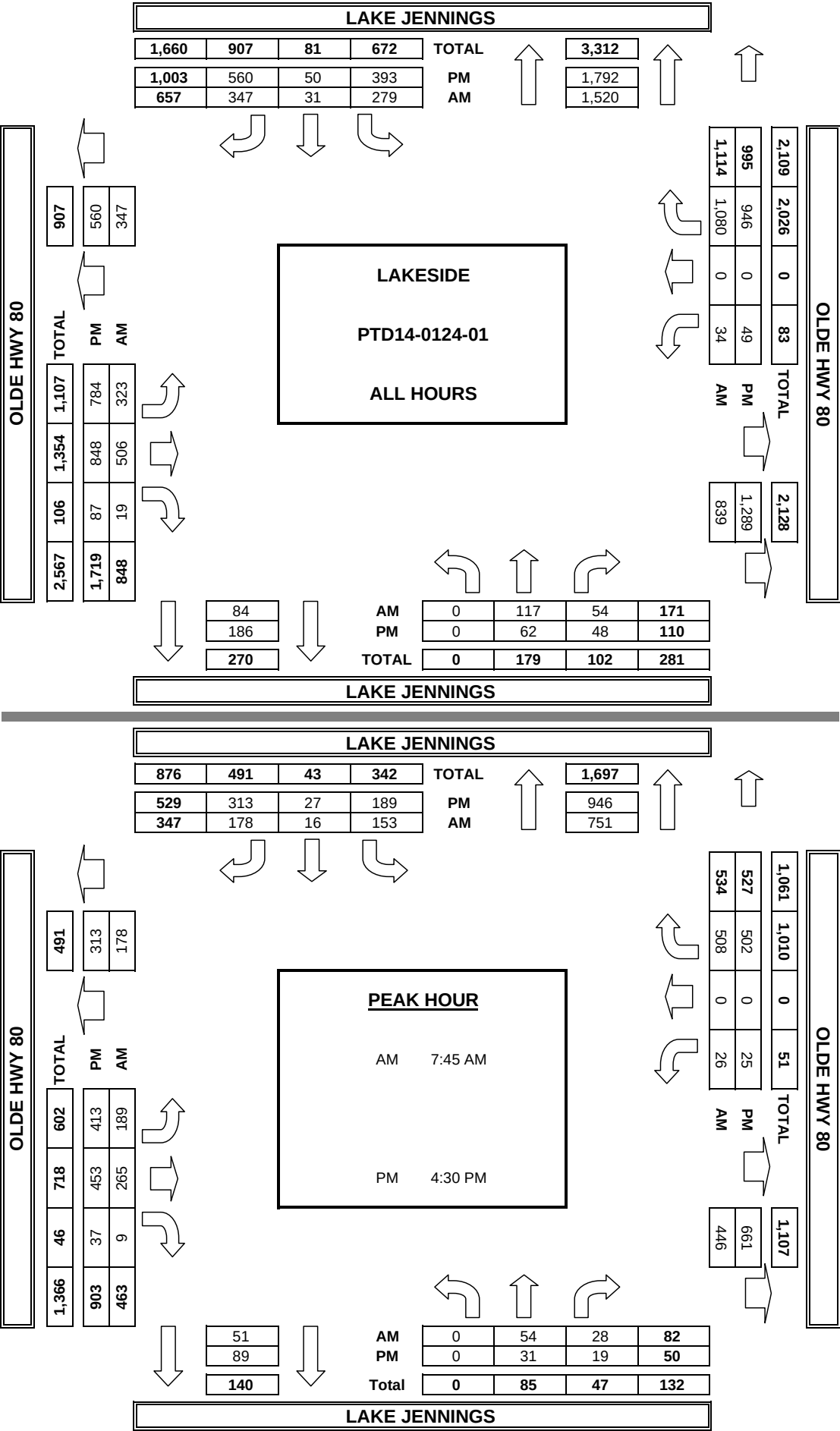
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
	4:00 PM	
PM	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	

PEDESTRIAN ACTIVATIONS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/23/14
THURSDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

LAKESIDE
PECAN PARK WEST
OLDE HWY 80

PROJECT #:
LOCATION #:
CONTROL:

PTD14-0124-01
6
1-WAY STOP (NB)

NOTES:

AM
PM
MD
OTHER
OTHER

▲
N
▼

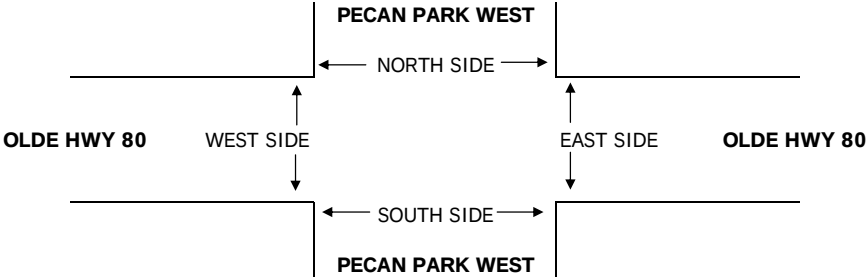
◀ W
S
▶ E

	NORTHBOUND PECAN PARK WEST			SOUTHBOUND PECAN PARK WEST			EASTBOUND OLDE HWY 80			WESTBOUND OLDE HWY 80			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	X	X	X	X	1	0	1	1	X	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	29	0	0				69	9	0	88		195
	7:15 AM	29	0	0				66	12	0	128		235
	7:30 AM	35	0	0				83	9	2	106		235
	7:45 AM	23	0	1				93	16	1	107		241
	8:00 AM	23	0	0				83	15	1	118		240
	8:15 AM	25	0	0				66	32	1	69		193
	8:30 AM	50	0	0				58	48	1	95		252
	8:45 AM	51	0	2				69	46	1	89		258
	VOLUMES	265	0	3	0	0	0	587	187	7	800	0	1,849
	APPROACH %	99%	0%	1%	0%	0%	0%	76%	24%	1%	99%	0%	
PM	APP/DEPART	268	/	0	0	/	194	774	/	590	807	/	1,065
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	110	0	1	0	0	0	325	52	4	459	0	951
	APPROACH %	99%	0%	1%	0%	0%	0%	86%	14%	1%	99%	0%	
	PEAK HR FACTOR	0.793			0.000			0.865			0.904		
	APP/DEPART	111	/	0	0	/	56	377	/	326	463	/	569
	4:00 PM	25	1	2				112	31	0	86		257
	4:15 PM	22	0	2				131	34	2	106		297
	4:30 PM	20	0	1				137	32	3	105		298
	4:45 PM	24	1	1				118	31	4	101		280
	5:00 PM	22	0	0				109	37	5	95		268
	5:15 PM	17	0	0				111	34	4	89		255
	5:30 PM	19	0	4				99	30	3	95		250
	5:45 PM	11	0	0				101	30	3	71		216
	VOLUMES	160	2	10	0	0	0	918	259	24	748	0	2,121
	APPROACH %	93%	1%	6%	0%	0%	0%	78%	22%	3%	97%	0%	
	APP/DEPART	172	/	2	0	/	283	1,177	/	928	772	/	908
	BEGIN PEAK HR	4:15 PM											
	VOLUMES	88	1	4	0	0	0	495	134	14	407	0	1,143
	APPROACH %	95%	1%	4%	0%	0%	0%	79%	21%	3%	97%	0%	
	PEAK HR FACTOR	0.894			0.000			0.930			0.975		
	APP/DEPART	93	/	1	0	/	148	629	/	499	421	/	495

					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
0	0	0	0	0	0



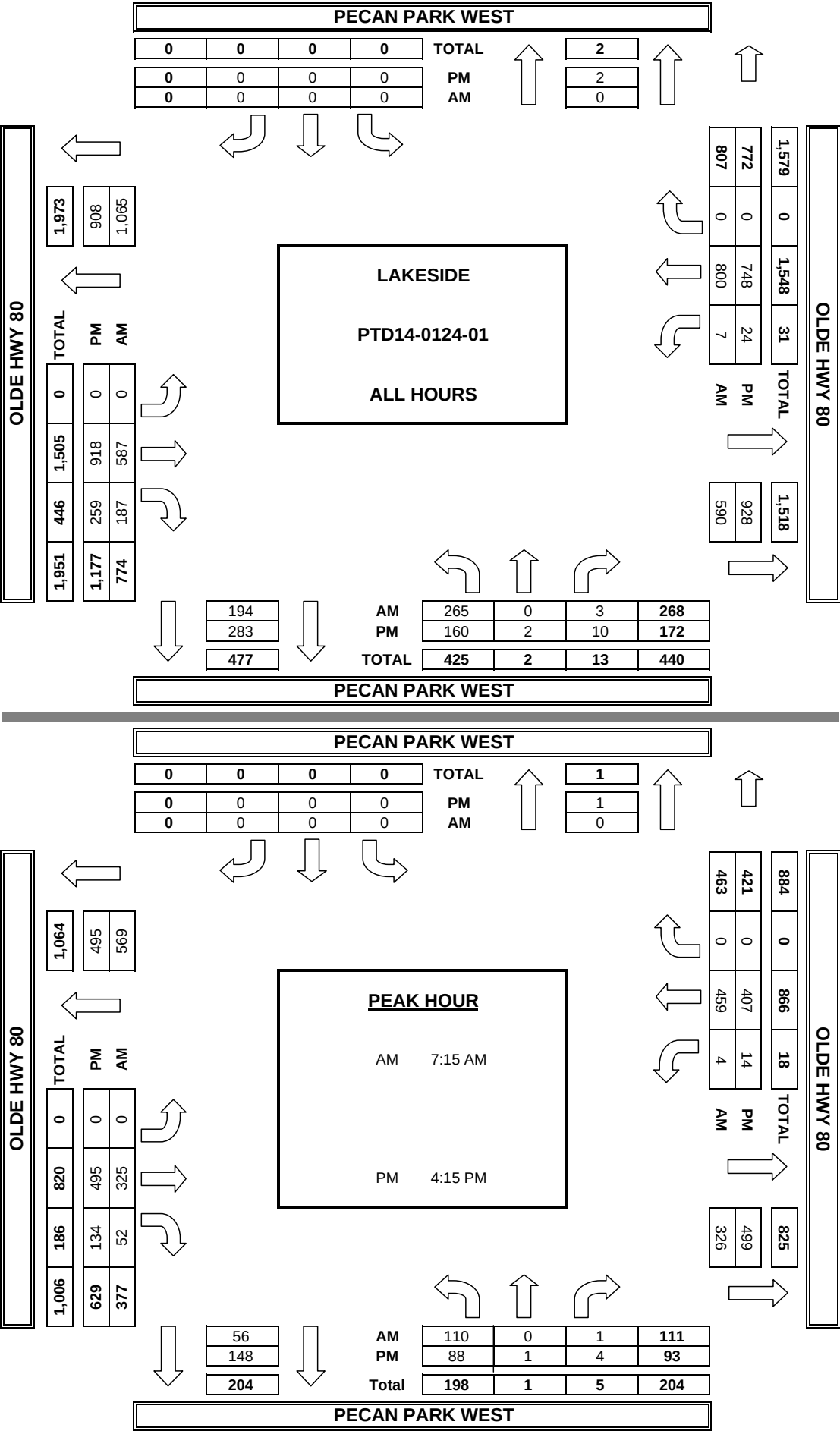
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	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE: 1/23/14 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	LAKESIDE PECAN PARK EAST OLDE HWY 80	PROJECT #: LOCATION #: CONTROL:	PTD14-0124-01 8 1-WAY STOP (NB)
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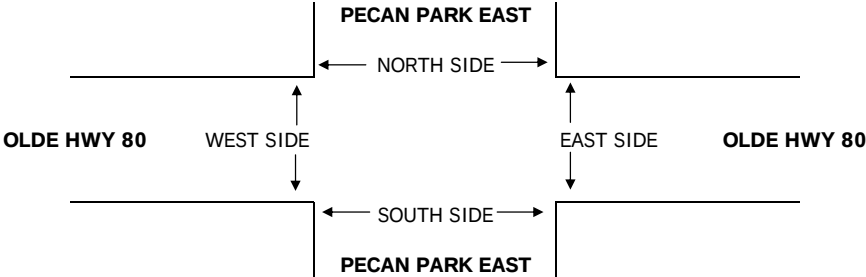
NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
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	NORTHBOUND PECAN PARK EAST			SOUTHBOUND PECAN PARK EAST			EASTBOUND OLDE HWY 80			WESTBOUND OLDE HWY 80			TOTAL
LANES:	NL 0.5	NT X	NR 0.5	SL X	ST X	SR X	EL X	ET 1	ER 0	WL 1	WT 1	WR X	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	10		1				63	0	2	92		168
	7:15 AM	3		2				69	0	1	107		182
	7:30 AM	5		7				85	0	1	100		198
	7:45 AM	3		1				99	0	6	120		229
	8:00 AM	8		3				76	0	3	99		189
	8:15 AM	1		4				74	0	5	66		150
	8:30 AM	7		10				61	0	11	87		176
	8:45 AM	6		10				66	0	17	85		184
	VOLUMES	43	0	38	0	0	0	593	0	46	756	0	1,476
	APPROACH %	53%	0%	47%	0%	0%	0%	100%	0%	6%	94%	0%	
PM	APP/DEPART	81	/	0	0	/	46	593	/	631	802	/	799
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	19	0	13	0	0	0	329	0	11	426	0	798
	APPROACH %	59%	0%	41%	0%	0%	0%	100%	0%	3%	97%	0%	
	PEAK HR FACTOR	0.667			0.000			0.831			0.867		
	APP/DEPART	32	/	0	0	/	11	329	/	342	437	/	445
	4:00 PM	2		7				105	0	7	91		212
	4:15 PM	4		6				135	1	2	98		246
	4:30 PM	3		10				126	0	10	108		257
	4:45 PM	3		3				113	0	2	104		225
	5:00 PM	1		2				126	0	3	101		233
	5:15 PM	2		4				115	0	2	87		210
	5:30 PM	5		2				109	0	5	88		209
	5:45 PM	2		3				90	0	1	69		165
	VOLUMES	22	0	37	0	0	0	919	1	32	746	0	1,757
	APPROACH %	37%	0%	63%	0%	0%	0%	100%	0%	4%	96%	0%	
	APP/DEPART	59	/	0	0	/	33	920	/	956	778	/	768
	BEGIN PEAK HR	4:15 PM											
	VOLUMES	11	0	21	0	0	0	500	1	17	411	0	961
	APPROACH %	34%	0%	66%	0%	0%	0%	100%	0%	4%	96%	0%	
	PEAK HR FACTOR	0.615			0.000			0.921			0.907		
	APP/DEPART	32	/	0	0	/	18	501	/	521	428	/	422

					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
0	0	0	0	0	0



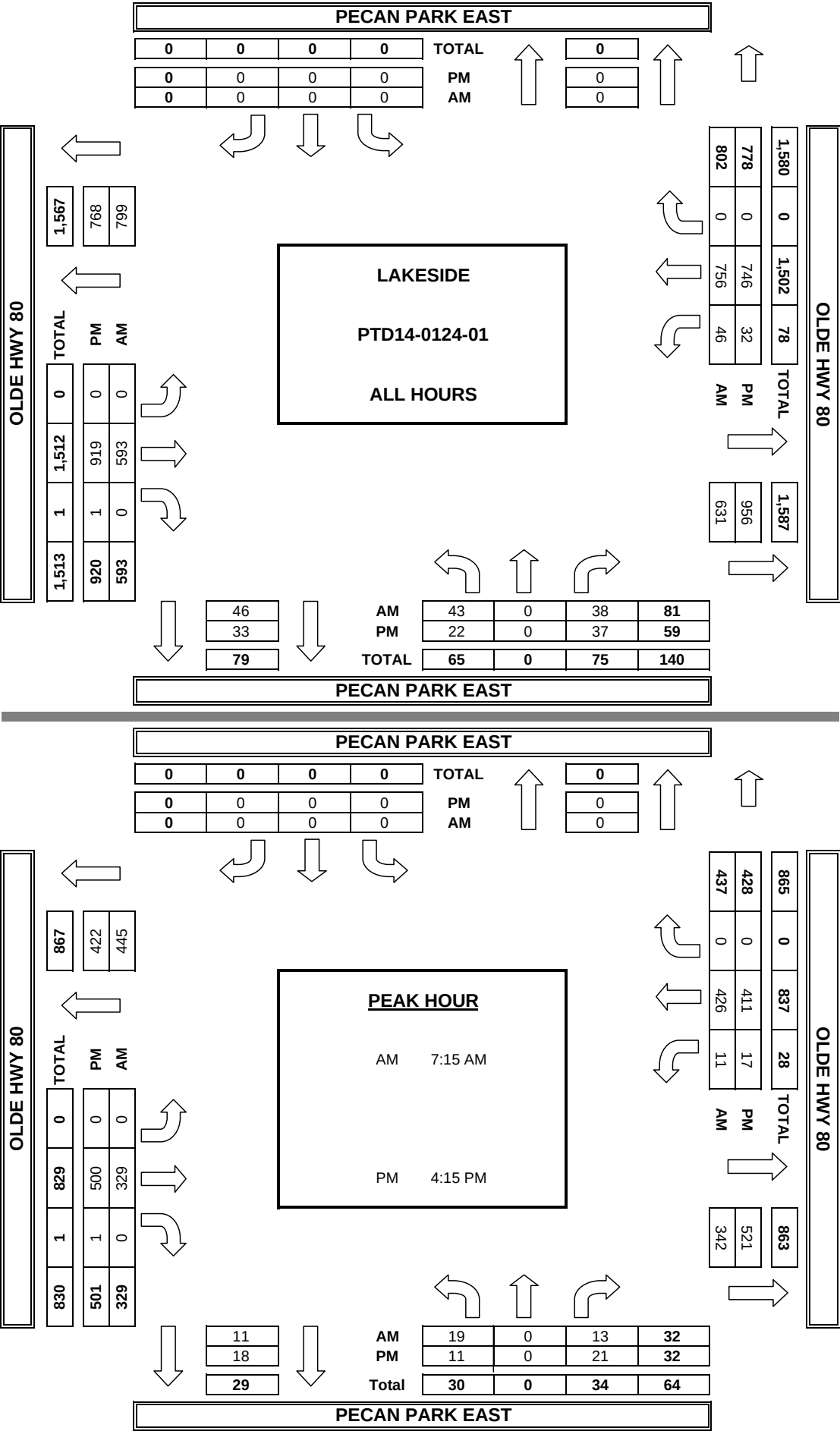
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/23/14
THURSDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:
LAKESIDE
RIOS
PECAN PARK

PROJECT #:
LOCATION #:
CONTROL:
PTD14-0124-01
7
1-WAY STOP (NB)

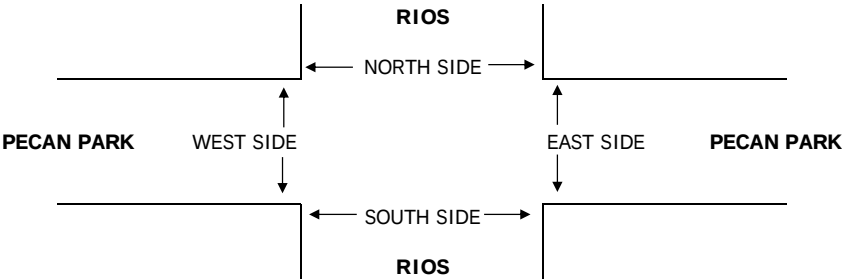
NOTES:					AM		▲	
					PM		N	
					MD	◀ W		E ▶
					OTHER		S	
					OTHER		▼	

	NORTHBOUND RIOS			SOUTHBOUND RIOS			EASTBOUND PECAN PARK			WESTBOUND PECAN PARK			
LANES:	NL 0.5	NT	NR 0.5	SL	ST	SR	EL	ET 1	ER 0	WL 0	WT 1	WR	TOTAL

AM	7:00 AM	29		7				1	8	1	0		46	
	7:15 AM	31		7				0	11	2	0		51	
	7:30 AM	33		10				3	11	2	2		61	
	7:45 AM	24		5				1	13	5	0		48	
	8:00 AM	22		7				1	19	4	0		53	
	8:15 AM	28		7				1	33	10	0		79	
	8:30 AM	50		14				0	50	14	0		128	
	8:45 AM	49		14				2	42	12	1		120	
	VOLUMES	266	0	71	0	0	0	0	9	187	50	3	0	586
	APPROACH %	79%	0%	21%	0%	0%	0%	0%	5%	95%	94%	6%	0%	
APP/DEPART	337	/	0	0	/	237	196	/	80	53	/	269	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	149	0	42	0	0	0	0	4	144	40	1	0	380	
APPROACH %	78%	0%	22%	0%	0%	0%	0%	3%	97%	98%	2%	0%		
PEAK HR FACTOR	0.746													0.742
APP/DEPART	191	/	0	0	/	184	148	/	46	41	/	150	0	
PM	4:00 PM	32		9				3	30	9	1		84	
	4:15 PM	20		11				2	37	1	0		71	
	4:30 PM	19		7				2	38	11	0		77	
	4:45 PM	26		4				0	31	2	0		63	
	5:00 PM	16		4				2	35	4	1		62	
	5:15 PM	22		2				2	35	1	0		62	
	5:30 PM	18		4				1	32	2	1		58	
	5:45 PM	19		3				2	33	1	0		58	
	VOLUMES	172	0	44	0	0	0	0	14	271	31	3	0	535
	APPROACH %	80%	0%	20%	0%	0%	0%	0%	5%	95%	91%	9%	0%	
APP/DEPART	216	/	0	0	/	302	285	/	58	34	/	175	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	97	0	31	0	0	0	0	7	136	23	1	0	295	
APPROACH %	76%	0%	24%	0%	0%	0%	0%	5%	95%	96%	4%	0%		
PEAK HR FACTOR	0.780													0.878
APP/DEPART	128	/	0	0	/	159	143	/	38	24	/	98	0	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0



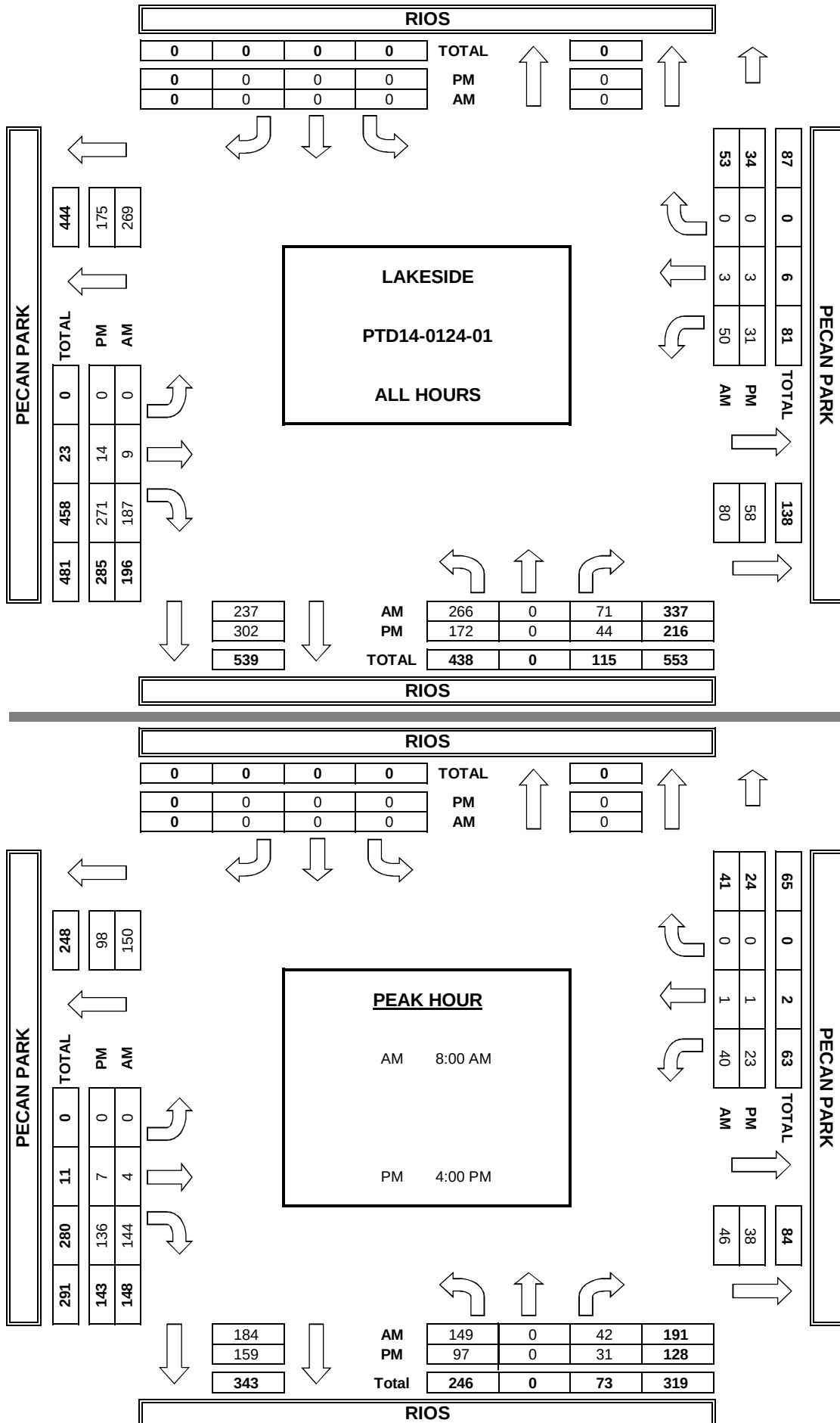
AM	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/29/14
WEDNESDAY

LOCATION: LAKESIDE
NORTH & SOUTH: SR-67
EAST & WEST: MAPLEVIEW

PROJECT #: PTD14-0124-01
LOCATION #: 9
CONTROL: SIGNAL

NOTES:

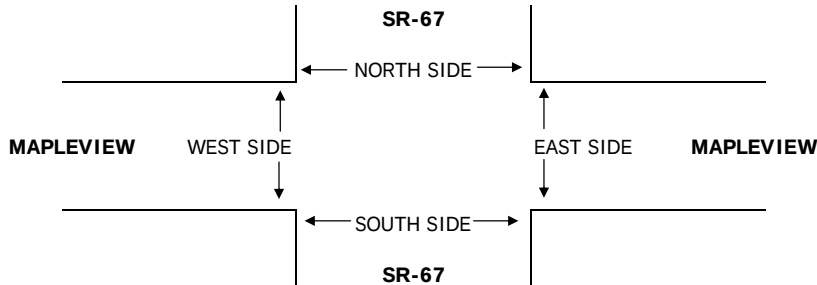
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	SR-67			SR-67			MAPLEVIEW			MAPLEVIEW			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	1	1	2	1	0.5	0.5	1	1.5	0.5	1	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	2	208	65	31	156	15	37	10	1	148	20	37	730
	7:15 AM	6	204	108	23	142	50	44	14	2	176	22	33	824
	7:30 AM	3	212	114	27	174	27	36	19	2	171	15	25	825
	7:45 AM	8	209	136	24	157	16	32	16	1	189	28	29	845
	8:00 AM	6	198	124	28	160	13	37	17	2	167	39	35	826
	8:15 AM	6	175	117	32	182	29	29	27	3	135	19	22	776
	8:30 AM	7	149	126	23	175	22	29	13	4	145	21	19	733
	8:45 AM	8	117	95	23	145	10	17	15	5	135	26	20	616
	VOLUMES	46	1,472	885	211	1,291	182	261	131	20	1,266	190	220	6,175
	APPROACH %	2%	61%	37%	13%	77%	11%	63%	32%	5%	76%	11%	13%	
PM	APP/DEPART	2,403	/	1,953	1,684	/	2,577	412	/	1,227	1,676	/	418	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	23	823	482	102	633	106	149	66	7	703	104	122	3,320
	APPROACH %	2%	62%	36%	12%	75%	13%	67%	30%	3%	76%	11%	13%	
	PEAK HR FACTOR	0.941			0.922			0.925			0.944			0.982
	APP/DEPART	1,328	/	1,094	841	/	1,343	222	/	650	929	/	233	0
	4:00 PM	8	228	185	44	204	36	21	21	2	148	9	21	927
	4:15 PM	6	219	188	65	246	29	18	29	2	121	16	23	962
	4:30 PM	3	234	164	49	213	19	21	28	2	125	22	18	898
	4:45 PM	3	243	181	41	237	28	22	23	3	133	20	21	955
	5:00 PM	2	210	189	45	241	29	26	24	5	139	25	26	961
	5:15 PM	5	198	143	71	219	31	15	31	3	131	30	19	896
	5:30 PM	5	201	175	49	202	25	15	22	2	127	14	18	855
	5:45 PM	2	196	161	51	221	31	18	26	3	118	18	21	866
	VOLUMES	34	1,729	1,386	415	1,783	228	156	204	22	1,042	154	167	7,320
	APPROACH %	1%	55%	44%	17%	73%	9%	41%	53%	6%	76%	11%	12%	
	APP/DEPART	3,149	/	2,052	2,426	/	2,847	382	/	2,005	1,363	/	416	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	14	906	722	200	937	105	87	104	12	518	83	88	3,776
	APPROACH %	1%	55%	44%	16%	75%	8%	43%	51%	6%	75%	12%	13%	
	PEAK HR FACTOR	0.961			0.913			0.923			0.907			0.981
	APP/DEPART	1,642	/	1,081	1,242	/	1,467	203	/	1,026	689	/	202	0

					0
					0
					0
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					0
0	0	0	0	0	0



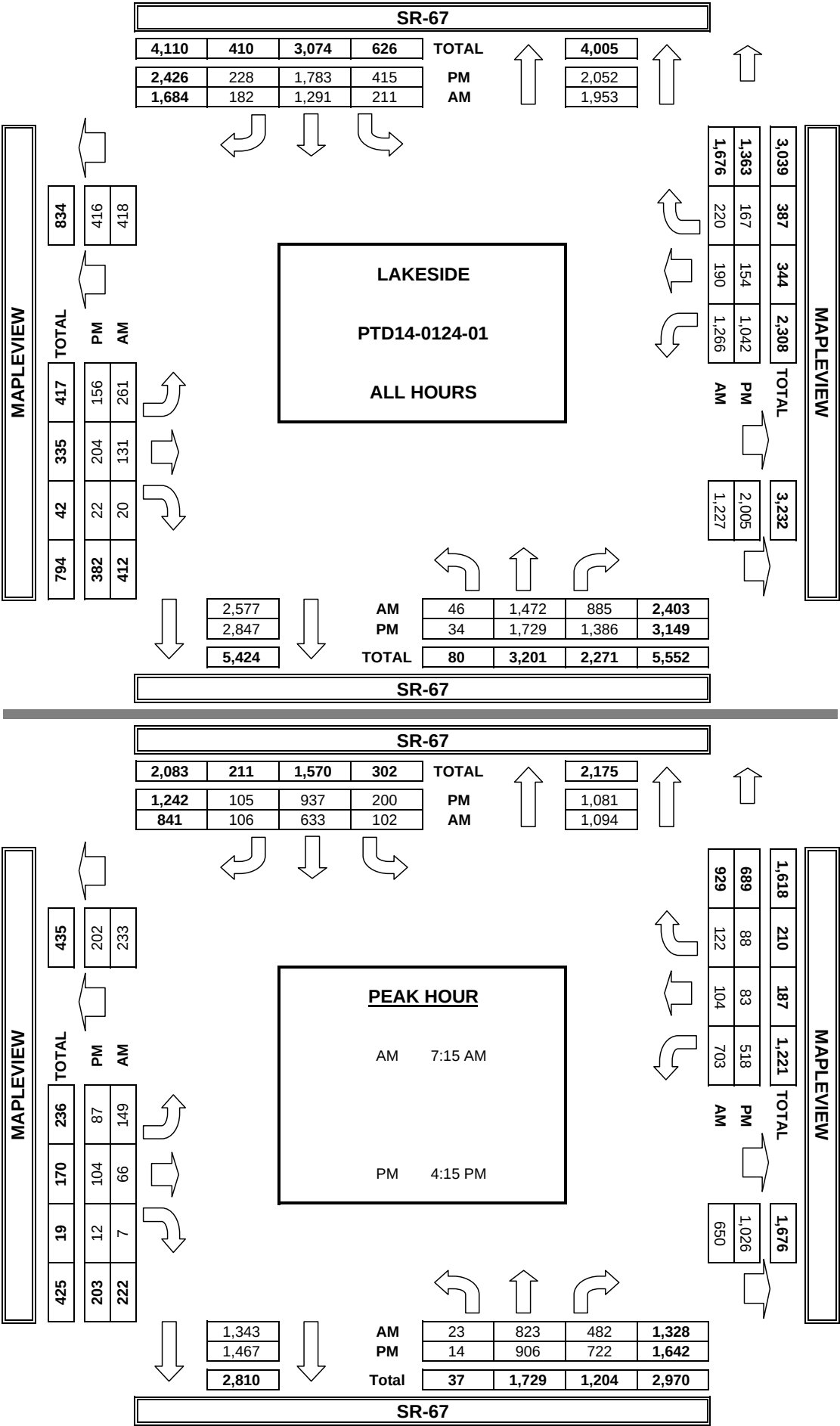
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/29/14
WEDNESDAY

LOCATION: LAKESIDE
NORTH & SOUTH: MAINE
EAST & WEST: MAPLEVIEW

PROJECT #: PTD14-0124-01
LOCATION #: 10
CONTROL: SIGNAL

NOTES:

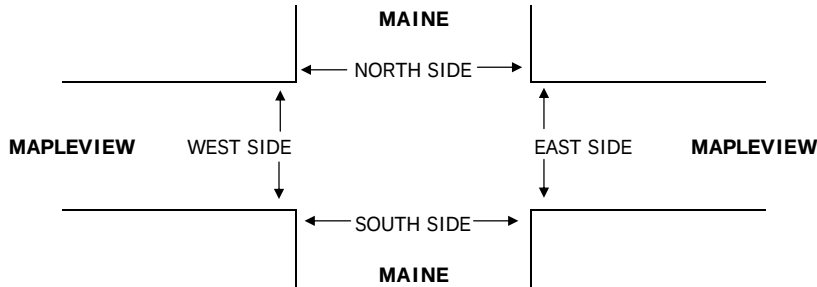
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	MAINE			MAINE			MAPLEVIEW			MAPLEVIEW			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0.5	0.5	1	0	1	0	0.5	1	1	0.5	1.5	1	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	56	1	9	0	0	1	0	77	27	7	191	1	370
	7:15 AM	33	3	7	0	0	3	1	132	26	4	147	3	359
	7:30 AM	49	1	14	1	1	4	0	144	34	6	181	1	436
	7:45 AM	47	0	18	0	0	0	0	127	33	5	209	0	439
	8:00 AM	36	2	8	0	0	1	0	112	37	9	201	1	407
	8:15 AM	40	1	10	0	0	4	0	121	48	9	163	4	400
	8:30 AM	39	0	8	1	0	1	0	161	38	7	144	0	399
	8:45 AM	42	2	11	0	0	0	0	95	29	7	98	0	284
	VOLUMES	342	10	85	2	1	14	1	969	272	54	1,334	10	3,094
	APPROACH %	78%	2%	19%	12%	6%	82%	0%	78%	22%	4%	95%	1%	
PM	APP/DEPART	437	/	21	17	/	327	1,242	/	1,056	1,398	/	1,690	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	172	4	50	1	1	9	0	504	152	29	754	6	1,682
	APPROACH %	76%	2%	22%	9%	9%	82%	0%	77%	23%	4%	96%	1%	
	PEAK HR FACTOR	0.869			0.458			0.921			0.922			0.958
	APP/DEPART	226	/	10	11	/	182	656	/	555	789	/	935	0
	4:00 PM	28	0	12	0	0	0	2	189	54	15	170	1	471
	4:15 PM	33	0	12	0	0	0	1	196	67	11	107	2	429
	4:30 PM	27	1	13	0	1	4	0	205	47	8	141	2	449
	4:45 PM	29	0	15	1	0	3	0	197	51	11	136	4	447
PM	5:00 PM	27	0	9	0	0	3	0	202	42	9	165	2	459
	5:15 PM	29	0	12	0	0	0	0	223	54	7	136	1	462
	5:30 PM	33	2	19	1	0	2	0	175	61	3	146	0	442
	5:45 PM	25	11	4	1	0	4	3	195	35	3	90	1	372
	VOLUMES	231	14	96	3	1	16	6	1,582	411	67	1,091	13	3,531
	APPROACH %	68%	4%	28%	15%	5%	80%	0%	79%	21%	6%	93%	1%	
	APP/DEPART	341	/	33	20	/	479	1,999	/	1,681	1,171	/	1,338	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	112	1	49	1	1	10	0	827	194	35	578	9	1,817
	APPROACH %	69%	1%	30%	8%	8%	83%	0%	81%	19%	6%	93%	1%	
	PEAK HR FACTOR	0.920			0.600			0.921			0.884			0.983
	APP/DEPART	162	/	10	12	/	230	1,021	/	877	622	/	700	0

				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0



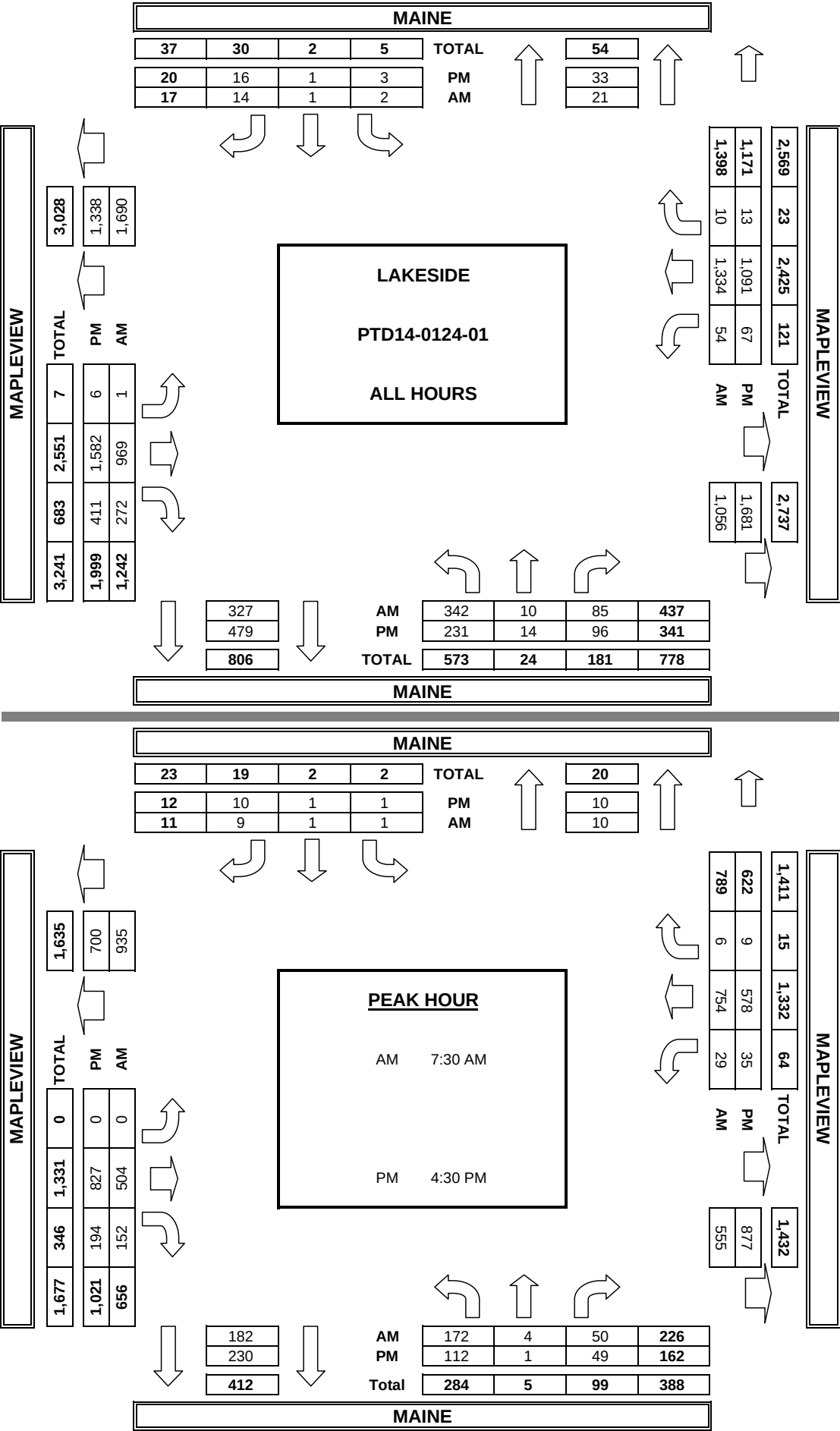
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
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				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



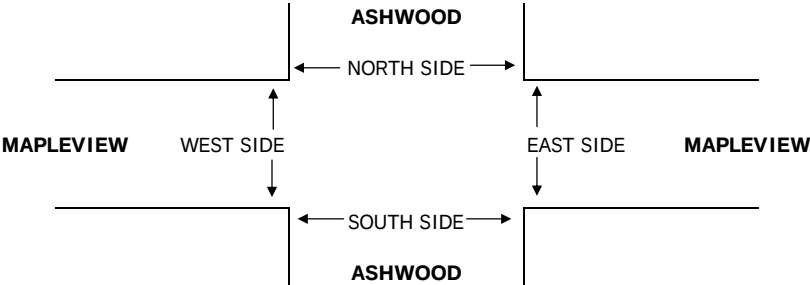
PREPARED BY: PACIFIC TECHNICAL DATA

PROJECT #: PTD14-0124-01
LOCATION #: 11
CONTROL: SIGNAL

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	ASHWOOD			ASHWOOD			MAPLEVIEW			MAPLEVIEW			
LANES:	NL 0.5	NT 0.5	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL

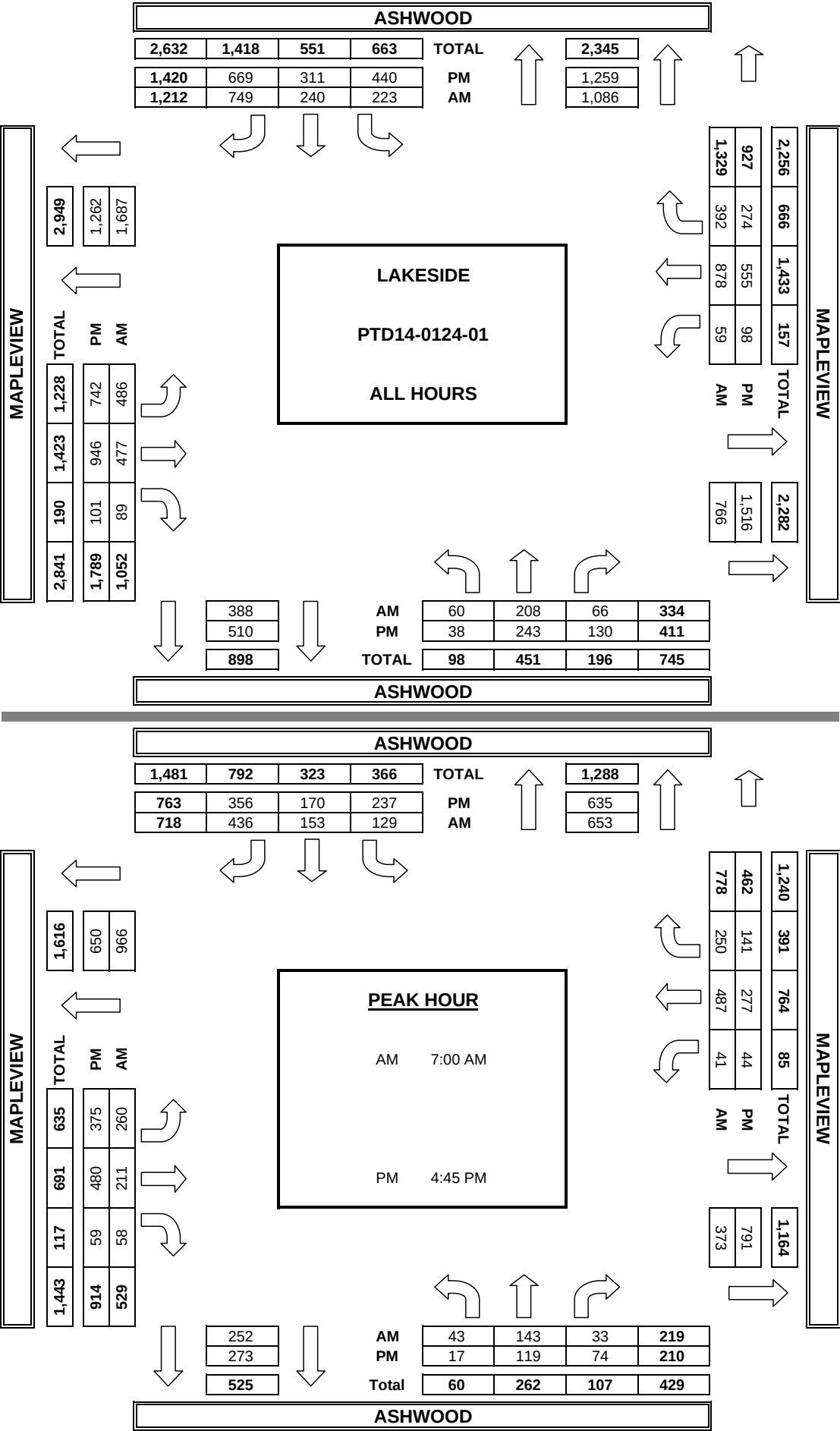
U-TURNS				
NB X	SB X	EB X	WB X	TTL

			1	1
		1		1
		1		1
		1		1
			1	1
				0
				0
				0
0	0	3	2	5
		1		1
		4		4
				0
				0
		3		3
				0
		1		1
				0
0	0	9	0	9



BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE: 1/29/14 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	LAKESIDE PINO MAPLEVIEW / LAKE JENNINGS	PROJECT #: LOCATION #: CONTROL:	PTD14-0124-01 12 SIGNAL
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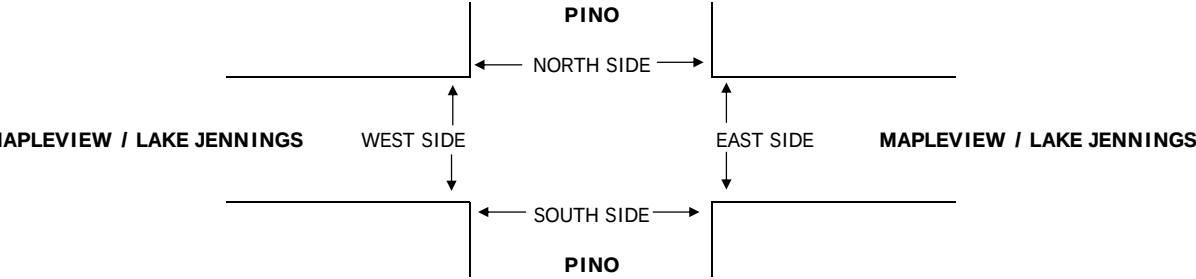
NOTES:	AM PM MD OTHER OTHER	◀ W S ▶ E	▲ N ▼
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	NORTHBOUND PINO			SOUTHBOUND PINO			EASTBOUND MAPLEVIEW / LAKE JENNINGS			WESTBOUND MAPLEVIEW / LAKE JENNINGS			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0.5	0.5	1	1	2	0	1	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	25	2	5	1	6	7	2	63	28	2	20	1	162
	7:15 AM	37	3	7	1	10	6	1	58	27	9	22	1	182
	7:30 AM	41	1	6	0	2	6	3	65	12	2	142	0	280
	7:45 AM	28	1	8	2	6	6	0	73	10	2	118	1	255
	8:00 AM	19	3	11	1	1	10	3	92	19	8	121	0	288
	8:15 AM	21	2	8	0	4	3	2	74	11	4	110	0	239
	8:30 AM	16	1	3	2	1	4	4	68	10	4	109	2	224
	8:45 AM	9	2	5	1	0	2	1	65	5	5	68	0	163
	VOLUMES	196	15	53	8	30	44	16	558	122	36	710	5	1,793
	APPROACH %	74%	6%	20%	10%	37%	54%	2%	80%	18%	5%	95%	1%	
PM	APP/DEPART	264	/	36	82	/	188	696	/	619	751	/	950	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	109	7	33	3	13	25	8	304	52	16	491	1	1,062
	APPROACH %	73%	5%	22%	7%	32%	61%	2%	84%	14%	3%	97%	0%	
	PEAK HR FACTOR	0.776			0.732			0.798			0.882			0.922
	APP/DEPART	149	/	16	41	/	81	364	/	340	508	/	625	0
	4:00 PM	16	2	3	1	4	5	9	115	17	4	76	2	254
	4:15 PM	13	4	8	2	1	8	6	143	10	7	83	2	287
	4:30 PM	16	3	4	1	6	4	6	128	16	5	76	2	267
	4:45 PM	16	6	13	1	1	2	8	134	20	3	64	0	268
	5:00 PM	10	6	6	1	4	4	11	124	22	5	100	3	296
	5:15 PM	11	8	2	1	4	3	4	145	34	7	85	1	305
	5:30 PM	15	9	4	2	4	6	6	115	31	2	69	3	266
	5:45 PM	17	10	7	4	3	6	7	139	29	1	57	6	286
	VOLUMES	114	48	47	13	27	38	57	1,043	179	34	610	19	2,229
	APPROACH %	55%	23%	22%	17%	35%	49%	4%	82%	14%	5%	92%	3%	
	APP/DEPART	209	/	124	78	/	240	1,279	/	1,103	663	/	762	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	53	33	19	8	15	19	28	523	116	15	311	13	1,153
	APPROACH %	50%	31%	18%	19%	36%	45%	4%	78%	17%	4%	92%	4%	
	PEAK HR FACTOR	0.772			0.808			0.911			0.785			0.945
	APP/DEPART	105	/	74	42	/	146	667	/	550	339	/	383	0

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					0
					0
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					0
					0
					0
0	0	0	0	0	0



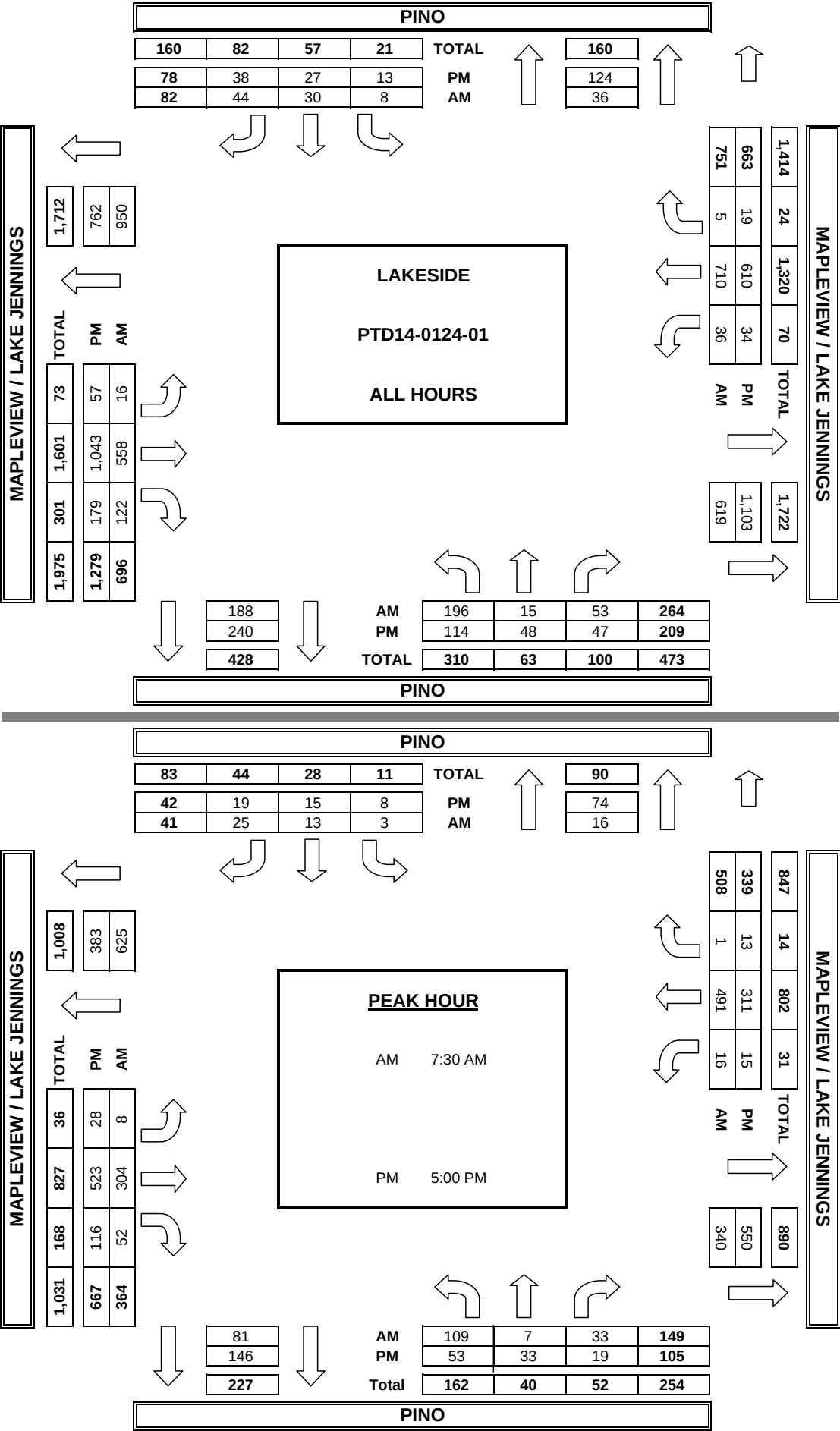
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
1/29/14
WEDNESDAY

LOCATION: LAKESIDE
NORTH & SOUTH: LOS COCHES
EAST & WEST: I-8 BUS ROUTE

PROJECT #: PTD14-0124-01
LOCATION #: 13
CONTROL: SIGNAL

NOTES:

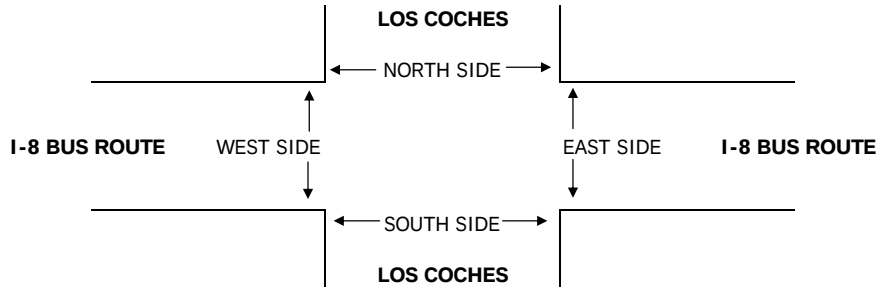
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	LOS COCHES			LOS COCHES			I-8 BUS ROUTE			I-8 BUS ROUTE			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	1	1	1	1	1	1	0.5	0.5	1	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	19	45	15	4	88	39	27	11	13	40	34	17	352
	7:15 AM	19	78	18	14	95	51	23	11	14	35	32	24	414
	7:30 AM	22	64	12	6	89	55	28	16	11	49	39	20	411
	7:45 AM	16	61	16	4	77	41	30	12	10	39	32	15	353
	8:00 AM	14	74	24	10	106	46	37	22	11	43	22	24	433
	8:15 AM	13	66	23	8	101	51	35	20	28	33	26	22	426
	8:30 AM	17	68	21	16	111	49	30	19	20	39	24	16	430
	8:45 AM	20	55	25	14	98	30	21	13	9	30	25	18	358
	VOLUMES	140	511	154	76	765	362	231	124	116	308	234	156	3,177
	APPROACH %	17%	63%	19%	6%	64%	30%	49%	26%	25%	44%	34%	22%	
PM	APP/DEPART	805	/	898	1,203	/	1,189	471	/	354	698	/	736	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	64	263	93	48	416	176	123	74	68	145	97	80	1,647
	APPROACH %	15%	63%	22%	8%	65%	28%	46%	28%	26%	45%	30%	25%	
	PEAK HR FACTOR	0.938			0.909			0.798			0.904			0.951
	APP/DEPART	420	/	466	640	/	629	265	/	215	322	/	337	0
	4:00 PM	22	107	51	21	85	48	37	38	19	33	22	15	498
	4:15 PM	18	84	21	19	84	52	22	14	11	39	17	12	393
	4:30 PM	33	90	29	21	102	40	41	24	13	34	24	15	466
	4:45 PM	23	129	55	21	87	27	23	30	33	32	20	12	492
PM	5:00 PM	21	132	57	22	102	45	43	48	22	39	23	13	567
	5:15 PM	22	133	61	37	92	35	34	36	22	34	32	12	550
	5:30 PM	15	126	61	29	108	45	35	36	22	28	16	9	530
	5:45 PM	20	100	45	18	103	35	35	28	28	42	23	13	490
	VOLUMES	174	901	380	188	763	327	270	254	170	281	177	101	3,986
	APPROACH %	12%	62%	26%	15%	60%	26%	39%	37%	24%	50%	32%	18%	
	APP/DEPART	1,455	/	1,272	1,278	/	1,214	694	/	822	559	/	678	0
	BEGIN PEAK HR	4:45 PM												
	VOLUMES	81	520	234	109	389	152	135	150	99	133	91	46	2,139
	APPROACH %	10%	62%	28%	17%	60%	23%	35%	39%	26%	49%	34%	17%	
	PEAK HR FACTOR	0.966			0.893			0.850			0.865			0.943
	APP/DEPART	835	/	701	650	/	621	384	/	493	270	/	324	0

	1			1
				0
			1	1
				0
				0
				0
				0
				0
				0
				0
0	1	0	1	2
0	0	0	0	0



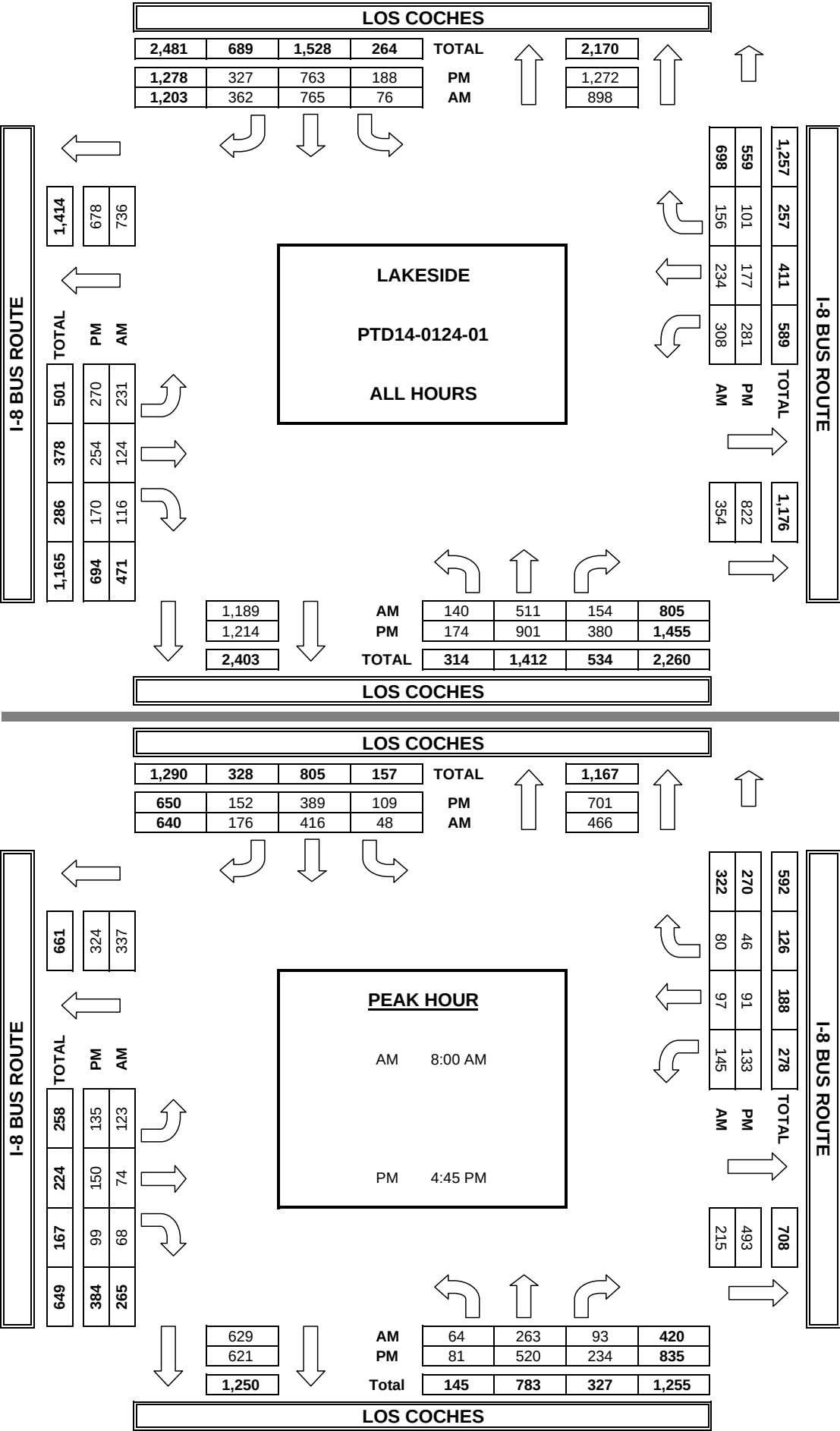
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

LAKE JENNINGS S-O EL MONTE

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	11	10			12:00	68	59		
00:15	5	11			12:15	56	64		
00:30	8	3			12:30	58	73		
00:45	7	31	7	31	12:45	87	269	84	280
01:00	4	5			13:00	54	63		
01:15	2	8			13:15	66	80		
01:30	6	3			13:30	69	95		
01:45	2	14	7	23	13:45	92	281	92	330
02:00	4	3			14:00	81	100		
02:15	2	2			14:15	73	73		
02:30	4	7			14:30	88	111		
02:45	6	16	5	17	14:45	90	332	111	395
03:00	2	5			15:00	100	117		
03:15	4	8			15:15	97	141		
03:30	5	3			15:30	93	124		
03:45	13	24	10	26	15:45	113	403	128	510
04:00	13	6			16:00	95	148		
04:15	11	8			16:15	116	151		
04:30	11	7			16:30	91	162		
04:45	17	52	10	31	16:45	98	400	148	609
05:00	29	16			17:00	96	178		
05:15	28	9			17:15	97	166		
05:30	43	23			17:30	103	161		
05:45	48	148	36	84	17:45	84	380	142	647
06:00	55	30			18:00	90	158		
06:15	80	50			18:15	76	121		
06:30	98	58			18:30	68	127		
06:45	105	338	73	211	18:45	54	288	93	499
07:00	116	95			19:00	35	81		
07:15	162	88			19:15	43	56		
07:30	141	81			19:30	38	63		
07:45	144	563	82	346	19:45	38	154	63	263
08:00	119	98			20:00	44	56		
08:15	90	91			20:15	41	49		
08:30	89	80			20:30	28	51		
08:45	79	377	72	341	20:45	40	153	31	187
09:00	104	86			21:00	37	44		
09:15	98	65			21:15	19	32		
09:30	88	63			21:30	31	40		
09:45	77	367	55	269	21:45	21	108	24	140
10:00	69	70			22:00	16	29		
10:15	63	66			22:15	14	25		
10:30	57	48			22:30	14	26		
10:45	71	260	57	241	22:45	10	54	17	97
11:00	88	62			23:00	15	28		
11:15	51	83			23:15	9	10		
11:30	68	52			23:30	16	19		
11:45	77	284	74	271	23:45	7	47	17	74
Total Vol.	2474	1891			4365	2869	4031		6900

Daily Totals				Combined
NB	SB	EB	WB	
5343	5922			11265

AM				PM		
Split %	56.7%	43.3%	38.7%	41.6%	58.4%	61.3%
Peak Hour	07:15	07:30	07:15	15:30	16:30	16:45
Volume	566	352	915	417	654	1047
P.H.F.	0.87	0.90	0.92	0.88	0.92	0.96

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

LAKE JENNINGS N-O HARRITT

AM Period	NB		SB		EB		WB		PM Period		NB		SB		EB		WB	
00:00	4		12						12:00	79		75						
00:15	11		14						12:15	66		66						
00:30	5		9						12:30	46		70						
00:45	7	27	3	38				65	12:45	64	255	75	286					541
01:00	9		5						13:00	82		97						
01:15	3		5						13:15	58		74						
01:30	3		8						13:30	65		80						
01:45	6	21	3	21				42	13:45	62	267	92	343					610
02:00	2		7						14:00	91		96						
02:15	3		4						14:15	84		108						
02:30	2		2						14:30	70		83						
02:45	6	13	7	20				33	14:45	88	333	109	396					729
03:00	6		5						15:00	89		109						
03:15	2		5						15:15	108		124						
03:30	5		9						15:30	84		141						
03:45	4	17	1	20				37	15:45	97	378	138	512					890
04:00	15		12						16:00	105		148						
04:15	14		7						16:15	121		151						
04:30	12		8						16:30	116		168						
04:45	11	52	7	34				86	16:45	98	440	151	618					1058
05:00	21		8						17:00	81		188						
05:15	27		17						17:15	121		152						
05:30	33		13						17:30	88		167						
05:45	43	124	24	62				186	17:45	91	381	148	655					1036
06:00	47		35						18:00	83		151						
06:15	55		42						18:15	83		155						
06:30	80		57						18:30	77		124						
06:45	114	296	57	191				487	18:45	68	311	135	565					876
07:00	121		90						19:00	50		102						
07:15	162		81						19:15	36		79						
07:30	144		96						19:30	42		68						
07:45	131	558	88	355				913	19:45	38	166	64	313					479
08:00	108		95						20:00	41		61						
08:15	88		81						20:15	40		52						
08:30	99		98						20:30	45		48						
08:45	84	379	77	351				730	20:45	32	158	52	213					371
09:00	93		101						21:00	42		31						
09:15	90		88						21:15	30		39						
09:30	99		72						21:30	27		36						
09:45	81	363	75	336				699	21:45	33	132	42	148					280
10:00	90		54						22:00	24		20						
10:15	65		77						22:15	16		31						
10:30	60		69						22:30	14		25						
10:45	56	271	58	258				529	22:45	15	69	29	105					174
11:00	65		64						23:00	14		16						
11:15	87		59						23:15	14		25						
11:30	55		84						23:30	9		11						
11:45	68	275	64	271				546	23:45	16	53	17	69					122
Total Vol.	2396		1957		4353				2943		4223		7166					

		Daily Totals		Combined
NB	SB	EB	WB	
5339	6180			11519

AM				PM		
Split %	55.0%	45.0%	37.8%	41.1%	58.9%	62.2%
Peak Hour	07:00	08:30	07:00	16:00	16:30	16:30
Volume	558	364	913	440	659	1075
P.H.F.	0.86	0.90	0.94	0.95	0.88	0.95

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

LAKE JENNINGS BTN HARRITT & BLOSSOM VALLEY

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	15	11			12:00	70	115		
00:15	20	16			12:15	87	84		
00:30	9	11			12:30	97	102		
00:45	12	56	15	53	12:45	85	339	86	387
01:00	12	12			13:00	67	74		
01:15	8	4			13:15	93	82		
01:30	10	9			13:30	100	104		
01:45	7	37	8	33	13:45	76	336	94	354
02:00	7	9			14:00	90	102		
02:15	6	7			14:15	90	113		
02:30	2	7			14:30	118	106		
02:45	4	19	2	25	14:45	98	396	114	435
03:00	4	3			15:00	102	92		
03:15	6	9			15:15	116	108		
03:30	6	9			15:30	112	110		
03:45	2	18	8	29	15:45	130	460	127	437
04:00	7	9			16:00	118	162		
04:15	5	3			16:15	129	151		
04:30	16	16			16:30	135	168		
04:45	14	42	8	36	16:45	105	487	177	658
05:00	10	7			17:00	116	184		
05:15	10	13			17:15	135	175		
05:30	20	20			17:30	98	161		
05:45	27	67	26	66	17:45	90	439	152	672
06:00	27	26			18:00	116	166		
06:15	41	45			18:15	124	178		
06:30	44	66			18:30	116	139		
06:45	61	173	53	190	18:45	121	477	147	630
07:00	105	121			19:00	107	119		
07:15	161	106			19:15	96	129		
07:30	144	124			19:30	79	108		
07:45	135	545	98	449	19:45	62	344	77	433
08:00	121	105			20:00	57	68		
08:15	98	126			20:15	52	64		
08:30	105	114			20:30	60	59		
08:45	88	412	88	433	20:45	62	231	53	244
09:00	132	115			21:00	61	55		
09:15	124	95			21:15	52	55		
09:30	99	116			21:30	62	37		
09:45	102	457	101	427	21:45	40	215	42	189
10:00	108	94			22:00	49	38		
10:15	92	81			22:15	49	41		
10:30	83	80			22:30	40	21		
10:45	65	348	92	347	22:45	25	163	32	132
11:00	69	91			23:00	27	27		
11:15	71	72			23:15	14	29		
11:30	86	90			23:30	24	18		
11:45	90	316	79	332	23:45	16	81	30	104
Total Vol.	2490	2420			4910	3968	4675		8643

Daily Totals				Combined
NB	SB	EB	WB	
6458	7095			13553

AM				PM		
Split %	50.7%	49.3%	36.2%	45.9%	54.1%	63.8%
Peak Hour	07:15	07:30	07:00	15:45	16:30	16:30
Volume	561	453	994	512	704	1195
P.H.F.	0.87	0.90	0.93	0.97	0.96	0.96

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

LAKE JENNINGS BTN BLOSSOM VALLEY & I-8 WB RAMPS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	21	18			12:00	116	138		
00:15	25	19			12:15	124	137		
00:30	19	10			12:30	119	148		
00:45	15	80	15	62	12:45	106	465	126	549
01:00	11	19			13:00	114	114		
01:15	15	12			13:15	126	134		
01:30	10	11			13:30	117	127		
01:45	9	45	14	56	13:45	124	481	119	494
02:00	12	19			14:00	141	141		
02:15	5	6			14:15	135	135		
02:30	9	9			14:30	116	126		
02:45	5	31	4	38	14:45	121	513	116	518
03:00	4	5			15:00	142	141		
03:15	6	4			15:15	135	135		
03:30	9	6			15:30	142	142		
03:45	8	27	9	24	15:45	165	584	162	580
04:00	4	12			16:00	184	195		
04:15	9	11			16:15	212	216		
04:30	12	18			16:30	195	205		
04:45	18	43	19	60	16:45	199	790	218	834
05:00	16	19			17:00	181	235		
05:15	19	24			17:15	188	202		
05:30	28	54			17:30	174	188		
05:45	33	96	77	174	17:45	159	702	191	816
06:00	44	84			18:00	148	189		
06:15	51	116			18:15	141	170		
06:30	68	125			18:30	156	161		
06:45	98	261	168	493	18:45	129	574	142	662
07:00	128	212			19:00	135	135		
07:15	141	215			19:15	122	141		
07:30	177	235			19:30	126	126		
07:45	161	607	188	850	19:45	108	491	118	520
08:00	135	191			20:00	122	105		
08:15	141	206			20:15	106	98		
08:30	118	189			20:30	98	70		
08:45	121	515	141	727	20:45	97	423	84	357
09:00	115	126			21:00	91	65		
09:15	135	135			21:15	88	44		
09:30	116	121			21:30	95	54		
09:45	108	474	124	506	21:45	68	342	35	198
10:00	116	116			22:00	70	40		
10:15	98	108			22:15	54	28		
10:30	103	109			22:30	66	35		
10:45	111	428	116	449	22:45	35	225	29	132
11:00	121	125			23:00	40	40		
11:15	105	123			23:15	28	28		
11:30	121	135			23:30	22	21		
11:45	128	475	124	507	23:45	26	116	26	115
Total Vol.	3082	3946			7028	5706	5775		11481
					Daily Totals				
					NB	SB	EB	WB	Combined
					8788	9721			18509
AM					PM				
Split %	43.9%	56.1%		38.0%	49.7%	50.3%			62.0%
Peak Hour	07:15	07:00		07:00	16:00	16:15			16:15
Volume	614	850		1457	790	874			1661
P.H.F.	0.87	0.90		0.88	0.93	0.93			0.97

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

I-8 BUS ROUTE W-O LAKE JENNINGS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			5	5	12:00			40	35			
00:15			8	4	12:15			53	44			
00:30			2	5	12:30			64	39			
00:45			3	18	5	19	37	52	209	48	166	375
01:00			1	3	13:00			55	33			
01:15			4	4	13:15			50	36			
01:30			1	4	13:30			65	49			
01:45			3	9	4	15	24	52	222	44	162	384
02:00			4	1	14:00			59	45			
02:15			0	1	14:15			59	54			
02:30			1	3	14:30			64	81			
02:45			6	11	4	9	20	51	233	44	224	457
03:00			0	1	15:00			58	67			
03:15			3	1	15:15			66	66			
03:30			4	4	15:30			85	62			
03:45			3	10	5	11	21	77	286	57	252	538
04:00			7	3	16:00			77	67			
04:15			9	1	16:15			75	62			
04:30			6	1	16:30			61	51			
04:45			9	31	8	13	44	65	278	63	243	521
05:00			14	6	17:00			66	54			
05:15			15	7	17:15			52	63			
05:30			21	13	17:30			48	67			
05:45			18	68	15	41	109	44	210	44	228	438
06:00			45	21	18:00			66	48			
06:15			34	15	18:15			55	51			
06:30			47	27	18:30			45	35			
06:45			75	201	36	99	300	40	206	44	178	384
07:00			68	44	19:00			36	36			
07:15			88	51	19:15			26	25			
07:30			91	58	19:30			21	26			
07:45			84	331	62	215	546	27	110	22	109	219
08:00			62	68	20:00			24	33			
08:15			68	55	20:15			30	32			
08:30			89	42	20:30			27	26			
08:45			55	274	60	225	499	17	98	19	110	208
09:00			52	55	21:00			15	21			
09:15			56	49	21:15			20	18			
09:30			37	44	21:30			15	19			
09:45			43	188	35	183	371	28	78	13	71	149
10:00			31	42	22:00			10	13			
10:15			44	36	22:15			16	13			
10:30			47	36	22:30			11	17			
10:45			39	161	50	164	325	14	51	7	50	101
11:00			61	45	23:00			8	9			
11:15			46	42	23:15			9	7			
11:30			34	38	23:30			6	8			
11:45			46	187	53	178	365	7	30	1	25	55
Total Vol.			1489	1172	2661				2011	1818	3829	

Total Vol.

1489

1172

2661

2011

1818

3829

Daily Totals

NB

SB

EB

WB

Combined

3500

2990

6490

AM

PM

Split %

56.0%

44.0%

41.0%

52.5%

47.5%

59.0%

Peak Hour

07:00

07:30

07:15

15:30

14:30

15:30

Volume

331

243

564

314

258

562

P.H.F.

0.91

0.89

0.95

0.92

0.80

0.96

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

RIDGE HILL W-O LAKE JENNINGS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			2	2	12:00			7	10
00:15			0	1	12:15			7	6
00:30			0	0	12:30			8	17
00:45			0	2	12:45			16	38
				1				18	51
				4					89
01:00			1	1	13:00			9	10
01:15			1	0	13:15			9	16
01:30			0	3	13:30			6	7
01:45			1	3	13:45			10	34
				1				8	41
				5					75
02:00			0	1	14:00			14	12
02:15			0	0	14:15			7	10
02:30			0	0	14:30			11	22
02:45			0	0	14:45			13	45
				3				8	52
				4					97
03:00			0	1	15:00			11	11
03:15			1	1	15:15			19	25
03:30			1	2	15:30			14	20
03:45			1	3	15:45			15	59
				1				24	80
				5					139
04:00			2	3	16:00			31	39
04:15			2	0	16:15			9	18
04:30			2	0	16:30			15	22
04:45			2	8	16:45			8	63
				0				21	100
				3					163
05:00			3	0	17:00			9	35
05:15			7	2	17:15			20	15
05:30			4	2	17:30			15	18
05:45			5	19	17:45			7	51
				1				20	88
				5					139
06:00			8	3	18:00			8	26
06:15			11	0	18:15			10	17
06:30			19	5	18:30			16	21
06:45			30	68	18:45			9	43
				8				12	76
				16					119
07:00			18	9	19:00			10	15
07:15			33	10	19:15			5	8
07:30			31	7	19:30			0	18
07:45			27	109	19:45			8	23
				7				9	50
				33					73
08:00			12	12	20:00			11	12
08:15			26	11	20:15			1	9
08:30			22	21	20:30			3	10
08:45			15	75	20:45			5	20
				11				5	36
				55					56
09:00			14	15	21:00			8	6
09:15			10	14	21:15			5	11
09:30			10	5	21:30			9	7
09:45			9	43	21:45			4	26
				6				4	28
				40					54
10:00			9	8	22:00			2	7
10:15			12	6	22:15			1	3
10:30			8	9	22:30			1	2
10:45			10	39	22:45			2	6
				11				2	14
				34					20
11:00			9	10	23:00			1	2
11:15			4	6	23:15			0	3
11:30			7	6	23:30			3	3
11:45			11	31	23:45			0	4
				8				0	8
				30					12
				61					

Total Vol.

400

234

634

412

624

1036

Daily Totals

NB

SB

EB

WB

Combined

812

858

1670

AM

PM

Split %

63.1%

36.9%

38.0%

39.8%

60.2%

62.0%

Peak Hour

06:45

08:30

06:45

15:15

15:15

15:15

Volume

112

61

146

79

108

187

P.H.F.

0.85

0.73

0.85

0.64

0.69

0.67

TUESDAY, JANUARY 28TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 E-0 LAKE JENNINGS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			14	5	12:00			106	112
00:15			8	4	12:15			101	120
00:30			7	1	12:30			143	115
00:45			0	29	12:45			104	454
				6				110	457
				16					911
				45					
01:00			3	4	13:00			112	111
01:15			4	5	13:15			135	104
01:30			3	1	13:30			109	90
01:45			2	12	13:45			147	503
				4				119	424
				14					927
				26					
02:00			6	2	14:00			140	118
02:15			5	1	14:15			127	136
02:30			4	10	14:30			141	136
02:45			2	17	14:45			141	549
				4				138	528
				17					1077
				34					
03:00			5	5	15:00			161	122
03:15			2	5	15:15			162	158
03:30			4	5	15:30			161	123
03:45			3	14	15:45			162	646
				4				141	544
				19					1190
				33					
04:00			2	10	16:00			184	131
04:15			3	15	16:15			177	135
04:30			8	15	16:30			195	151
04:45			7	20	16:45			161	717
				14				138	555
				54					1272
				74					
05:00			14	27	17:00			151	122
05:15			12	22	17:15			162	131
05:30			22	69	17:30			148	119
05:45			31	79	17:45			144	605
				68				88	460
				186					1065
				265					
06:00			55	68	18:00			127	98
06:15			45	96	18:15			124	98
06:30			49	129	18:30			122	98
06:45			49	198	18:45			113	486
				116				89	383
				409					869
				607					
07:00			80	141	19:00			77	59
07:15			89	151	19:15			72	49
07:30			116	148	19:30			75	57
07:45			121	406	19:45			79	303
				156				50	215
				596					518
				1002					
08:00			105	135	20:00			83	42
08:15			116	109	20:15			76	49
08:30			128	144	20:30			55	51
08:45			115	464	20:45			53	267
				151				47	189
				539					456
				1003					
09:00			107	158	21:00			54	37
09:15			77	124	21:15			42	27
09:30			83	97	21:30			49	29
09:45			75	342	21:45			44	189
				105				39	132
				484					321
				826					
10:00			71	80	22:00			33	18
10:15			64	82	22:15			30	30
10:30			75	101	22:30			28	35
10:45			80	290	22:45			37	128
				105				19	102
				368					230
				658					
11:00			98	100	23:00			22	19
11:15			102	104	23:15			14	15
11:30			104	103	23:30			26	11
11:45			109	413	23:45			9	71
				112				10	55
				419					126
				832					

Total Vol.		2284	3121	5405			4918	4044	8962
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		Daily Totals		
NB	SB	EB	WB	Combined
		7202	7165	14367

AM				PM		
Split %						
	42.3%	57.7%	37.6 %	54.9%	45.1%	62.4 %
Peak Hour	07:45	07:00	08:15	15:45	15:45	15:45
Volume	470	596	1028	718	558	1276
P.H.F.	0.92	0.96	0.94	0.92	0.92	0.92

PACIFIC TECHNICAL DATA

TUESDAY, JANUARY 28TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 BTN PECAN PARK WEST & PECAN PARK EAST

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			29	1	12:00			73	83			
00:15			5	4	12:15			86	93			
00:30			5	5	12:30			111	89			
00:45			7	46	3	13	59	86	356	85	350	706
01:00			3	1	13:00			90	73			
01:15			2	2	13:15			102	68			
01:30			2	2	13:30			99	60			
01:45			1	8	1	6	14	110	401	71	272	673
02:00			5	0	14:00			91	96			
02:15			6	4	14:15			95	100			
02:30			1	1	14:30			97	96			
02:45			5	17	1	6	23	74	357	82	374	731
03:00			3	4	15:00			103	63			
03:15			4	4	15:15			133	90			
03:30			1	4	15:30			132	77			
03:45			3	11	5	17	28	109	477	130	360	837
04:00			7	2	16:00			115	98			
04:15			0	12	16:15			131	105			
04:30			6	8	16:30			122	111			
04:45			6	19	10	32	51	115	483	121	435	918
05:00			19	12	17:00			128	101			
05:15			16	22	17:15			109	88			
05:30			13	41	17:30			116	81			
05:45			29	77	42	117	194	98	451	77	347	798
06:00			50	52	18:00			103	76			
06:15			42	56	18:15			75	63			
06:30			46	91	18:30			98	47			
06:45			48	186	95	294	480	61	337	50	236	573
07:00			66	105	19:00			68	49			
07:15			71	116	19:15			57	28			
07:30			84	116	19:30			47	37			
07:45			95	316	121	458	774	46	218	33	147	365
08:00			88	105	20:00			49	18			
08:15			71	88	20:15			45	27			
08:30			66	91	20:30			35	13			
08:45			64	289	95	379	668	37	166	23	81	247
09:00			56	92	21:00			25	15			
09:15			52	70	21:15			34	18			
09:30			61	81	21:30			36	21			
09:45			54	223	78	321	544	20	115	7	61	176
10:00			59	64	22:00			24	8			
10:15			60	64	22:15			21	9			
10:30			58	84	22:30			12	9			
10:45			70	247	72	284	531	9	66	5	31	97
11:00			66	93	23:00			12	9			
11:15			61	69	23:15			12	10			
11:30			78	72	23:30			18	4			
11:45			56	261	95	329	590	6	48	1	24	72
Total Vol.			1700	2256	3956				3475	2718	6193	

Total Vol.		1700	2256	3956			3475	2718	6193
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		Daily Totals		
NB	SB	EB	WB	Combined
		5175	4974	10149

AM				PM		
Split %	43.0%	57.0%	39.0%	56.1%	43.9%	61.0%
Peak Hour	07:15	07:00	07:15	16:15	15:45	16:15
Volume	338	458	796	496	444	934
P.H.F.	0.89	0.95	0.92	0.95	0.85	0.99

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 E-O PECAN PARK EAST

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			8	1	12:00			70	80
00:15			6	4	12:15			86	100
00:30			4	5	12:30			101	78
00:45			7	25	12:45			83	340
				4				84	342
				14					682
01:00			3	1	13:00			86	78
01:15			2	2	13:15			100	62
01:30			2	2	13:30			89	64
01:45			1	8	13:45			108	383
				1				72	276
				6					659
02:00			5	0	14:00			85	93
02:15			4	5	14:15			92	110
02:30			1	0	14:30			86	97
02:45			5	15	14:45			80	343
				1				86	386
				6					729
03:00			4	4	15:00			97	70
03:15			4	5	15:15			136	84
03:30			1	4	15:30			139	74
03:45			5	14	15:45			98	470
				3				132	360
				16					830
04:00			6	2	16:00			114	91
04:15			0	12	16:15			148	105
04:30			4	9	16:30			131	111
04:45			5	15	16:45			126	519
				10				116	423
				33					942
05:00			15	13	17:00			121	101
05:15			13	22	17:15			122	95
05:30			12	38	17:30			103	95
05:45			21	61	17:45			101	447
				45				77	368
				118					815
06:00			43	46	18:00			97	72
06:15			41	54	18:15			76	58
06:30			39	90	18:30			96	46
06:45			47	170	18:45			64	333
				97				48	224
				287					557
07:00			68	91	19:00			68	52
07:15			77	103	19:15			49	26
07:30			84	111	19:30			45	40
07:45			111	340	19:45			42	204
				121				35	153
				426					357
08:00			89	105	20:00			50	16
08:15			77	88	20:15			38	31
08:30			75	90	20:30			34	13
08:45			71	312	20:45			35	157
				106				23	83
				389					240
09:00			64	100	21:00			25	14
09:15			54	67	21:15			34	20
09:30			53	80	21:30			32	20
09:45			53	224	21:45			21	112
				76				7	61
				323					173
10:00			61	65	22:00			27	10
10:15			58	60	22:15			19	8
10:30			57	82	22:30			13	9
10:45			67	243	22:45			10	69
				78				6	33
				285					102
11:00			67	90	23:00			13	8
11:15			63	69	23:15			12	10
11:30			75	66	23:30			18	4
11:45			58	263	23:45			5	48
				96				1	23
				321					71
				584					

Total Vol.		1690	2224	3914			3425	2732	6157
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		Daily Totals		
NB	SB	EB	WB	Combined
		5115	4956	10071

AM				PM		
Split %						
	43.2%	56.8%	38.9%		55.6%	44.4%
Peak Hour	07:15	07:15	07:15		16:15	15:45
Volume	361	440	801		526	439
P.H.F.	0.81	0.91	0.86		0.89	0.83
						0.95

PACIFIC TECHNICAL DATA

TUESDAY, JANUARY 28TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 BTN BOND & CHIMNEY

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			9	2	12:00			77	88
00:15			7	4	12:15			81	101
00:30			5	3	12:30			105	77
00:45			4	25	12:45			89	352
				5				81	347
				14					699
				39					
01:00			3	2	13:00			88	70
01:15			2	4	13:15			103	62
01:30			4	2	13:30			95	66
01:45			2	11	13:45			116	402
				1				70	268
				9					670
				20					
02:00			1	1	14:00			80	91
02:15			1	4	14:15			89	101
02:30			3	1	14:30			88	94
02:45			5	10	14:45			81	338
				3				81	367
				9					705
				19					
03:00			4	4	15:00			95	65
03:15			4	3	15:15			131	88
03:30			3	5	15:30			141	78
03:45			2	13	15:45			90	457
				6				131	362
				18					819
				31					
04:00			4	2	16:00			110	90
04:15			1	8	16:15			141	101
04:30			2	11	16:30			135	113
04:45			6	13	16:45			121	507
				12				114	418
				33					925
				46					
05:00			12	14	17:00			128	95
05:15			14	18	17:15			116	90
05:30			11	35	17:30			101	84
05:45			18	55	17:45			98	443
				44				84	353
				111					796
				166					
06:00			37	51	18:00			90	81
06:15			44	58	18:15			88	50
06:30			36	92	18:30			81	51
06:45			41	158	18:45			77	336
				96				40	222
				297					558
				455					
07:00			66	99	19:00			62	48
07:15			78	116	19:15			51	31
07:30			81	105	19:30			48	42
07:45			116	341	19:45			50	211
				122				36	157
				442					368
				783					
08:00			90	108	20:00			43	15
08:15			75	95	20:15			39	24
08:30			88	92	20:30			40	20
08:45			76	329	20:45			31	153
				101				18	77
				396					230
				725					
09:00			68	95	21:00			26	11
09:15			55	66	21:15			31	19
09:30			48	78	21:30			33	10
09:45			51	222	21:45			27	117
				71				7	47
				310					164
				532					
10:00			66	66	22:00			21	9
10:15			62	62	22:15			20	7
10:30			58	81	22:30			15	5
10:45			61	247	22:45			11	67
				70				9	30
				279					97
				526					
11:00			66	85	23:00			9	5
11:15			64	66	23:15			10	7
11:30			78	67	23:30			16	3
11:45			60	268	23:45			5	40
				91				2	17
				309					57
				577					

Total Vol.		1692	2227	3919			3423	2665	6088
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		Daily Totals				
NB	SB	EB	WB	Combined		
		5115	4892	10007		

AM				PM		
Split %						
	43.2%	56.8%	39.2%	56.2%	43.8%	60.8%
Peak Hour	07:45	07:15	07:15	16:15	15:45	16:15
Volume	369	451	816	525	435	948
P.H.F.	0.80	0.92	0.86	0.93	0.83	0.96

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 BTN CHIMNEY & FLINN CREST

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			8	1	12:00			58	61			
00:15			4	3	12:15			69	65			
00:30			5	4	12:30			77	58			
00:45			8	25	4	12	37	75	279	57	241	520
01:00			3	1	13:00			68	57			
01:15			2	2	13:15			82	55			
01:30			3	2	13:30			68	51			
01:45			1	9	1	6	15	83	301	54	217	518
02:00			4	0	14:00			95	70			
02:15			5	4	14:15			77	100			
02:30			1	0	14:30			71	88			
02:45			5	15	0	4	19	66	309	66	324	633
03:00			2	4	15:00			73	51			
03:15			1	3	15:15			124	64			
03:30			1	5	15:30			114	57			
03:45			3	7	2	14	21	91	402	81	253	655
04:00			4	2	16:00			98	66			
04:15			0	12	16:15			99	80			
04:30			4	6	16:30			116	70			
04:45			4	12	10	30	42	102	415	78	294	709
05:00			7	10	17:00			111	68			
05:15			9	17	17:15			102	57			
05:30			6	33	17:30			107	48			
05:45			16	38	39	99	137	100	420	46	219	639
06:00			34	40	18:00			93	51			
06:15			21	45	18:15			66	43			
06:30			25	73	18:30			82	33			
06:45			28	108	83	241	349	62	303	38	165	468
07:00			42	56	19:00			54	38			
07:15			45	67	19:15			54	20			
07:30			50	70	19:30			40	25			
07:45			81	218	85	278	496	42	190	23	106	296
08:00			65	81	20:00			43	14			
08:15			49	121	20:15			39	24			
08:30			42	102	20:30			31	10			
08:45			61	217	81	385	602	32	145	17	65	210
09:00			50	89	21:00			28	13			
09:15			33	56	21:15			28	11			
09:30			39	67	21:30			28	11			
09:45			44	166	59	271	437	21	105	5	40	145
10:00			39	51	22:00			23	8			
10:15			53	44	22:15			16	6			
10:30			44	64	22:30			16	8			
10:45			53	189	66	225	414	6	61	6	28	89
11:00			46	63	23:00			11	5			
11:15			56	52	23:15			10	7			
11:30			60	55	23:30			16	3			
11:45			48	210	67	237	447	7	44	1	16	60
Total Vol.			1214	1802	3016				2974	1968	4942	

Total Vol.

1214 1802 3016

Daily Totals

NB	SB	EB	WB	Combined
		4188	3770	7958

AM

PM

Split %	40.3%	59.7%	37.9%	60.2%	39.8%	62.1%
Peak Hour	11:45	08:15	07:45	16:30	14:00	16:15
Volume	252	393	626	431	324	724
P.H.F.	0.82	0.81	0.92	0.93	0.81	0.97

PACIFIC TECHNICAL DATA

TUESDAY, JANUARY 28TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 BTN FLINN CREST & MARINA

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB	
00:00			10	2	12:00			51	60	
00:15			7	2	12:15			66	65	
00:30			5	5	12:30			70	51	
00:45			4	26	12:45			78	265	
				4				44	220	
				13					485	
01:00			6	3	13:00			51	58	
01:15			4	1	13:15			77	55	
01:30			2	1	13:30			75	51	
01:45			1	13	13:45			69	272	
				2				48	212	
				7					484	
02:00			2	1	14:00			95	62	
02:15			1	2	14:15			88	88	
02:30			1	1	14:30			65	51	
02:45			4	8	14:45			67	315	
				0				68	269	
				4					584	
03:00			3	3	15:00			68	52	
03:15			2	4	15:15			105	50	
03:30			3	4	15:30			98	53	
03:45			3	11	15:45			87	358	
				2				69	224	
				13					582	
04:00			4	4	16:00			85	58	
04:15			2	8	16:15			95	66	
04:30			4	10	16:30			103	70	
04:45			5	15	16:45			101	384	
				9				75	269	
				31					653	
05:00			6	11	17:00			97	66	
05:15			7	18	17:15			104	51	
05:30			6	24	17:30			88	48	
05:45			11	30	17:45			91	380	
				38				35	200	
				91					580	
06:00			27	44	18:00			88	42	
06:15			26	41	18:15			70	31	
06:30			24	58	18:30			68	33	
06:45			28	105	18:45			51	277	
				60				35	141	
				203					418	
				308						
07:00			44	51	19:00			44	31	
07:15			48	66	19:15			42	20	
07:30			41	62	19:30			40	19	
07:45			69	202	19:45			37	163	
				77				26	96	
				256					259	
				458						
08:00			77	78	20:00			31	15	
08:15			55	105	20:15			38	21	
08:30			40	95	20:30			25	19	
08:45			59	231	20:45			28	122	
				80				21	76	
				358					198	
				589						
09:00			48	78	21:00			22	13	
09:15			38	66	21:15			29	11	
09:30			31	54	21:30			23	9	
09:45			39	156	21:45			20	94	
				58				5	38	
				256					132	
				412						
10:00			42	51	22:00			18	9	
10:15			50	40	22:15			19	7	
10:30			44	52	22:30			12	5	
10:45			58	194	22:45			8	57	
				62				6	27	
				205					84	
				399						
11:00			57	58	23:00			10	7	
11:15			55	54	23:15			7	8	
11:30			58	58	23:30			9	3	
11:45			51	221	23:45			8	34	
				55				2	20	
				225					54	
				446						
Total Vol.			1212	1662	2874			2721	1792	4513

		Daily Totals		
NB	SB	EB	WB	Combined
		3933	3454	7387

AM				PM		
Split %	42.2%	57.8%	38.9%	60.3%	39.7%	61.1%
Peak Hour	07:30	08:00	07:45	16:30	16:15	16:15
Volume	242	358	596	405	277	673
P.H.F.	0.79	0.85	0.93	0.97	0.92	0.96

PACIFIC TECHNICAL DATA

THURSDAY, JANUARY 23RD, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

OLDE HWY 80 E-O MARINA SPRINGS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			9	1	12:00			47	57
00:15			4	2	12:15			63	58
00:30			2	4	12:30			69	49
00:45			8	23	4	11	34	72	251
					12:45			49	213
									464
01:00			2	1	13:00			59	55
01:15			1	1	13:15			80	48
01:30			1	0	13:30			69	49
01:45			1	5	1	3	8	68	276
					13:45			48	200
									476
02:00			4	0	14:00			89	56
02:15			5	3	14:15			78	96
02:30			0	0	14:30			66	48
02:45			6	15	0	3	18	67	300
					14:45			61	261
									561
03:00			2	4	15:00			59	40
03:15			1	3	15:15			107	54
03:30			1	2	15:30			95	50
03:45			3	7	2	11	18	90	351
					15:45			77	221
									572
04:00			3	2	16:00			81	56
04:15			1	11	16:15			91	68
04:30			2	8	16:30			111	69
04:45			3	9	6	27	36	93	376
					16:45			64	257
									633
05:00			5	9	17:00			93	61
05:15			10	17	17:15			105	55
05:30			5	25	17:30			95	41
05:45			14	34	33	84	118	87	380
					17:45			38	195
									575
06:00			33	39	18:00			80	50
06:15			18	40	18:15			60	39
06:30			27	65	18:30			74	26
06:45			25	103	62	206	309	47	261
					18:45			30	145
									406
07:00			40	50	19:00			49	35
07:15			45	57	19:15			40	15
07:30			49	58	19:30			39	19
07:45			77	211	76	241	452	35	163
					19:45			22	91
									254
08:00			68	70	20:00			35	12
08:15			47	112	20:15			37	25
08:30			41	86	20:30			26	11
08:45			62	218	70	338	556	27	125
					20:45			16	64
									189
09:00			45	76	21:00			26	14
09:15			32	51	21:15			22	10
09:30			30	56	21:30			21	9
09:45			42	149	56	239	388	18	87
					21:45			5	38
									125
10:00			33	45	22:00			23	5
10:15			51	37	22:15			15	5
10:30			36	54	22:30			13	8
10:45			51	171	63	199	370	4	55
					22:45			5	23
									78
11:00			44	53	23:00			9	5
11:15			59	50	23:15			9	7
11:30			51	51	23:30			13	2
11:45			46	200	54	208	408	6	37
					23:45			1	15
									52

Total Vol.

1145

1570

2715

2662

1723

4385

Daily Totals

NB

SB

EB

WB

Combined

3807

3293

7100

AM

PM

Split %

42.2%

57.8%

38.2%

60.7%

39.3%

61.8%

Peak Hour

07:30

07:45

07:45

16:30

15:45

16:30

Volume

241

344

577

402

270

651

P.H.F.

0.78

0.77

0.91

0.91

0.88

0.90

PACIFIC TECHNICAL DATA

TUESDAY, JANUARY 28TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

RIOS S-O PECAN PARK

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	3	3			12:00	20	16		
00:15	1	2			12:15	18	21		
00:30	2	2			12:30	19	20		
00:45	4	10	3	10	12:45	22	79	17	74
01:00	0	1			13:00	7	25		
01:15	2	1			13:15	22	17		
01:30	0	1			13:30	23	18		
01:45	1	3	1	4	13:45	22	74	22	82
02:00	2	2			14:00	13	28		
02:15	0	2			14:15	22	28		
02:30	0	0			14:30	26	38		
02:45	1	3	0	4	14:45	28	89	41	135
03:00	2	0			15:00	30	62		
03:15	0	3			15:15	89	50		
03:30	3	0			15:30	44	40		
03:45	4	9	1	4	15:45	37	200	40	192
04:00	3	1			16:00	51	44		
04:15	7	1			16:15	44	48		
04:30	7	1			16:30	31	51		
04:45	3	20	0	3	16:45	33	159	32	175
05:00	9	0			17:00	28	39		
05:15	14	2			17:15	21	40		
05:30	19	4			17:30	26	31		
05:45	23	65	0	6	17:45	21	96	32	142
06:00	19	4			18:00	14	32		
06:15	27	5			18:15	19	28		
06:30	36	8			18:30	19	30		
06:45	38	120	7	24	18:45	18	70	28	118
07:00	38	10			19:00	11	28		
07:15	40	11			19:15	8	25		
07:30	44	15			19:30	15	20		
07:45	31	153	19	55	19:45	7	41	18	91
08:00	28	21			20:00	9	20		
08:15	31	44			20:15	6	17		
08:30	66	68			20:30	7	14		
08:45	60	185	51	184	20:45	3	25	14	65
09:00	67	69			21:00	4	15		
09:15	37	20			21:15	6	16		
09:30	20	10			21:30	5	12		
09:45	19	143	14	113	21:45	6	21	16	59
10:00	24	20			22:00	3	10		
10:15	22	13			22:15	5	5		
10:30	11	9			22:30	7	10		
10:45	25	82	11	53	22:45	5	20	9	34
11:00	17	20			23:00	5	11		
11:15	18	32			23:15	3	4		
11:30	30	15			23:30	0	7		
11:45	29	94	20	87	23:45	1	9	0	22
Total Vol.	887	547			1434	883	1189		2072

Daily Totals				Combined
NB	SB	EB	WB	
1770	1736			3506

AM				PM		
Split %	61.9%	38.1%	40.9%	42.6%	57.4%	59.1%
Peak Hour	08:30	08:15	08:15	15:15	14:45	15:15
Volume	230	232	456	221	193	395
P.H.F.	0.86	0.84	0.84	0.58	0.78	0.71

PACIFIC TECHNICAL DATA

WEDNESDAY, JANUARY 29TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

MAPLEVIEW BTN MAINE & ASHWOOD

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			51	49	12:00			137	122			
00:15			37	56	12:15			136	119			
00:30			37	51	12:30			127	149			
00:45			33	158	50	206	364	145	545	112	502	1047
01:00			25	35	13:00			155	124			
01:15			23	44	13:15			160	159			
01:30			25	39	13:30			178	166			
01:45			39	112	46	164	276	178	671	137	586	1257
02:00			15	40	14:00			172	141			
02:15			13	45	14:15			196	167			
02:30			18	24	14:30			208	184			
02:45			12	58	38	147	205	214	790	159	651	1441
03:00			12	39	15:00			238	137			
03:15			10	41	15:15			207	162			
03:30			10	40	15:30			184	147			
03:45			15	47	39	159	206	222	851	131	577	1428
04:00			15	34	16:00			205	188			
04:15			8	41	16:15			218	135			
04:30			11	65	16:30			222	168			
04:45			22	56	63	203	259	215	860	161	652	1512
05:00			22	82	17:00			212	177			
05:15			32	119	17:15			235	151			
05:30			32	125	17:30			208	154			
05:45			64	150	142	468	618	206	861	101	583	1444
06:00			64	151	18:00			212	116			
06:15			81	162	18:15			205	106			
06:30			108	177	18:30			219	109			
06:45			114	367	161	651	1018	184	820	92	423	1243
07:00			98	205	19:00			196	104			
07:15			141	168	19:15			151	107			
07:30			155	195	19:30			165	76			
07:45			141	535	222	790	1325	174	686	100	387	1073
08:00			135	218	20:00			136	101			
08:15			134	181	20:15			130	122			
08:30			184	161	20:30			124	85			
08:45			116	569	110	670	1239	104	494	77	385	879
09:00			137	174	21:00			119	65			
09:15			129	155	21:15			104	55			
09:30			128	147	21:30			118	60			
09:45			134	528	129	605	1133	122	463	51	231	694
10:00			113	131	22:00			101	51			
10:15			126	164	22:15			92	61			
10:30			116	120	22:30			68	61			
10:45			132	487	117	532	1019	69	330	58	231	561
11:00			126	118	23:00			76	66			
11:15			168	136	23:15			57	69			
11:30			143	136	23:30			42	47			
11:45			183	620	141	531	1151	64	239	39	221	460
Total Vol.			3687	5126	8813			7610	5429	13039		

		Daily Totals		Combined
NB	SB	EB	WB	
		11297	10555	21852

AM				PM		
Split %	41.8%	58.2%	40.3%	58.4%	41.6%	59.7%
Peak Hour	11:15	07:30	07:30	16:30	16:30	16:30
Volume	631	816	1381	884	657	1541
P.H.F.	0.86	0.92	0.95	0.94	0.93	0.99

PACIFIC TECHNICAL DATA

WEDNESDAY, JANUARY 29TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

MAPLEVIEW BTN ASHWOOD & PINO

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			20	6	12:00			65	61
00:15			15	14	12:15			61	61
00:30			13	14	12:30			87	98
00:45			10	58	12:45			84	297
				3				69	289
				37					586
01:00			10	7	13:00			78	67
01:15			7	8	13:15			103	64
01:30			2	12	13:30			80	85
01:45			9	28	13:45			134	395
				5				84	300
				32					695
02:00			7	8	14:00			98	74
02:15			10	6	14:15			93	87
02:30			9	4	14:30			120	110
02:45			4	30	14:45			153	464
				3				100	371
				21					835
03:00			5	4	15:00			159	86
03:15			4	7	15:15			130	82
03:30			7	6	15:30			98	92
03:45			6	22	15:45			136	523
				14				87	347
				31					870
04:00			9	14	16:00			151	98
04:15			4	8	16:15			155	105
04:30			10	19	16:30			156	111
04:45			6	29	16:45			167	629
				27				81	395
				68					1024
05:00			18	28	17:00			168	110
05:15			18	35	17:15			199	98
05:30			20	44	17:30			154	91
05:45			39	95	17:45			177	698
				51				88	387
				158					1085
06:00			39	48	18:00			153	74
06:15			47	55	18:15			151	80
06:30			43	68	18:30			137	45
06:45			63	192	18:45			99	540
				84				63	262
				255					802
07:00			88	66	19:00			89	48
07:15			81	70	19:15			84	61
07:30			84	191	19:30			76	37
07:45			89	342	19:45			89	338
				162				42	188
				489					526
08:00			115	166	20:00			76	33
08:15			81	135	20:15			67	35
08:30			90	131	20:30			58	46
08:45			77	363	20:45			47	248
				88				32	146
				520					394
09:00			65	97	21:00			43	22
09:15			80	108	21:15			43	24
09:30			68	97	21:30			47	18
09:45			46	259	21:45			42	175
				90				28	92
				392					267
10:00			58	75	22:00			42	22
10:15			63	80	22:15			41	15
10:30			55	74	22:30			36	15
10:45			90	266	22:45			30	149
				56				18	70
				285					219
11:00			72	81	23:00			20	16
11:15			78	79	23:15			26	12
11:30			68	71	23:30			14	14
11:45			67	285	23:45			12	72
				81				8	50
				312					122
				597					

Total Vol.	1969	2600	4569		4528	2897	7425
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		Daily Totals		
NB	SB	EB	WB	Combined
		6497	5497	11994

AM				PM		
Split %	43.1%	56.9%	38.1%	61.0%	39.0%	61.9%
Peak Hour	07:45	07:30	07:30	17:00	16:15	16:30
Volume	375	654	1023	698	407	1090
P.H.F.	0.82	0.86	0.91	0.88	0.92	0.92

PACIFIC TECHNICAL DATA

WEDNESDAY, JANUARY 29TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

LAKE JENNINGS BTN PINO & EL MONTE

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	10	20			12:00	55	53		
00:15	14	9			12:15	57	52		
00:30	5	11			12:30	69	79		
00:45	4	33	12	52	12:45	62	243	68	252
01:00	14	9			13:00	52	69		
01:15	12	6			13:15	82	82		
01:30	4	3			13:30	62	71		
01:45	6	36	7	25	13:45	63	259	92	314
02:00	7	7			14:00	65	73		
02:15	12	8			14:15	77	76		
02:30	5	8			14:30	63	113		
02:45	6	30	4	27	14:45	62	267	115	377
03:00	4	4			15:00	72	130		
03:15	2	4			15:15	98	109		
03:30	3	4			15:30	87	76		
03:45	4	13	5	17	15:45	78	335	134	449
04:00	7	9			16:00	81	121		
04:15	6	3			16:15	95	155		
04:30	14	8			16:30	98	141		
04:45	11	38	7	27	16:45	70	344	140	557
05:00	6	18			17:00	116	138		
05:15	16	16			17:15	90	142		
05:30	21	22			17:30	84	135		
05:45	27	70	41	97	17:45	61	351	141	556
06:00	33	34			18:00	72	141		
06:15	51	47			18:15	103	117		
06:30	56	43			18:30	75	113		
06:45	55	195	54	178	18:45	65	315	83	454
07:00	44	68			19:00	67	74		
07:15	31	70			19:15	36	68		
07:30	126	74			19:30	57	63		
07:45	131	332	88	300	19:45	45	205	70	275
08:00	138	105			20:00	55	56		
08:15	116	81			20:15	35	53		
08:30	105	88			20:30	34	47		
08:45	80	439	70	344	20:45	26	150	35	191
09:00	89	61			21:00	30	36		
09:15	90	71			21:15	33	36		
09:30	102	66			21:30	27	35		
09:45	83	364	43	241	21:45	18	108	31	138
10:00	102	56			22:00	25	31		
10:15	76	57			22:15	15	33		
10:30	85	59			22:30	21	33		
10:45	74	337	77	249	22:45	22	83	22	119
11:00	72	59			23:00	15	16		
11:15	56	71			23:15	11	19		
11:30	53	62			23:30	15	13		
11:45	73	254	60	252	23:45	9	50	9	57
Total Vol.	2141	1809			3950	2710	3739		6449

Daily Totals				Combined
NB	SB	EB	WB	
4851	5548			10399

AM				PM		
Split %	54.2%	45.8%	38.0%	42.0%	58.0%	62.0%
Peak Hour	07:30	07:45	07:30	16:15	16:15	16:15
Volume	511	362	859	379	574	953
P.H.F.	0.93	0.86	0.88	0.85	0.93	0.94

PACIFIC TECHNICAL DATA

WEDNESDAY, JANUARY 29TH, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

I-8 BUS ROUTE E-O LOS COCHES

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			16	5	12:00			83	69
00:15			7	7	12:15			48	68
00:30			13	2	12:30			72	64
00:45			18	54	12:45			82	285
				6				65	266
				20					551
01:00			9	5	13:00			63	67
01:15			3	5	13:15			64	83
01:30			4	2	13:30			83	59
01:45			6	22	13:45			78	288
				4				61	270
				16					558
02:00			1	2	14:00			100	58
02:15			2	4	14:15			79	59
02:30			2	4	14:30			83	77
02:45			5	10	14:45			80	342
				1				90	284
				11					626
03:00			1	3	15:00			96	74
03:15			2	4	15:15			113	82
03:30			4	2	15:30			104	64
03:45			3	10	15:45			112	425
				4				56	276
				13					701
04:00			3	4	16:00			108	88
04:15			3	6	16:15			62	61
04:30			3	5	16:30			77	70
04:45			3	12	16:45			105	352
				15				68	287
				30					639
05:00			3	19	17:00			121	75
05:15			4	17	17:15			142	81
05:30			8	35	17:30			133	60
05:45			19	34	17:45			90	486
				50				77	293
				121					779
06:00			18	51	18:00			87	71
06:15			15	56	18:15			99	81
06:30			15	54	18:30			95	48
06:45			23	71	18:45			95	376
				82				56	256
				243					632
07:00			33	98	19:00			92	48
07:15			48	90	19:15			64	37
07:30			35	116	19:30			57	41
07:45			40	156	19:45			50	263
				80				30	156
				384					419
08:00			51	81	20:00			48	40
08:15			55	84	20:15			37	35
08:30			62	82	20:30			46	27
08:45			48	216	20:45			52	183
				77				23	125
				324					308
09:00			49	101	21:00			53	39
09:15			43	96	21:15			39	33
09:30			47	88	21:30			44	25
09:45			43	182	21:45			37	173
				49				23	120
				334					293
10:00			47	73	22:00			22	13
10:15			58	65	22:15			19	23
10:30			68	67	22:30			24	26
10:45			52	225	22:45			25	90
				61				18	80
				266					170
11:00			71	75	23:00			21	21
11:15			65	84	23:15			20	7
11:30			67	57	23:30			13	7
11:45			61	264	23:45			13	67
				57				5	40
				273					107
				537					

Total Vol.		1256	2035	3291			3330	2453	5783
-------------------	--	------	------	-------------	--	--	------	------	-------------

		Daily Totals		
NB	SB	EB	WB	Combined
		4586	4488	9074

AM				PM		
Split %						
	38.2%	61.8%	36.3%	57.6%	42.4%	63.7%
Peak Hour	11:15	06:45	08:15	16:45	14:30	16:45
Volume	276	386	558	501	323	785
P.H.F.	0.83	0.83	0.93	0.88	0.90	0.88

PACIFIC TECHNICAL DATA

WEDNESDAY, FEBRUARY 26, 2014

CITY: LAKESIDE

PROJECT: PTD14-0124-01

JULIAN W-O LAKE JENNINGS PARK

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			2	1	12:00			37	45
00:15			4	1	12:15			52	44
00:30			0	0	12:30			31	37
00:45			1	7	12:45			30	150
				1				35	161
				3					311
01:00			0	1	13:00			30	41
01:15			2	3	13:15			47	28
01:30			1	1	13:30			39	28
01:45			2	5	13:45			39	155
				0				32	129
				5					284
02:00			1	0	14:00			28	24
02:15			0	0	14:15			35	25
02:30			3	0	14:30			48	29
02:45			2	6	14:45			29	140
				1				24	102
				7					242
03:00			0	0	15:00			37	37
03:15			1	0	15:15			39	29
03:30			2	4	15:30			41	29
03:45			5	8	15:45			37	154
				2				38	133
				6					287
04:00			1	0	16:00			41	29
04:15			1	3	16:15			40	38
04:30			2	3	16:30			55	37
04:45			3	7	16:45			53	189
				2				38	142
				8					331
05:00			3	1	17:00			55	38
05:15			8	3	17:15			55	38
05:30			9	8	17:30			52	32
05:45			16	36	17:45			53	215
				8				51	159
				20					374
06:00			12	10	18:00			51	30
06:15			9	14	18:15			44	32
06:30			28	19	18:30			32	30
06:45			37	86	18:45			31	158
				28				26	118
				71					276
07:00			29	31	19:00			31	23
07:15			49	30	19:15			25	19
07:30			33	49	19:30			26	18
07:45			50	161	19:45			21	103
				35				21	81
				145					184
08:00			31	47	20:00			20	12
08:15			32	47	20:15			17	11
08:30			44	48	20:30			22	21
08:45			26	133	20:45			12	71
				32				15	59
				174					130
09:00			36	32	21:00			9	11
09:15			34	28	21:15			13	11
09:30			16	20	21:30			12	11
09:45			38	124	21:45			10	44
				26				5	38
				106					82
10:00			28	15	22:00			3	8
10:15			23	23	22:15			4	6
10:30			24	17	22:30			6	9
10:45			19	94	22:45			10	23
				23				8	31
				78					54
11:00			29	28	23:00			3	2
11:15			24	26	23:15			3	3
11:30			17	21	23:30			3	4
11:45			20	90	23:45			5	14
				34				3	12
				109					26
				199					

Total Vol.	757	726	1483	1416	1165	2581
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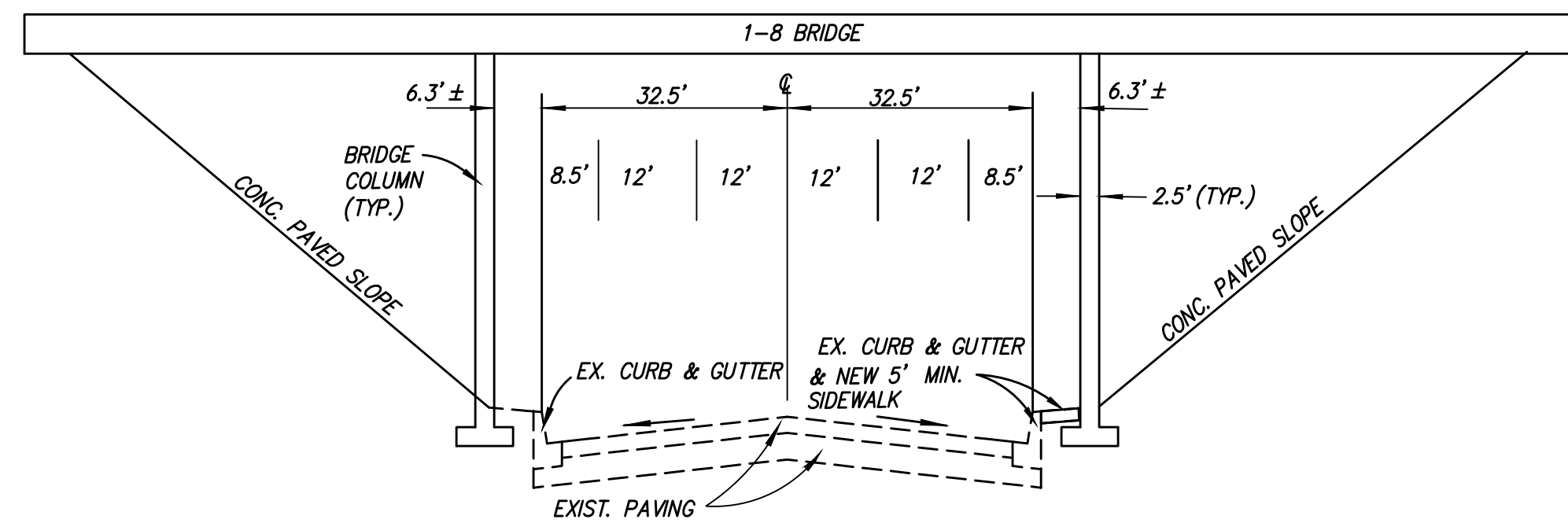
		Daily Totals		Combined
NB	SB	EB	WB	
		2173	1891	4064

AM				PM		
Split %	51.0%	49.0%	36.5%	54.9%	45.1%	63.5%
Peak Hour	07:15	07:30	07:45	16:30	12:00	17:00
Volume	163	178	334	218	161	374
P.H.F.	0.82	0.91	0.91	0.99	0.89	0.90

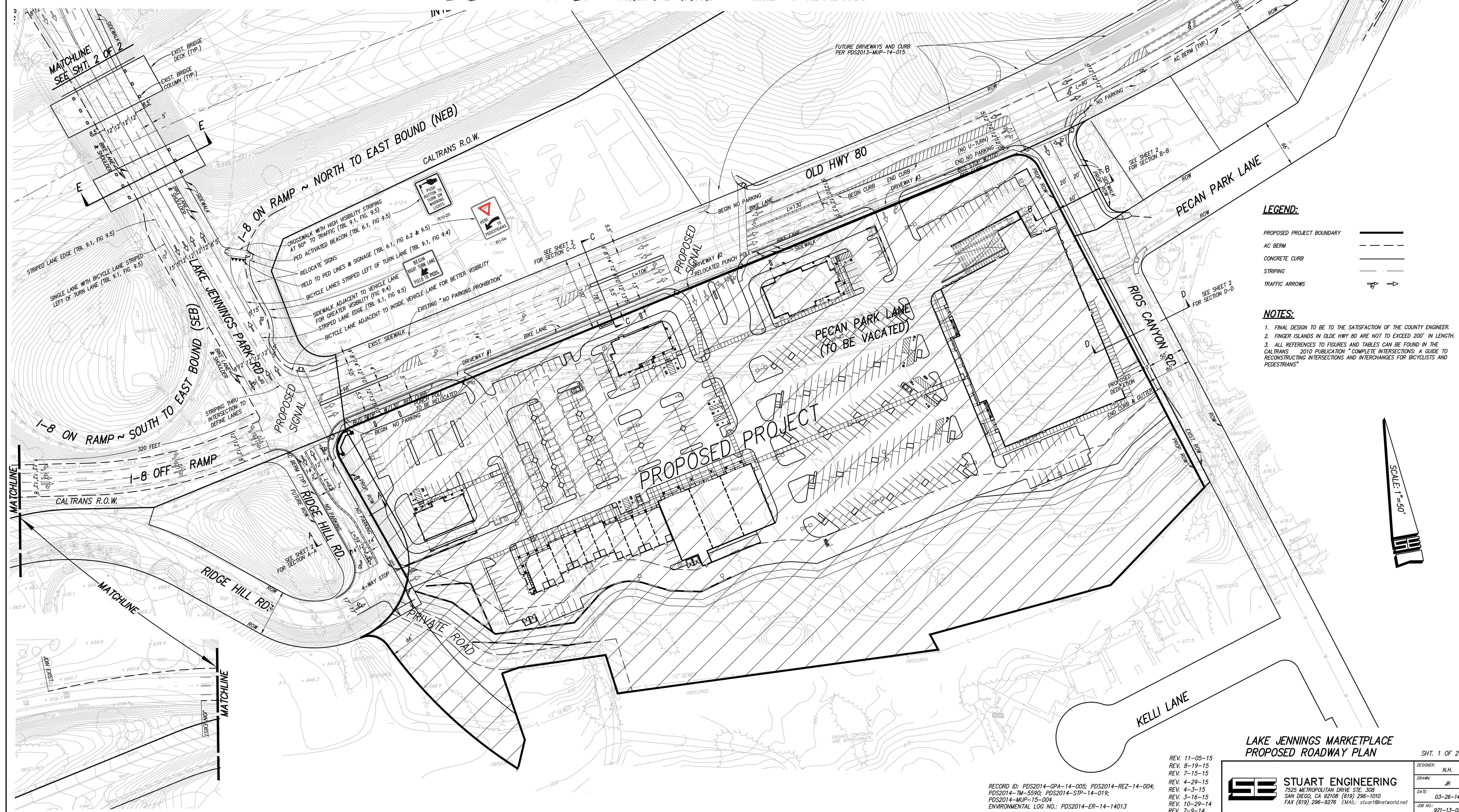
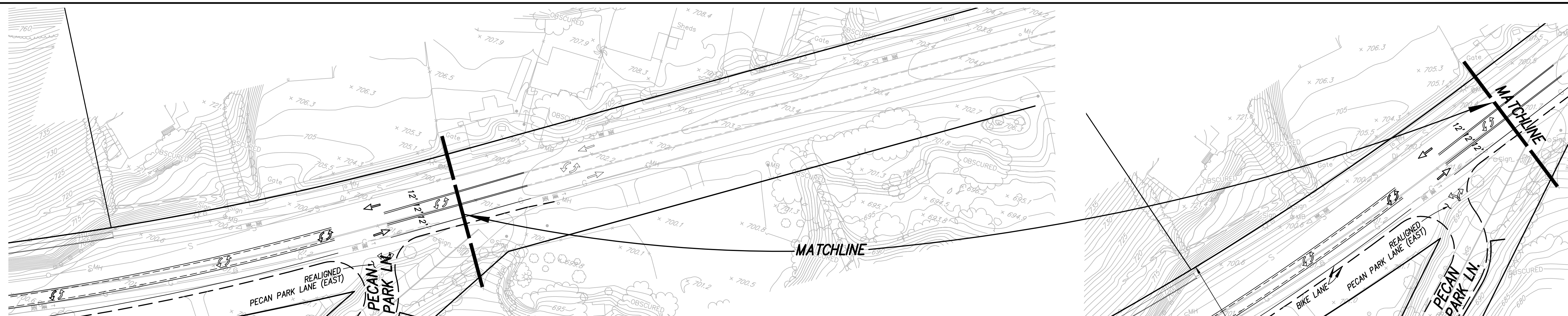
PACIFIC TECHNICAL DATA

APPENDIX D

PROPOSED ROADWAY IMPROVEMENTS & SIGHT DISTANCE ANALYSIS



SECTION E-E
NO SCALE



LEGEND:

- PROPOSED PROJECT BOUNDARY
- AC BERM
- CONCRETE CURB
- STRIPING
- TRAFFIC ARROWS

NOTES:

1. FINAL DESIGN TO BE TO THE SATISFACTION OF THE COUNTY ENGINEER.
2. FINGER ISLANDS IN OLDE HWY 80 ARE NOT TO EXCEED 200' IN LENGTH.
3. ALL REFERENCES TO FIGURES AND TABLES CAN BE FOUND IN THE CALTRANS 2010 PUBLICATION "COMPLETE INTERSECTIONS: A GUIDE TO RECONSTRUCTING INTERSECTIONS AND INTERCHANGES FOR BICYCLISTS AND PEDESTRIANS"

SCALE: 1"=50'

**LAKE JENNINGS MARKETPLACE
PROPOSED ROADWAY PLAN**

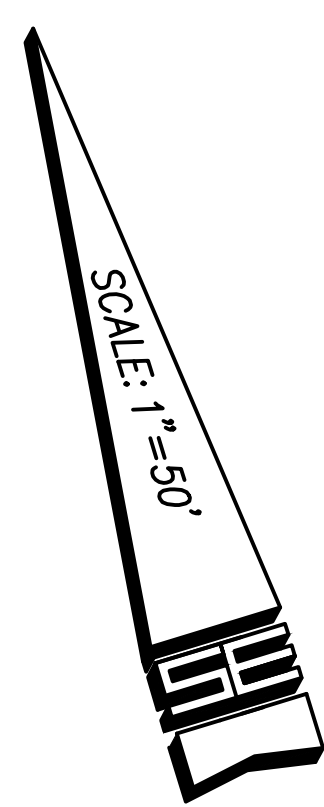
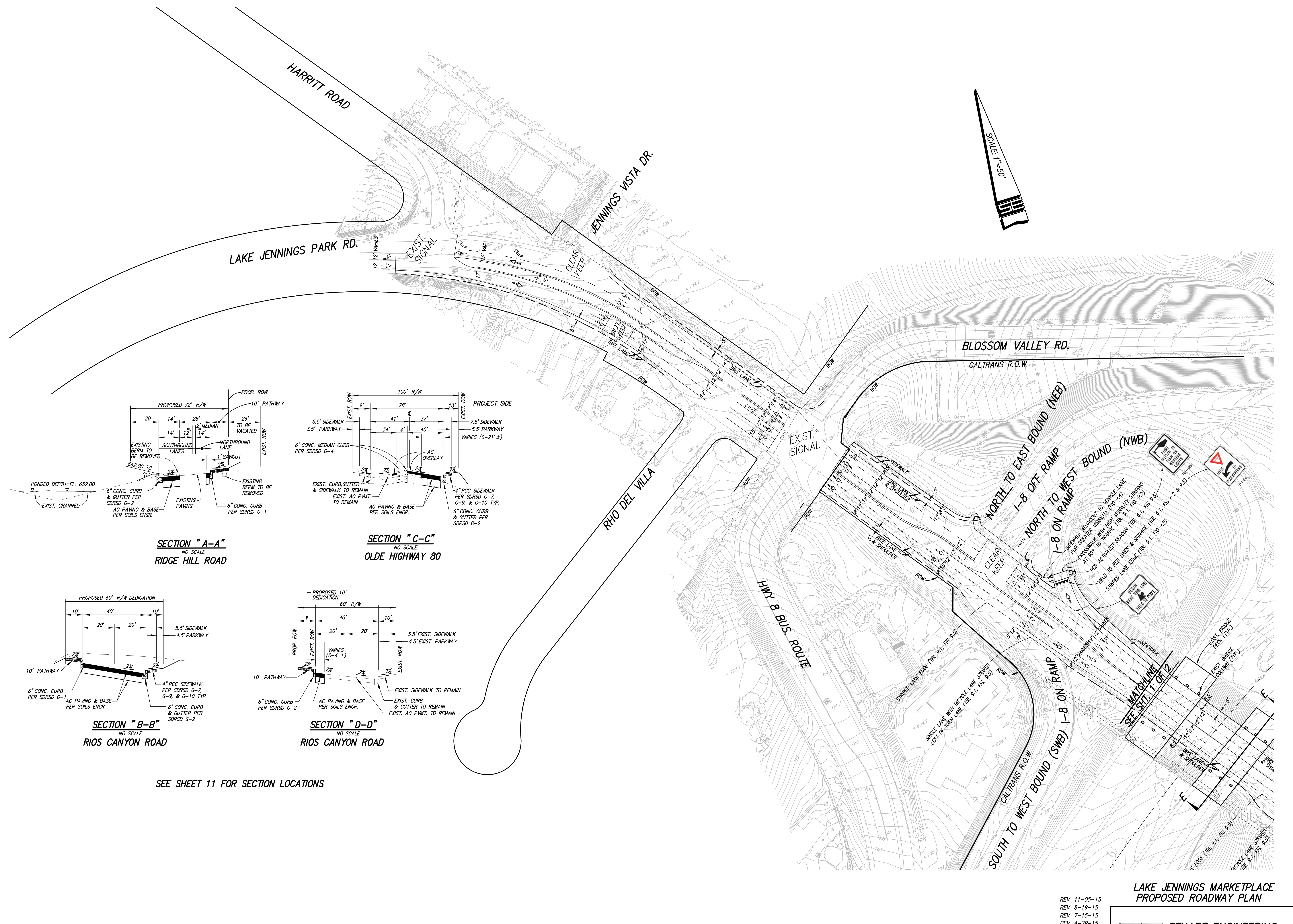
SHT. 1 OF 2

STUART ENGINEERING
7525 METROPOLITAN DRIVE STE. 308
SAN DIEGO, CA 92108 (619) 296-1010
FAX (619) 296-9278 EMAIL: stuart@networld.net

DESIGNER: N.H.
DRAWN: JR
DATE: 03-26-14
JOB NO: 921-13-05

RECORD ID: PDS2014-GPA-14-005; PDS2014-REZ-14-004;
PDS2014-TM-5590; PDS2014-STP-14-019;
PDS2014-MUP-15-004
ENVIRONMENTAL LOG NO.: PDS2014-ER-14-14013

REV. 11-05-15
REV. 8-19-15
REV. 7-15-15
REV. 4-29-15
REV. 4-3-15
REV. 3-16-15
REV. 10-29-14
REV. 7-9-14



SECTION "A-A"
NO SCALE
RIDGE HILL ROAD

SECTION "C-C"
NO SCALE
OLDE HIGHWAY 80

SECTION "B-B"
NO SCALE
RIOS CANYON ROAD

SECTION "D-D"
NO SCALE
RIOS CANYON ROAD

SEE SHEET 11 FOR SECTION LOCATIONS

RECORD ID: PDS2014-GPA-14-005; PDS2014-REZ-14-004;
PDS2014-TM-5590; PDS2014-STP-14-019;
PDS2014-MUP-15-004
ENVIRONMENTAL LOG NO.: PDS2014-ER-14-14013

**LAKE JENNINGS MARKETPLACE
PROPOSED ROADWAY PLAN**



STUART ENGINEERING
7525 METROPOLITAN DRIVE STE. 308
SAN DIEGO, CA 92108 (619) 296-1010
FAX (619) 296-9278 EMAIL: stuart@networld.net

DESIGNER:	N.H.
DRAWN:	JR
DATE:	03-26-14
JOB NO.:	921-13-05

SHT. 2 OF 2

October 29, 2014

921-13-06

County of San Diego
Planning and Development Services
Attn: Ed Sinsay
5201 Ruffin Rd.
San Diego, CA 92123

SUBJECT: Olde Highway 80 and Ridge Hill Road TM-5590

Physically, along Olde Highway 80, there is a minimum of five-hundred fifty feet (550') of unobstructed sight distance in both directions from the two proposed driveway openings, per the Design Standards of Section 6.1.E of the County of San Diego Public Road Standards (approved March 2012). Said lines of sight fall within the existing right-of-way and a clear space easement is not required. The sight distance of adjacent driveways and street openings within five-hundred fifty feet (550') beyond all existing road improvements on Olde Highway 80 will not be adversely affected by this project.

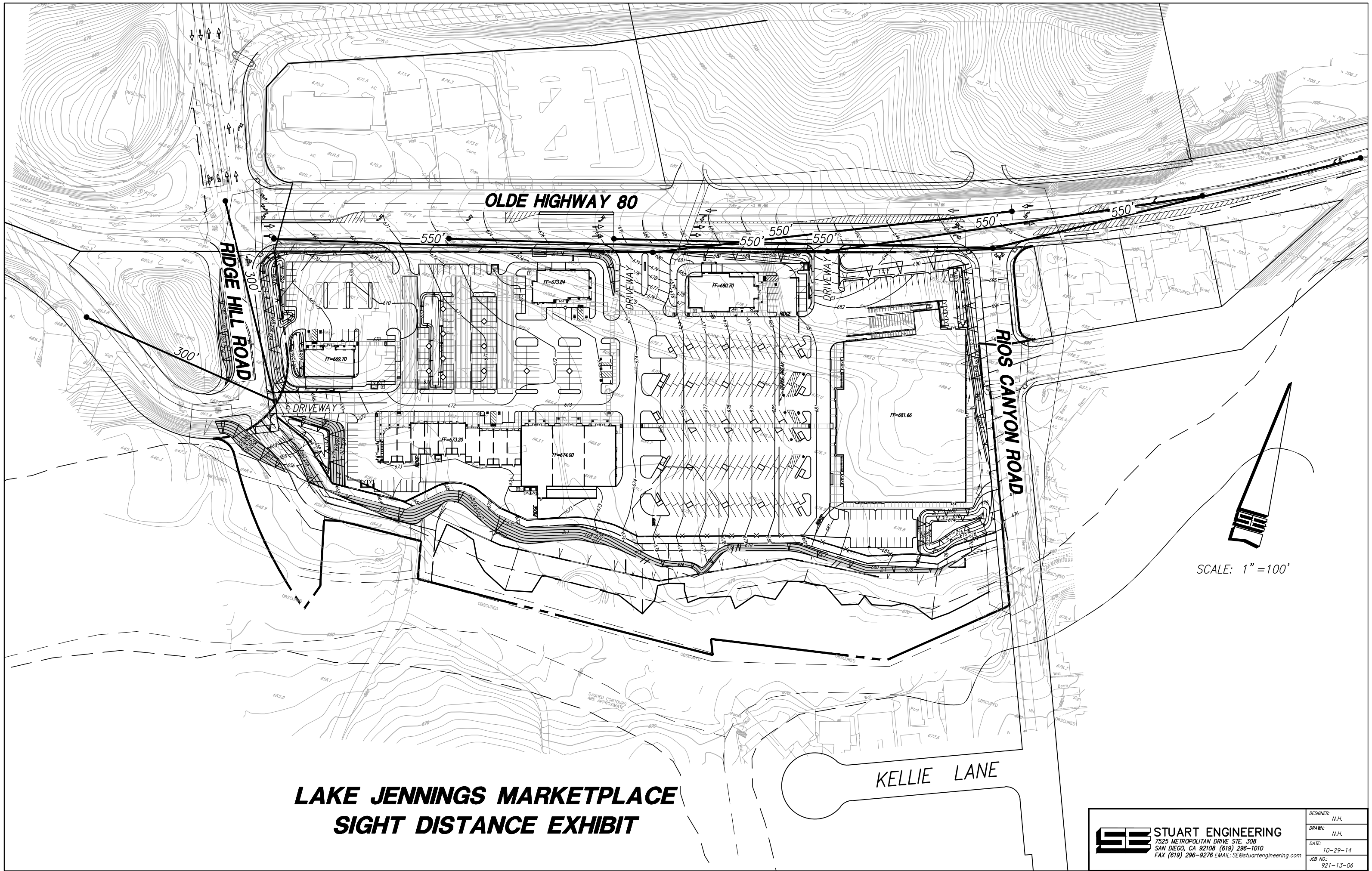
Physically, along Ridge Hill Road, there is a minimum of three hundred feet (300') of unobstructed sight distance in both directions from the proposed driveway opening, per the Design Standards of Section 6.1.E of the County of San Diego Public Road Standards (approved March 2012). Said lines of sight fall within the existing right-of-way and a clear space easement is not required. The sight distance of adjacent driveways and street openings within three hundred feet (300') beyond all existing road improvements on Ridge Hill Road will not be adversely affected by this project.



Stuart Peace 10-29-14

STUART PEACE R.C.E. NO. 27232
MY REGISTRATION EXPIRES 3/31/15

ENC./ LAKE JENNINGS MARKETPLACE SIGHT DISTANCE EXHIBIT



**LAKE JENNINGS MARKETPLACE
SIGHT DISTANCE EXHIBIT**

	STUART ENGINEERING	DESIGNER: N.H.
	7525 METROPOLITAN DRIVE STE. 308	DRAWN: N.H.
	SAN DIEGO, CA 92108 (619) 296-1010	DATE: 10-29-14
	FAX (619) 296-9276 EMAIL: SE@stuartengineering.com	JOB NO.: 921-13-06



Civil Engineering/Surveying/Planning

STUART ENGINEERING

PEACE ENGINEERING, INC.,
A CALIFORNIA CORPORATION
7525 Metropolitan Drive, Suite 308
San Diego, California 92108
(619) 296-1010 FAX (619) 296-9276
SE@stuartengineering.com

July 16, 2015

921-13-06

County of San Diego
Planning and Development Services
Attn: Ed Sinsay
5201 Ruffin Rd.
San Diego, CA 92123

SUBJECT: Olde Highway 80 and Pecan Park Lane [East] TM-5590

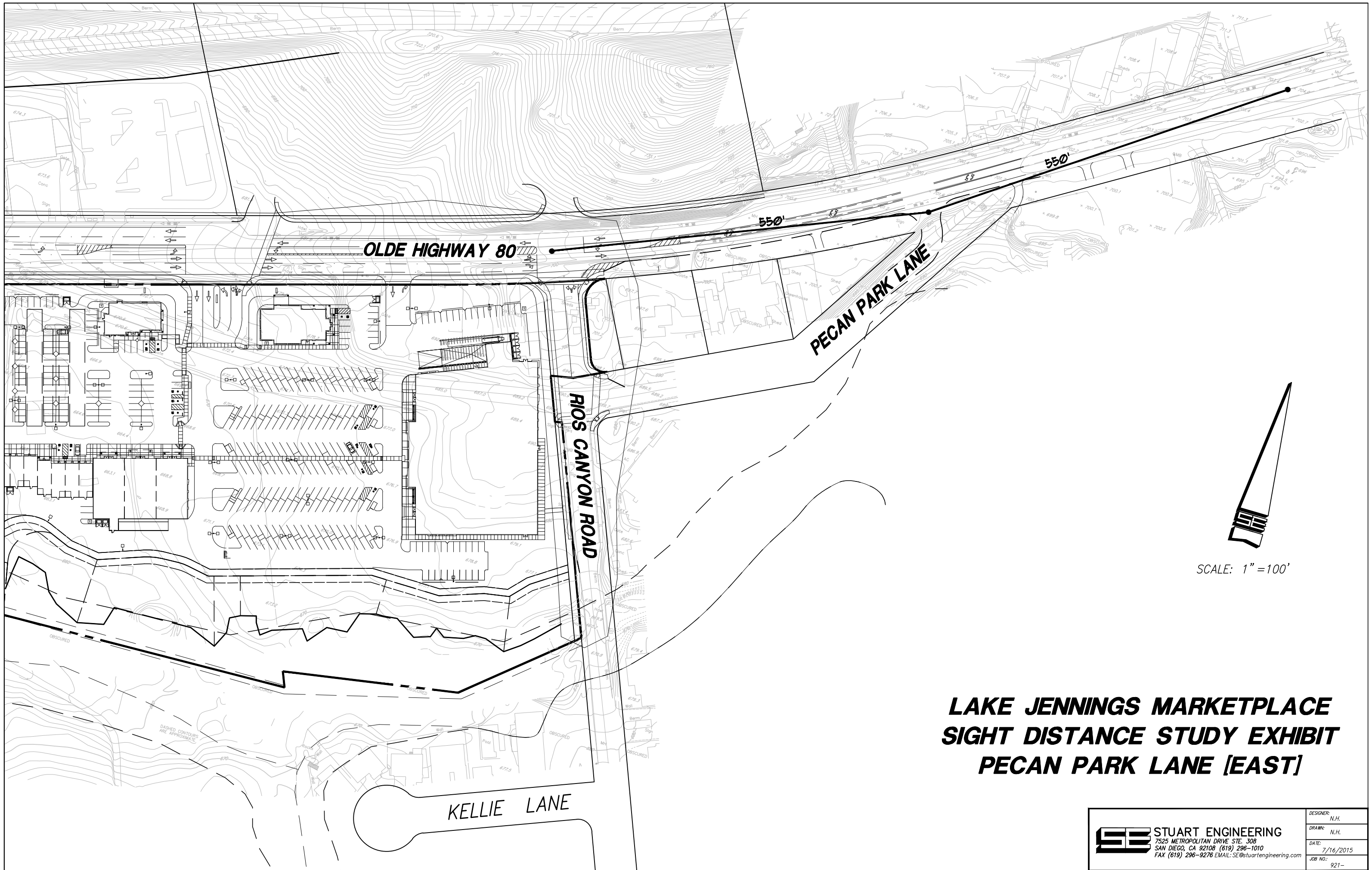
Physically, along Olde Highway 80, there is a minimum of five-hundred fifty feet (550') of unobstructed sight distance in both directions from the proposed re-alignment of Pecan Park Lane [East], per the Design Standards of Section 6.1.E of the County of San Diego Public Road Standards (approved March 2012). Said lines of sight fall within the existing right-of-way and a clear space easement is not required. The sight distance of adjacent driveways and street openings within five-hundred fifty feet (550') beyond all existing road improvements on Olde Highway 80 will not be adversely affected by this project.

7/16/2015



STUART PEACE R.C.E. NO. 27232
MY REGISTRATION EXPIRES 3/31/17

ENC./ LAKE JENNINGS MARKETPLACE PECAN PARK LANE [EAST] SIGHT DISTANCE EXHIBIT



APPENDIX E

EXISTING CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

Ex AM Peak Hour
3: Mapleview Street & Ashwood Street

W/O Project
7/7/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)	1770	3425		1770	3539	1583		1807			1821	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.88			0.61	1.00
Satd. Flow (perm)	1770	3425		1770	3539	1583		1607			1139	1583
Volume (vph)	260	211	58	41	487	250	43	143	33	129	153	436
Peak-hour factor, PHF	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)	274	222	61	43	513	263	45	151	35	136	161	459
RTOR Reduction (vph)	0	27	0	0	0	235	0	8	0	0	0	274
Lane Group Flow (vph)	274	256	0	43	513	28	0	223	0	0	297	185
Turn Type	Prot			Prot		Over	pm+pt			pm+pt		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases							2			6		
Actuated Green, G (s)	17.0	31.5		2.8	17.3	7.3		17.9			30.6	17.0
Effective Green, g (s)	18.4	32.9		4.2	18.7	8.7		19.3			32.0	18.4
Actuated g/C Ratio	0.23	0.41		0.05	0.23	0.11		0.24			0.39	0.23
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	402	1389		92	816	170		382			523	359
v/s Ratio Prot	c0.15	0.07		0.02	c0.14	0.02					c0.06	0.12
v/s Ratio Perm								0.14			c0.16	
v/c Ratio	0.68	0.18		0.47	0.63	0.17		0.58			0.57	0.52
Uniform Delay, d1	28.7	15.5		37.4	28.1	32.9		27.4			19.2	27.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	4.7	0.1		3.7	1.5	0.5		2.3			1.4	1.3
Delay (s)	33.4	15.5		41.1	29.6	33.4		29.6			20.6	28.7
Level of Service	C	B		D	C	C		C			C	C
Approach Delay (s)		24.3			31.4			29.6			25.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			27.7			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			81.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Ex AM Peak Hour
4: Maplevue Street & Pino Drive

W/O Project
7/7/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.99	1.00
Satd. Flow (prot)	1770	3461		1770	3539	1583		1743			1846	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.80			0.97	1.00
Satd. Flow (perm)	1770	3461		1770	3539	1583		1451			1809	1583
Volume (vph)	8	304	52	16	491	1	109	7	33	3	13	25
Peak-hour factor, PHF	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)	8	320	55	17	517	1	115	7	35	3	14	26
RTOR Reduction (vph)	0	18	0	0	0	1	0	8	0	0	0	13
Lane Group Flow (vph)	8	357	0	17	517	0	0	149	0	0	17	13
Turn Type	Prot			Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		6
Actuated Green, G (s)	1.0	13.2		1.2	13.4	13.4		29.8			29.8	29.8
Effective Green, g (s)	2.4	14.6		2.6	14.8	14.8		31.2			31.2	31.2
Actuated g/C Ratio	0.04	0.24		0.04	0.25	0.25		0.52			0.52	0.52
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	70	837		76	867	388		750			934	818
v/s Ratio Prot	0.00	0.10		c0.01	c0.15							
v/s Ratio Perm						0.00		c0.10			0.01	0.01
v/c Ratio	0.11	0.43		0.22	0.60	0.00		0.20			0.02	0.02
Uniform Delay, d1	28.0	19.4		27.9	20.2	17.2		7.9			7.1	7.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.7	0.4		1.5	1.1	0.0		0.6			0.0	0.0
Delay (s)	28.7	19.7		29.4	21.3	17.2		8.5			7.2	7.2
Level of Service	C	B		C	C	B		A			A	A
Approach Delay (s)		19.9			21.5			8.5			7.2	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay			18.6			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			60.4			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			35.3%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Lake Jennings Park Road & El Monte Rd [EX AM PH]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.699

Loss Time (sec): 0 Average Delay (sec/veh): 14.5

Optimal Cycle: 0 Level Of Service: B

Street Name: Lake Jennings Park Rd El Monte Rd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

-----|-----|-----|-----|

Control: Stop Sign Stop Sign Stop Sign Stop Sign

Rights: Include Include Include Ignore

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 0 1 0 1 0 1 1 0 0 1 0 0 0 1

-----|-----|-----|-----|

Volume Module:

Base Vol: 137 393 22 17 198 16 57 26 96 34 37 23

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 137 393 22 17 198 16 57 26 96 34 37 23

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00

PHF Volume: 144 414 23 18 208 17 60 27 101 36 39 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 144 414 23 18 208 17 60 27 101 36 39 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

FinalVolume: 144 414 23 18 208 17 60 27 101 36 39 0

-----|-----|-----|-----|

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 1.00 0.95 0.05 1.00 1.85 0.15 0.69 0.31 1.00 0.48 0.52 1.00

Final Sat.: 567 592 33 479 962 78 329 150 556 223 242 527

-----|-----|-----|-----|

Capacity Analysis Module:

Vol/Sat: 0.25 0.70 0.70 0.04 0.22 0.22 0.18 0.18 0.18 0.16 0.16 0.00

Crit Moves: **** **** **** ****

Delay/Veh: 11.0 20.0 20.0 10.2 11.1 11.0 11.2 11.2 10.0 11.1 11.1 0.0

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 11.0 20.0 20.0 10.2 11.1 11.0 11.2 11.2 10.0 11.1 11.1 0.0

LOS by Move: B C C B B B B B A B B *

ApproachDel: 17.7 11.0 10.6 11.1

Delay Adj: 1.00 1.00 1.00

ApprAdjDel: 17.7 11.0 10.6 11.1

LOS by Appr: C B B B

AllWayAvgQ: 0.3 2.0 2.0 0.0 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.0

Note: Queue reported is the number of cars per lane.

Ex AM Peak Hour
6: Harritt Rd & Lake Jennings Park Road

W/O Project
7/7/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↑	↱	↰	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1736		1863	1583	1770	1863
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1736		1863	1583	1770	1863
Volume (vph)	96	30	503	38	17	329
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	32	529	40	18	346
RTOR Reduction (vph)	15	0	0	10	0	0
Lane Group Flow (vph)	118	0	529	30	18	346
Turn Type			pt+ov		Prot	
Protected Phases	8		2	2 8	1	6
Permitted Phases						
Actuated Green, G (s)	9.1		42.3	56.8	10.1	57.8
Effective Green, g (s)	10.5		43.7	58.2	11.5	59.2
Actuated g/C Ratio	0.14		0.56	0.75	0.15	0.76
Clearance Time (s)	5.4		5.4		5.4	5.4
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	235		1048	1186	262	1419
v/s Ratio Prot	c0.07		c0.28	0.02	0.01	c0.19
v/s Ratio Perm						
v/c Ratio	0.50		0.50	0.03	0.07	0.24
Uniform Delay, d1	31.2		10.4	2.5	28.5	2.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7		1.7	0.0	0.5	0.1
Delay (s)	32.9		12.1	2.5	29.0	2.8
Level of Service	C		B	A	C	A
Approach Delay (s)	32.9		11.4			4.1
Approach LOS	C		B			A
Intersection Summary						
HCM Average Control Delay			11.6		HCM Level of Service	B
HCM Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			77.7		Sum of lost time (s)	12.0
Intersection Capacity Utilization			40.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1824	1583		1760		1770	1817		1770	1863	1583
Flt Permitted		0.98	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1824	1583		1760		1770	1817		1770	1863	1583
Volume (vph)	48	65	206	226	54	59	105	413	81	45	403	54
Peak-hour factor, PHF	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)	51	68	217	238	57	62	111	435	85	47	424	57
RTOR Reduction (vph)	0	0	190	0	8	0	0	8	0	0	0	21
Lane Group Flow (vph)	0	119	27	0	349	0	111	512	0	47	424	36
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)		8.2	8.2		17.7		5.1	26.8		2.0	23.7	23.7
Effective Green, g (s)		9.6	9.6		19.1		6.5	28.2		3.4	25.1	25.1
Actuated g/C Ratio		0.13	0.13		0.25		0.09	0.37		0.04	0.33	0.33
Clearance Time (s)		5.4	5.4		5.4		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		229	199		441		151	672		79	613	521
v/s Ratio Prot		c0.07			c0.20		c0.06	c0.28		0.03	0.23	
v/s Ratio Perm			0.02									0.02
v/c Ratio		0.52	0.14		0.79		0.74	0.76		0.59	0.69	0.07
Uniform Delay, d1		31.2	29.7		26.7		34.1	21.1		35.8	22.2	17.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.0	0.3		9.3		16.9	5.1		11.5	3.4	0.1
Delay (s)		33.2	30.0		36.1		50.9	26.2		47.2	25.6	17.6
Level of Service		C	C		D		D	C		D	C	B
Approach Delay (s)		31.1			36.1			30.6			26.7	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM Average Control Delay			30.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			76.3			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			65.6%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

Ex AM Peak Hour
8: I-8 WB On Ramp & Lake Jennings Park Road

W/O Project
7/7/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	15	0	265	0	329	461	0	294	532
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
Hourly flow rate (vph)	0	0	0	16	0	279	0	346	485	0	309	560
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)											333	
pX, platoon unblocked												
vC, conflicting volume	935	1141	309	656	1216	346	869				832	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	935	1141	309	656	1216	346	869				832	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	96	100	60	100				100	
cM capacity (veh/h)	147	201	731	379	181	697	775				801	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2						
Volume Total	16	279	346	485	309	560						
Volume Left	16	0	0	0	0	0						
Volume Right	0	279	0	485	0	560						
cSH	379	697	1700	1700	1700	1700						
Volume to Capacity	0.04	0.40	0.20	0.29	0.18	0.33						
Queue Length 95th (ft)	3	48	0	0	0	0						
Control Delay (s)	14.9	13.6	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	13.6	0.0		0.0								
Approach LOS	B											
Intersection Summary												
Average Delay	2.0											
Intersection Capacity Utilization	40.4%			ICU Level of Service				A				
Analysis Period (min)	15											

Ex AM Peak Hour
9: I-8 EB Off Ramp & Lake Jennings Park Road

W/O Project
7/21/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	189	265	9	26	0	508	0	54	28	153	16	178
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
Hourly flow rate (vph)	199	279	9	27	0	535	0	57	29	161	17	187
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	199	288	27	535	86	178	187					
Volume Left (vph)	199	0	27	0	0	161	0					
Volume Right (vph)	0	9	0	535	29	0	187					
Hadj (s)	0.53	0.01	0.23	-0.57	-0.17	0.22	-0.57					
Departure Headway (s)	5.8	5.3	5.6	3.2	5.2	5.5	3.2					
Degree Utilization, x	0.32	0.42	0.04	0.48	0.13	0.27	0.17					
Capacity (veh/h)	602	662	593	1116	636	620	1121					
Control Delay (s)	10.3	10.9	8.8	9.1	9.0	10.5	6.8					
Approach Delay (s)	10.7		9.1		9.0	8.6						
Approach LOS	B		A		A	A						
Intersection Summary												
Delay			9.5									
HCM Level of Service			A									
Intersection Capacity Utilization			60.3%	ICU Level of Service		B						
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	325	52	4	459	110	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	342	55	4	483	116	1
Pedestrians	10			10	10	
Lane Width (ft)	12.0			13.0	14.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			407		881	389
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			407		881	389
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		63	100
cM capacity (veh/h)			937		310	647
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	397	4	483	116	1	
Volume Left	0	4	0	116	0	
Volume Right	55	0	0	0	1	
cSH	1700	937	1700	310	647	
Volume to Capacity	0.23	0.00	0.28	0.37	0.00	
Queue Length 95th (ft)	0	0	0	42	0	
Control Delay (s)	0.0	8.9	0.0	23.4	10.6	
Lane LOS		A		C	B	
Approach Delay (s)	0.0	0.1		23.3		
Approach LOS				C		
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			39.0%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	4	144	40	1	149	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	152	42	1	157	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			156		165	80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			156		165	80
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		80	95
cM capacity (veh/h)			1424		801	980
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	156	43	201			
Volume Left	0	42	157			
Volume Right	152	0	44			
cSH	1700	1424	834			
Volume to Capacity	0.09	0.03	0.24			
Queue Length 95th (ft)	0	2	24			
Control Delay (s)	0.0	7.4	10.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	7.4	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			6.2			
Intersection Capacity Utilization		33.3%		ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	329	0	11	426	19	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	346	0	12	448	20	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			346		818	346
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			346		818	346
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			99		94	98
cM capacity (veh/h)			964		341	697
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	346	12	448	34		
Volume Left	0	12	0	20		
Volume Right	0	0	0	14		
cSH	1700	964	1700	431		
Volume to Capacity	0.20	0.01	0.26	0.08		
Queue Length 95th (ft)	0	1	0	6		
Control Delay (s)	0.0	8.8	0.0	14.1		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.2		14.1		
Approach LOS				B		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			32.4%		ICU Level of Service	A
Analysis Period (min)			15			

Ex PM Peak Hour
3: Maplevue Street & Ashwood Street

W/O Project
7/7/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85		0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.97	1.00
Satd. Flow (prot)	1770	3481		1770	3539	1583		1767			1810	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95			0.51	1.00
Satd. Flow (perm)	1770	3481		1770	3539	1583		1681			943	1583
Volume (vph)	375	480	59	44	277	141	17	119	74	237	170	356
Peak-hour factor, PHF	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)	395	505	62	46	292	148	18	125	78	249	179	375
RTOR Reduction (vph)	0	10	0	0	0	135	0	22	0	0	0	147
Lane Group Flow (vph)	395	557	0	46	292	13	0	199	0	0	428	228
Turn Type	Prot			Prot		Over	pm+pt			pm+pt		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases							2			6		
Actuated Green, G (s)	20.3	31.5		2.8	14.0	5.7		19.7			30.8	20.3
Effective Green, g (s)	21.7	32.9		4.2	15.4	7.1		21.1			32.2	21.7
Actuated g/C Ratio	0.27	0.40		0.05	0.19	0.09		0.26			0.40	0.27
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	472	1409		91	670	138		436			449	423
v/s Ratio Prot	c0.22	c0.16		0.03	0.08	0.01					c0.08	0.14
v/s Ratio Perm								0.12			c0.29	
v/c Ratio	0.84	0.40		0.51	0.44	0.09		0.46			0.95	0.54
Uniform Delay, d1	28.1	17.1		37.5	29.1	34.1		25.3			23.8	25.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	12.2	0.2		4.4	0.5	0.3		0.8			30.6	1.3
Delay (s)	40.3	17.3		41.9	29.6	34.4		26.0			54.4	26.8
Level of Service	D	B		D	C	C		C			D	C
Approach Delay (s)		26.8			32.2			26.0			41.5	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM Average Control Delay			32.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			81.3			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			75.5%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Ex PM Peak Hour
4: Maplevue Street & Pino Drive

W/O Project
7/7/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)	1770	3443		1770	3539	1583		1773			1832	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.88			0.94	1.00
Satd. Flow (perm)	1770	3443		1770	3539	1583		1591			1751	1583
Volume (vph)	28	523	116	15	311	13	53	33	19	8	15	19
Peak-hour factor, PHF	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)	29	551	122	16	327	14	56	35	20	8	16	20
RTOR Reduction (vph)	0	23	0	0	0	10	0	7	0	0	0	10
Lane Group Flow (vph)	29	650	0	16	327	4	0	104	0	0	24	10
Turn Type	Prot			Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		6
Actuated Green, G (s)	2.7	17.8		1.2	16.3	16.3		30.0			30.0	30.0
Effective Green, g (s)	4.1	19.2		2.6	17.7	17.7		31.4			31.4	31.4
Actuated g/C Ratio	0.06	0.29		0.04	0.27	0.27		0.48			0.48	0.48
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	111	1014		71	961	430		766			843	762
v/s Ratio Prot	c0.02	c0.19		0.01	0.09							
v/s Ratio Perm						0.00		c0.07			0.01	0.01
v/c Ratio	0.26	0.64		0.23	0.34	0.01		0.14			0.03	0.01
Uniform Delay, d1	29.1	20.0		30.3	19.1	17.3		9.4			8.9	8.8
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.3	1.4		1.6	0.2	0.0		0.4			0.1	0.0
Delay (s)	30.4	21.4		31.9	19.3	17.4		9.7			8.9	8.8
Level of Service	C	C		C	B	B		A			A	A
Approach Delay (s)		21.8			19.8			9.7			8.9	
Approach LOS		C			B			A			A	
Intersection Summary												
HCM Average Control Delay			19.6				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			65.2				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			42.4%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #2 Lake Jennings Park Road & El Monte Rd [EX PM PH]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.549
 Loss Time (sec): 0 Average Delay (sec/veh): 13.9
 Optimal Cycle: 0 Level Of Service: B

Street Name:	Lake Jennings Park Rd						El Monte Rd											
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R			
Control:	Stop Sign						Stop Sign						Stop Sign					
Rights:	Include						Include						Ignore					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Lanes:	1	0	0	1	0	0	1	0	1	1	0	0	1	0	0			

Volume Module:	Lake Jennings Park Rd						El Monte Rd					
Base Vol:	84	267	21	23	441	33	41	31	158	51	37	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	267	21	23	441	33	41	31	158	51	37	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.00
PHF Volume:	88	281	22	24	464	35	43	33	166	54	39	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	281	22	24	464	35	43	33	166	54	39	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	88	281	22	24	464	35	43	33	166	54	39	0

Saturation Flow Module:	Lake Jennings Park Rd						El Monte Rd					
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.93	0.07	1.00	1.86	0.14	0.57	0.43	1.00	0.58	0.42	1.00
Final Sat.:	504	512	40	484	983	74	264	200	533	254	185	496

Capacity Analysis Module:	Lake Jennings Park Rd						El Monte Rd					
Vol/Sat:	0.18	0.55	0.55	0.05	0.47	0.47	0.16	0.16	0.31	0.21	0.21	0.00
Crit Moves:	****			****			****			****		
Delay/Veh:	11.0	16.0	16.0	10.2	14.9	14.7	11.4	11.4	11.7	12.2	12.2	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.0	16.0	16.0	10.2	14.9	14.7	11.4	11.4	11.7	12.2	12.2	0.0
LOS by Move:	B	C	C	B	B	B	B	B	B	B	B	*
ApproachDel:	14.9			14.6			11.6			12.2		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	14.9			14.6			11.6			12.2		
LOS by Appr:	B			B			B			B		
AllWayAvgQ:	0.2	1.1	1.1	0.0	0.8	0.8	0.2	0.2	0.4	0.2	0.2	0.0

 Note: Queue reported is the number of cars per lane.

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	L	L
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1741		1863	1583	1770	1863
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1741		1863	1583	1770	1863
Volume (vph)	76	20	376	100	43	606
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	21	396	105	45	638
RTOR Reduction (vph)	12	0	0	27	0	0
Lane Group Flow (vph)	89	0	396	78	45	638
Turn Type			pt+ov		Prot	
Protected Phases	8		2	2 8	1	6
Permitted Phases						
Actuated Green, G (s)	8.3		42.3	56.0	10.1	57.8
Effective Green, g (s)	9.7		43.7	57.4	11.5	59.2
Actuated g/C Ratio	0.13		0.57	0.75	0.15	0.77
Clearance Time (s)	5.4		5.4		5.4	5.4
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	220		1059	1182	265	1434
v/s Ratio Prot	c0.05		0.21	0.05	0.03	c0.34
v/s Ratio Perm						
v/c Ratio	0.40		0.37	0.07	0.17	0.44
Uniform Delay, d1	30.9		9.1	2.6	28.5	3.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		1.0	0.0	1.4	0.2
Delay (s)	32.1		10.1	2.6	29.9	3.3
Level of Service	C		B	A	C	A
Approach Delay (s)	32.1		8.5			5.1
Approach LOS	C		A			A
Intersection Summary						
HCM Average Control Delay			8.6		HCM Level of Service	A
HCM Volume to Capacity ratio			0.44			
Actuated Cycle Length (s)			76.9		Sum of lost time (s)	8.0
Intersection Capacity Utilization			44.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Ex PM Peak Hour
7: I-8 Business Route & Lake Jennings Park Road

W/O Project
7/7/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1804	1583		1772		1770	1787		1770	1863	1583
Flt Permitted		0.97	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1804	1583		1772		1770	1787		1770	1863	1583
Volume (vph)	61	32	163	158	24	15	136	470	176	52	536	71
Peak-hour factor, PHF	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)	64	34	172	166	25	16	143	495	185	55	564	75
RTOR Reduction (vph)	0	0	149	0	3	0	0	13	0	0	0	19
Lane Group Flow (vph)	0	98	23	0	204	0	143	667	0	55	564	56
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)		9.5	9.5		13.8		7.4	33.2		2.3	28.1	28.1
Effective Green, g (s)		10.9	10.9		15.2		8.8	34.6		3.7	29.5	29.5
Actuated g/C Ratio		0.14	0.14		0.19		0.11	0.43		0.05	0.37	0.37
Clearance Time (s)		5.4	5.4		5.4		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		245	215		335		194	769		81	684	581
v/s Ratio Prot		c0.05			c0.11		c0.08	c0.37		0.03	0.30	
v/s Ratio Perm			0.01									0.04
v/c Ratio		0.40	0.11		0.61		0.74	0.87		0.68	0.82	0.10
Uniform Delay, d1		31.8	30.5		29.9		34.7	20.8		37.8	23.1	16.7
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.1	0.2		3.1		13.6	10.2		20.3	8.0	0.1
Delay (s)		32.8	30.7		33.0		48.3	31.0		58.0	31.1	16.8
Level of Service		C	C		C		D	C		E	C	B
Approach Delay (s)		31.5			33.0			34.0			31.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			32.8			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			80.4			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			66.4%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	16	0	193	0	589	359	0	510	321
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
Hourly flow rate (vph)	0	0	0	17	0	203	0	620	378	0	537	338
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)											333	
pX, platoon unblocked	0.81	0.81	0.81	0.81	0.81		0.81					
vC, conflicting volume	1360	1535	537	1157	1495	620	875	998				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1444	1660	429	1193	1610	620	845	998				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	100	87	100	58	100	100				
cM capacity (veh/h)	52	79	508	133	85	488	641	694				
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2						
Volume Total	17	203	620	378	537	338						
Volume Left	17	0	0	0	0	0						
Volume Right	0	203	0	378	0	338						
cSH	133	488	1700	1700	1700	1700						
Volume to Capacity	0.13	0.42	0.36	0.22	0.32	0.20						
Queue Length 95th (ft)	11	51	0	0	0	0						
Control Delay (s)	36.1	17.5	0.0	0.0	0.0	0.0						
Lane LOS	E	C										
Approach Delay (s)	19.0		0.0		0.0							
Approach LOS	C											
Intersection Summary												
Average Delay	2.0											
Intersection Capacity Utilization	49.6%			ICU Level of Service				A				
Analysis Period (min)	15											

Ex PM Peak Hour
9: I-8 EB Off Ramp & Lake Jennings Park Road

W/O Project
7/21/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	413	453	37	25	0	502	0	31	19	189	27	313
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
Hourly flow rate (vph)	435	477	39	26	0	528	0	33	20	199	28	329
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	435	516	26	528	53	227	329					
Volume Left (vph)	435	0	26	0	0	199	0					
Volume Right (vph)	0	39	0	528	20	0	329					
Hadj (s)	0.53	-0.02	0.23	-0.57	-0.19	0.21	-0.57					
Departure Headway (s)	6.0	5.4	6.1	3.2	6.0	6.0	3.2					
Degree Utilization, x	0.72	0.78	0.04	0.47	0.09	0.38	0.29					
Capacity (veh/h)	592	654	550	1116	570	574	1113					
Control Delay (s)	21.6	23.3	9.4	9.0	9.6	12.7	7.5					
Approach Delay (s)	22.5		9.0		9.6	9.6						
Approach LOS	C		A		A	A						

Intersection Summary

Delay	15.3		
HCM Level of Service	C		
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↶	↶	↶	↶
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	495	134	14	407	88	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	521	141	15	428	93	4
Pedestrians	10			10	10	
Lane Width (ft)	12.0			13.0	14.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			672		1069	612
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			672		1069	612
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	99
cM capacity (veh/h)			858		236	484
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	662	15	428	93	4	
Volume Left	0	15	0	93	0	
Volume Right	141	0	0	0	4	
cSH	1700	858	1700	236	484	
Volume to Capacity	0.39	0.02	0.25	0.39	0.01	
Queue Length 95th (ft)	0	1	0	44	1	
Control Delay (s)	0.0	9.3	0.0	29.7	12.5	
Lane LOS		A		D	B	
Approach Delay (s)	0.0	0.3		29.0		
Approach LOS				D		
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			48.4%		ICU Level of Service	A
Analysis Period (min)			15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	7	136	23	1	97	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	143	24	1	102	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			151		128	79
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			151		128	79
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		88	97
cM capacity (veh/h)			1431		851	982
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	151	25	135			
Volume Left	0	24	102			
Volume Right	143	0	33			
cSH	1700	1431	880			
Volume to Capacity	0.09	0.02	0.15			
Queue Length 95th (ft)	0	1	13			
Control Delay (s)	0.0	7.3	9.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	7.3	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			29.4%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	500	1	17	411	11	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	526	1	18	433	12	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			527		995	527
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			527		995	527
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			98		96	96
cM capacity (veh/h)			905		266	551
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	527	18	433	34		
Volume Left	0	18	0	12		
Volume Right	1	0	0	22		
cSH	1700	905	1700	403		
Volume to Capacity	0.31	0.02	0.25	0.08		
Queue Length 95th (ft)	0	2	0	7		
Control Delay (s)	0.0	9.1	0.0	14.8		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.4		14.8		
Approach LOS				B		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			36.4%		ICU Level of Service	A
Analysis Period (min)			15			

APPENDIX F

EXISTING WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

Ex AM Peak Hour
1: Mapleview Street & Ashwood Street

W/ Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)	1770	3430		1770	3539	1583		1806			1820	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.88			0.59	1.00
Satd. Flow (perm)	1770	3430		1770	3539	1583		1603			1099	1583
Volume (vph)	260	223	58	42	496	253	43	143	34	133	153	436
Peak-hour factor, PHF	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)	274	235	61	44	522	266	45	151	36	140	161	459
RTOR Reduction (vph)	0	25	0	0	0	237	0	8	0	0	0	269
Lane Group Flow (vph)	274	271	0	44	522	29	0	224	0	0	301	190
Turn Type	Prot			Prot		Over	pm+pt			pm+pt		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases							2			6		
Actuated Green, G (s)	16.9	31.7		2.8	17.6	7.3		16.9			29.6	16.9
Effective Green, g (s)	18.3	33.1		4.2	19.0	8.7		18.3			31.0	18.3
Actuated g/C Ratio	0.23	0.41		0.05	0.24	0.11		0.23			0.39	0.23
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	403	1414		93	837	172		365			502	361
v/s Ratio Prot	c0.15	0.08		0.02	c0.15	0.02					c0.06	0.12
v/s Ratio Perm								0.14			c0.17	
v/c Ratio	0.68	0.19		0.47	0.62	0.17		0.61			0.60	0.53
Uniform Delay, d1	28.3	15.1		37.0	27.4	32.5		27.8			19.7	27.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	4.5	0.1		3.8	1.5	0.5		3.1			1.9	1.4
Delay (s)	32.8	15.1		40.7	28.9	33.0		30.9			21.6	28.6
Level of Service	C	B		D	C	C		C			C	C
Approach Delay (s)		23.6			30.8			30.9			25.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			27.5				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			80.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			68.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Ex AM Peak Hour
2: Mapleview Street & Pino Drive

W/ Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.99	1.00
Satd. Flow (prot)	1770	3465		1770	3539	1583		1743			1846	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.80			0.97	1.00
Satd. Flow (perm)	1770	3465		1770	3539	1583		1451			1809	1583
Volume (vph)	8	322	52	16	504	1	109	7	33	3	13	25
Peak-hour factor, PHF	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)	8	339	55	17	531	1	115	7	35	3	14	26
RTOR Reduction (vph)	0	17	0	0	0	1	0	8	0	0	0	13
Lane Group Flow (vph)	8	377	0	17	531	0	0	149	0	0	17	13
Turn Type	Prot			Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		6
Actuated Green, G (s)	1.0	13.3		1.2	13.5	13.5		29.3			29.3	29.3
Effective Green, g (s)	2.4	14.7		2.6	14.9	14.9		30.7			30.7	30.7
Actuated g/C Ratio	0.04	0.24		0.04	0.25	0.25		0.51			0.51	0.51
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	71	849		77	879	393		742			926	810
v/s Ratio Prot	0.00	0.11		c0.01	c0.15							
v/s Ratio Perm						0.00		c0.10			0.01	0.01
v/c Ratio	0.11	0.44		0.22	0.60	0.00		0.20			0.02	0.02
Uniform Delay, d1	27.8	19.2		27.7	19.9	17.0		8.0			7.2	7.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.7	0.4		1.5	1.2	0.0		0.6			0.0	0.0
Delay (s)	28.5	19.6		29.2	21.1	17.0		8.6			7.3	7.3
Level of Service	C	B		C	C	B		A			A	A
Approach Delay (s)		19.7			21.4			8.6			7.3	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay			18.5				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			35.7%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3 Lake Jennings Park Road & El Monte Rd [EX AM PH WP]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.728

Loss Time (sec): 0 Average Delay (sec/veh): 15.3

Optimal Cycle: 0 Level Of Service: C

Street Name: Lake Jennings Park Rd El Monte Rd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

-----|-----|-----|-----|

Control: Stop Sign Stop Sign Stop Sign Stop Sign

Rights: Include Include Include Ignore

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 0 1 0 1 0 1 1 0 0 1 0 0 0 1

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Volume Module:

Base Vol: 141 406 22 17 217 16 57 26 101 34 37 23

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 141 406 22 17 217 16 57 26 101 34 37 23

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00

PHF Volume: 148 427 23 18 228 17 60 27 106 36 39 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 148 427 23 18 228 17 60 27 106 36 39 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

FinalVolume: 148 427 23 18 228 17 60 27 106 36 39 0

-----|-----|-----|-----|

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 1.00 0.95 0.05 1.00 1.86 0.14 0.69 0.31 1.00 0.48 0.52 1.00

Final Sat.: 562 587 32 474 958 71 325 148 548 219 238 518

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Capacity Analysis Module:

Vol/Sat: 0.26 0.73 0.73 0.04 0.24 0.24 0.18 0.18 0.19 0.16 0.16 0.00

Crit Moves: **** **** **** ****

Delay/Veh: 11.1 21.7 21.7 10.2 11.4 11.3 11.4 11.4 10.2 11.3 11.3 0.0

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 11.1 21.7 21.7 10.2 11.4 11.3 11.4 11.4 10.2 11.3 11.3 0.0

LOS by Move: B C C B B B B B B B B *

ApproachDel: 19.1 11.3 10.7 11.3

Delay Adj: 1.00 1.00 1.00 1.00

ApprAdjDel: 19.1 11.3 10.7 11.3

LOS by Appr: C B B B

AllWayAvgQ: 0.3 2.3 2.3 0.0 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.0

Note: Queue reported is the number of cars per lane.

Ex AM Peak Hour
4: Harritt Rd & Lake Jennings Park Road

W/ Project
HCM Signalized Intersection Capacity Analysis

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↑	↱	↰	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1738		1863	1583	1770	1863
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1738		1863	1583	1770	1863
Volume (vph)	101	30	538	42	17	376
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	32	566	44	18	396
RTOR Reduction (vph)	14	0	0	11	0	0
Lane Group Flow (vph)	124	0	566	33	18	396
Turn Type			pt+ov		Prot	
Protected Phases	8		2	2 8	1	6
Permitted Phases						
Actuated Green, G (s)	9.2		42.3	56.9	10.1	57.8
Effective Green, g (s)	10.6		43.7	58.3	11.5	59.2
Actuated g/C Ratio	0.14		0.56	0.75	0.15	0.76
Clearance Time (s)	5.4		5.4		5.4	5.4
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	237		1046	1186	262	1418
v/s Ratio Prot	c0.07		c0.30	0.02	0.01	c0.21
v/s Ratio Perm						
v/c Ratio	0.52		0.54	0.03	0.07	0.28
Uniform Delay, d1	31.3		10.7	2.5	28.5	2.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1		2.0	0.0	0.5	0.1
Delay (s)	33.3		12.7	2.5	29.0	2.9
Level of Service	C		B	A	C	A
Approach Delay (s)	33.3		12.0			4.1
Approach LOS	C		B			A
Intersection Summary						
HCM Average Control Delay			11.7		HCM Level of Service	B
HCM Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			77.8		Sum of lost time (s)	12.0
Intersection Capacity Utilization			42.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Ex AM Peak Hour
5: I-8 Business Route & Lake Jennings Park Road

W/ Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1824	1583		1761		1770	1818		1770	1863	1583
Flt Permitted		0.98	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1824	1583		1761		1770	1818		1770	1863	1583
Volume (vph)	48	65	227	234	54	59	121	457	87	45	462	54
Peak-hour factor, PHF	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)	51	68	239	246	57	62	127	481	92	47	486	57
RTOR Reduction (vph)	0	0	205	0	8	0	0	7	0	0	0	19
Lane Group Flow (vph)	0	119	34	0	357	0	127	566	0	47	486	38
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)		10.4	10.4		17.8		6.7	30.7		2.2	26.2	26.2
Effective Green, g (s)		11.8	11.8		19.2		8.1	32.1		3.6	27.6	27.6
Actuated g/C Ratio		0.14	0.14		0.23		0.10	0.39		0.04	0.33	0.33
Clearance Time (s)		5.4	5.4		5.4		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		260	226		409		173	706		77	622	528
v/s Ratio Prot		c0.07			c0.20		c0.07	c0.31		0.03	0.26	
v/s Ratio Perm			0.02									0.02
v/c Ratio		0.46	0.15		0.87		0.73	0.80		0.61	0.78	0.07
Uniform Delay, d1		32.5	31.1		30.6		36.3	22.5		38.9	24.8	18.8
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.3	0.3		18.1		14.9	6.5		13.5	6.3	0.1
Delay (s)		33.8	31.4		48.6		51.1	29.0		52.3	31.2	18.9
Level of Service		C	C		D		D	C		D	C	B
Approach Delay (s)		32.2			48.6			33.0			31.7	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM Average Control Delay			35.3			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			82.7			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			68.7%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

Ex AM Peak Hour
6: I-8 WB On Ramp & Lake Jennings Park Road

W/ Project
HCM Unsignalized Intersection Capacity Analysis

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Sign Control	Stop			Stop			Free			Free				
Grade	0%			0%			0%			0%				
Volume (veh/h)	0	0	0	23	0	265	0	395	524	0	382	532		
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		
Hourly flow rate (vph)	0	0	0	24	0	279	0	416	552	0	402	560		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)	13													
Median type	None			None										
Median storage veh														
Upstream signal (ft)	333													
pX, platoon unblocked														
vC, conflicting volume	957	818	402	818	818	416	402				416			
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	957	818	402	818	818	416	402				416			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1			
tC, 2 stage (s)														
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2			
p0 queue free %	100	100	100	92	100	56	100				100			
cM capacity (veh/h)	133	311	648	295	311	637	1157				1143			
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2									
Volume Total	303	416	552	402	560									
Volume Left	24	0	0	0	0									
Volume Right	279	0	552	0	560									
cSH	692	1700	1700	1700	1700									
Volume to Capacity	0.44	0.24	0.32	0.24	0.33									
Queue Length 95th (ft)	56	0	0	0	0									
Control Delay (s)	15.3	0.0	0.0	0.0	0.0									
Lane LOS	C													
Approach Delay (s)	15.3	0.0	0.0											
Approach LOS	C													
Intersection Summary														
Average Delay	2.1													
Intersection Capacity Utilization	43.9%			ICU Level of Service				A						
Analysis Period (min)	15													

Ex AM Peak Hour
7: I-8 EB Off Ramp & Lake Jennings Park Road

W/ Project
7/21/2015

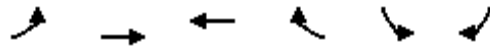
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	189	362	22	26	0	657	0	84	28	264	31	178
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	199	381	23	27	0	692	0	88	29	278	33	187
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	199	404	27	692	118	311	187					
Volume Left (vph)	199	0	27	0	0	278	0					
Volume Right (vph)	0	23	0	692	29	0	187					
Hadj (s)	0.53	-0.01	0.23	-0.57	-0.12	0.21	-0.57					
Departure Headway (s)	6.4	5.8	6.5	3.2	5.9	5.9	3.2					
Degree Utilization, x	0.35	0.66	0.05	0.61	0.19	0.51	0.17					
Capacity (veh/h)	550	595	492	1118	561	585	1121					
Control Delay (s)	11.6	18.0	9.8	11.2	10.4	14.8	6.8					
Approach Delay (s)	15.9		11.1		10.4	11.8						
Approach LOS	C		B		B	B						

Intersection Summary

Delay	12.7		
HCM Level of Service	B		
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

Ex AM Peak Hour
8: Ridge Hill Road/D4 & Lake Jennings Park Road

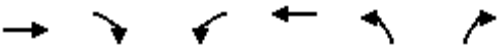
W/ Project
HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Sign Control		Stop	Stop		Stop	
Volume (vph)	82	15	11	30	28	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	86	16	12	32	29	44
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	102	43	74			
Volume Left (vph)	86	0	29			
Volume Right (vph)	0	32	44			
Hadj (s)	0.20	-0.41	-0.25			
Departure Headway (s)	4.3	3.8	4.0			
Degree Utilization, x	0.12	0.05	0.08			
Capacity (veh/h)	818	931	868			
Control Delay (s)	7.9	6.9	7.3			
Approach Delay (s)	7.9	6.9	7.3			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.5			
HCM Level of Service			A			
Intersection Capacity Utilization			22.8%	ICU Level of Service	A	
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	559	31	0	686	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	588	33	0	722	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)				364		
pX, platoon unblocked					0.96	
vC, conflicting volume			621		966	311
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			621		924	311
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			956		258	685
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	392	229	361	361		
Volume Left	0	0	0	0		
Volume Right	0	33	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.23	0.13	0.21	0.21		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			22.3%		ICU Level of Service	A
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	12	12
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3354		1770	3539	1770	1535
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3354		1770	3539	1770	1535
Volume (vph)	393	166	42	537	149	22
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	414	175	44	565	157	23
RTOR Reduction (vph)	30	0	0	0	0	19
Lane Group Flow (vph)	559	0	44	565	157	4
Confl. Peds. (#/hr)		10	10		10	10
Turn Type			Prot		Perm	
Protected Phases	2		1	6	3	
Permitted Phases						3
Actuated Green, G (s)	55.9		5.2	66.5	12.7	12.7
Effective Green, g (s)	57.3		6.6	67.9	14.1	14.1
Actuated g/C Ratio	0.64		0.07	0.75	0.16	0.16
Clearance Time (s)	5.4		5.4	5.4	5.4	5.4
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2135		130	2670	277	240
v/s Ratio Prot	c0.17		c0.02	0.16	c0.09	
v/s Ratio Perm						0.00
v/c Ratio	0.26		0.34	0.21	0.57	0.02
Uniform Delay, d1	7.1		39.6	3.2	35.1	32.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		1.6	0.0	2.7	0.0
Delay (s)	7.4		41.2	3.3	37.8	32.1
Level of Service	A		D	A	D	C
Approach Delay (s)	7.4			6.0	37.0	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay			10.7		HCM Level of Service	B
HCM Volume to Capacity ratio			0.32			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			39.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	403	12	0	579	0	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	424	13	0	609	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)	205					
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			437		1040	218
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			355		990	126
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1141		231	857
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	283	154	609	9		
Volume Left	0	0	0	0		
Volume Right	0	13	0	9		
cSH	1700	1700	1700	857		
Volume to Capacity	0.17	0.09	0.36	0.01		
Queue Length 95th (ft)	0	0	0	1		
Control Delay (s)	0.0	0.0	0.0	9.2		
Lane LOS				A		
Approach Delay (s)	0.0		0.0	9.2		
Approach LOS				A		
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			33.8%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	349	64	11	458	121	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	367	67	12	482	127	34
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total (vph)	245	190	12	482	161	
Volume Left (vph)	0	0	12	0	127	
Volume Right (vph)	0	67	0	0	34	
Hadj (s)	0.03	-0.21	0.53	0.03	0.07	
Departure Headway (s)	5.6	5.4	6.1	5.6	6.1	
Degree Utilization, x	0.38	0.28	0.02	0.75	0.27	
Capacity (veh/h)	614	646	570	629	528	
Control Delay (s)	10.9	9.3	8.0	22.0	11.4	
Approach Delay (s)	10.2		21.6		11.4	
Approach LOS	B		C		B	
Intersection Summary						
Delay			15.5			
HCM Level of Service			C			
Intersection Capacity Utilization			40.9%	ICU Level of Service	A	
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	370	5	5	457	0	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	389	5	5	481	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			395		884	392
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			395		884	392
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			948		314	657
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	395	486	5			
Volume Left	0	5	0			
Volume Right	5	0	5			
cSH	1700	948	657			
Volume to Capacity	0.23	0.01	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.2	10.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		38.0%		ICU Level of Service		A
Analysis Period (min)		15				



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	0	153	5	0	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	0	161	5	0	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	243	164			166	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	243	164			166	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	746	881			1412	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	11	166	79			
Volume Left	11	0	0			
Volume Right	0	5	0			
cSH	746	1700	1412			
Volume to Capacity	0.01	0.10	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.9	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.9	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		18.4%		ICU Level of Service		A
Analysis Period (min)		15				

Ex PM Peak Hour
1: Mapleview Street & Ashwood Street

W/ Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85		0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.97	1.00
Satd. Flow (prot)	1770	3484		1770	3539	1583		1765			1809	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95			0.49	1.00
Satd. Flow (perm)	1770	3484		1770	3539	1583		1678			912	1583
Volume (vph)	375	504	59	46	301	149	17	119	76	245	170	356
Peak-hour factor, PHF	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)	395	531	62	48	317	157	18	125	80	258	179	375
RTOR Reduction (vph)	0	10	0	0	0	143	0	23	0	0	0	144
Lane Group Flow (vph)	395	583	0	48	317	14	0	200	0	0	437	231
Turn Type	Prot			Prot		Over	pm+pt			pm+pt		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases							2			6		
Actuated Green, G (s)	20.2	32.0		2.8	14.6	5.7		18.8			29.9	20.2
Effective Green, g (s)	21.6	33.4		4.2	16.0	7.1		20.2			31.3	21.6
Actuated g/C Ratio	0.27	0.41		0.05	0.20	0.09		0.25			0.39	0.27
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	473	1438		92	700	139		419			432	423
v/s Ratio Prot	c0.22	c0.17		0.03	0.09	0.01					c0.09	0.15
v/s Ratio Perm								0.12			c0.30	
v/c Ratio	0.84	0.41		0.52	0.45	0.10		0.48			1.01	0.55
Uniform Delay, d1	28.0	16.7		37.4	28.6	34.0		25.9			24.8	25.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	12.1	0.2		5.3	0.5	0.3		0.9			46.2	1.4
Delay (s)	40.0	16.9		42.6	29.1	34.3		26.7			71.0	26.9
Level of Service	D	B		D	C	C		C			E	C
Approach Delay (s)		26.2			31.9			26.7			50.6	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM Average Control Delay			35.2			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			80.9			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			76.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Ex PM Peak Hour
2: Mapleview Street & Pino Drive

W/ Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)	1770	3448		1770	3539	1583		1773			1832	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.87			0.94	1.00
Satd. Flow (perm)	1770	3448		1770	3539	1583		1590			1751	1583
Volume (vph)	28	558	116	15	346	13	53	33	19	8	15	19
Peak-hour factor, PHF	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)	29	587	122	16	364	14	56	35	20	8	16	20
RTOR Reduction (vph)	0	21	0	0	0	10	0	7	0	0	0	11
Lane Group Flow (vph)	29	688	0	16	364	4	0	104	0	0	24	9
Turn Type	Prot			Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		6
Actuated Green, G (s)	2.7	18.5		1.2	17.0	17.0		29.5			29.5	29.5
Effective Green, g (s)	4.1	19.9		2.6	18.4	18.4		30.9			30.9	30.9
Actuated g/C Ratio	0.06	0.30		0.04	0.28	0.28		0.47			0.47	0.47
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	111	1049		70	996	445		751			827	748
v/s Ratio Prot	c0.02	c0.20		0.01	0.10							
v/s Ratio Perm						0.00		c0.07			0.01	0.01
v/c Ratio	0.26	0.66		0.23	0.37	0.01		0.14			0.03	0.01
Uniform Delay, d1	29.2	19.8		30.4	18.8	16.9		9.7			9.2	9.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.3	1.5		1.7	0.2	0.0		0.4			0.1	0.0
Delay (s)	30.5	21.3		32.1	19.1	16.9		10.1			9.3	9.2
Level of Service	C	C		C	B	B		B			A	A
Approach Delay (s)		21.6			19.5			10.1			9.2	
Approach LOS		C			B			B			A	
Intersection Summary												
HCM Average Control Delay			19.6				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			65.4				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			42.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #4 Lake Jennings Park Road & El Monte Rd [EX PM PH WP]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.632
 Loss Time (sec): 0 Average Delay (sec/veh): 15.6
 Optimal Cycle: 0 Level Of Service: C

Street Name:	Lake Jennings Park Rd						El Monte Rd											
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R			
Control:	Stop Sign						Stop Sign						Stop Sign					
Rights:	Include						Include						Ignore					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Lanes:	1	0	0	1	0	0	1	0	1	1	0	0	1	0	0			

Volume Module:	Lake Jennings Park Rd						El Monte Rd					
Base Vol:	94	304	21	23	478	33	41	31	168	51	37	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	304	21	23	478	33	41	31	168	51	37	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.00
PHF Volume:	99	320	22	24	503	35	43	33	177	54	39	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	320	22	24	503	35	43	33	177	54	39	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	99	320	22	24	503	35	43	33	177	54	39	0

Saturation Flow Module:	Lake Jennings Park Rd						El Monte Rd					
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.94	0.06	1.00	1.87	0.13	0.57	0.43	1.00	0.58	0.42	1.00
Final Sat.:	495	507	35	471	962	67	257	194	517	246	179	477

Capacity Analysis Module:	Lake Jennings Park Rd						El Monte Rd					
Vol/Sat:	0.20	0.63	0.63	0.05	0.52	0.52	0.17	0.17	0.34	0.22	0.22	0.00
Crit Moves:	****			****			****			****		
Delay/Veh:	11.4	19.0	19.0	10.5	16.5	16.3	11.7	11.7	12.4	12.6	12.6	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.4	19.0	19.0	10.5	16.5	16.3	11.7	11.7	12.4	12.6	12.6	0.0
LOS by Move:	B	C	C	B	C	C	B	B	B	B	B	*
ApproachDel:	17.3			16.2			12.2			12.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	17.3			16.2			12.2			12.6		
LOS by Appr:	C			C			B			B		
AllWayAvgQ:	0.2	1.5	1.5	0.1	1.0	1.0	0.2	0.2	0.4	0.2	0.2	0.0

 Note: Queue reported is the number of cars per lane.

Ex PM Peak Hour
4: Harritt Rd & Lake Jennings Park Road

W/ Project
HCM Signalized Intersection Capacity Analysis

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1745		1863	1583	1770	1863
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1745		1863	1583	1770	1863
Volume (vph)	86	20	463	110	43	693
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	21	487	116	45	729
RTOR Reduction (vph)	10	0	0	29	0	0
Lane Group Flow (vph)	102	0	487	87	45	729
Turn Type			pt+ov		Prot	
Protected Phases	8		2	2 8	1	6
Permitted Phases						
Actuated Green, G (s)	10.1		41.9	57.4	10.0	57.3
Effective Green, g (s)	11.5		43.3	58.8	11.4	58.7
Actuated g/C Ratio	0.15		0.55	0.75	0.15	0.75
Clearance Time (s)	5.4		5.4		5.4	5.4
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	257		1032	1190	258	1398
v/s Ratio Prot	c0.06		0.26	0.06	0.03	c0.39
v/s Ratio Perm						
v/c Ratio	0.40		0.47	0.07	0.17	0.52
Uniform Delay, d1	30.2		10.5	2.5	29.3	4.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0		1.5	0.0	1.5	0.4
Delay (s)	31.2		12.1	2.6	30.7	4.3
Level of Service	C		B	A	C	A
Approach Delay (s)	31.2		10.3			5.9
Approach LOS	C		B			A
Intersection Summary						
HCM Average Control Delay			9.6		HCM Level of Service	A
HCM Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			78.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			49.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Ex PM Peak Hour
5: I-8 Business Route & Lake Jennings Park Road

W/ Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1804	1583		1772		1770	1794		1770	1863	1583
Flt Permitted		0.97	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1804	1583		1772		1770	1794		1770	1863	1583
Volume (vph)	61	32	203	172	24	15	176	580	190	52	646	71
Peak-hour factor, PHF	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)	64	34	214	181	25	16	185	611	200	55	680	75
RTOR Reduction (vph)	0	0	185	0	3	0	0	11	0	0	0	16
Lane Group Flow (vph)	0	98	29	0	219	0	185	800	0	55	680	59
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)		9.6	9.6		14.2		6.6	34.1		2.3	29.8	29.8
Effective Green, g (s)		11.0	11.0		15.6		8.0	35.5		3.7	31.2	31.2
Actuated g/C Ratio		0.13	0.13		0.19		0.10	0.43		0.05	0.38	0.38
Clearance Time (s)		5.4	5.4		5.4		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		243	213		338		173	779		80	711	604
v/s Ratio Prot		c0.05			c0.12		c0.10	c0.45		0.03	0.37	
v/s Ratio Perm			0.02									0.04
v/c Ratio		0.40	0.14		0.65		1.07	1.03		0.69	0.96	0.10
Uniform Delay, d1		32.4	31.2		30.6		36.9	23.1		38.5	24.6	16.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.1	0.3		4.2		88.1	39.2		21.8	23.3	0.1
Delay (s)		33.5	31.5		34.8		125.0	62.3		60.3	48.0	16.3
Level of Service		C	C		C		F	E		E	D	B
Approach Delay (s)		32.1			34.8			74.0			45.9	
Approach LOS		C			C			E			D	
Intersection Summary												
HCM Average Control Delay			54.9				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			81.8				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			73.8%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

Ex PM Peak Hour
6: I-8 WB On Ramp & Lake Jennings Park Road

W/ Project
HCM Unsignalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Volume (veh/h)	0	0	0	36	0	193	0	802	562	0	723	321	
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	
Hourly flow rate (vph)	0	0	0	38	0	203	0	844	592	0	761	338	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)	13												
Median type	None			None									
Median storage veh													
Upstream signal (ft)	333												
pX, platoon unblocked	0.69	0.69	0.69	0.69	0.69		0.69						
vC, conflicting volume	1707	1605	761	1605	1605	844	761				844		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	2031	1883	651	1883	1883	844	651				844		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	0	100	44	100				100		
cM capacity (veh/h)	13	49	321	37	49	363	641				792		
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2								
Volume Total	241	844	592	761	338								
Volume Left	38	0	0	0	0								
Volume Right	203	0	592	0	338								
cSH	235	1700	1700	1700	1700								
Volume to Capacity	1.02	0.50	0.35	0.45	0.20								
Queue Length 95th (ft)	247	0	0	0	0								
Control Delay (s)	72.8	0.0	0.0	0.0	0.0								
Lane LOS	F												
Approach Delay (s)	72.8	0.0	0.0										
Approach LOS	F												
Intersection Summary													
Average Delay	6.3												
Intersection Capacity Utilization	60.8%			ICU Level of Service			B						
Analysis Period (min)	15												

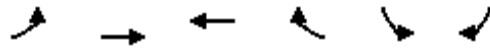
Ex PM Peak Hour
7: I-8 EB Off Ramp & Lake Jennings Park Road

W/ Project
7/21/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	413	632	61	25	0	866	0	103	19	394	55	313
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
Hourly flow rate (vph)	435	665	64	26	0	912	0	108	20	415	58	329
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	435	729	26	912	128	473	329					
Volume Left (vph)	435	0	26	0	0	415	0					
Volume Right (vph)	0	64	0	912	20	0	329					
Hadj (s)	0.53	-0.03	0.23	-0.57	-0.06	0.21	-0.57					
Departure Headway (s)	7.1	6.5	7.6	3.2	6.8	6.3	3.2					
Degree Utilization, x	0.85	1.32	0.06	0.81	0.24	0.83	0.29					
Capacity (veh/h)	504	565	436	1122	506	563	1113					
Control Delay (s)	37.7	174.4	11.0	18.2	12.0	33.1	7.5					
Approach Delay (s)	123.4		18.0		12.0	22.6						
Approach LOS	F		C		B	C						

Intersection Summary

Delay	59.4		
HCM Level of Service	F		
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	50	28	28	72	52	89
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	53	29	29	76	55	94
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	82	105	148			
Volume Left (vph)	53	0	55			
Volume Right (vph)	0	76	94			
Hadj (s)	0.16	-0.40	-0.27			
Departure Headway (s)	4.5	3.9	4.0			
Degree Utilization, x	0.10	0.11	0.17			
Capacity (veh/h)	771	871	850			
Control Delay (s)	8.0	7.4	7.8			
Approach Delay (s)	8.0	7.4	7.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.7			
HCM Level of Service			A			
Intersection Capacity Utilization			25.9%	ICU Level of Service	A	
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	970	57	0	868	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1021	60	0	914	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)				364		
pX, platoon unblocked					0.94	
vC, conflicting volume			1081		1508	541
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1081		1477	541
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			641		110	486
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	681	400	457	457		
Volume Left	0	0	0	0		
Volume Right	0	60	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.40	0.24	0.27	0.27		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			32.0%		ICU Level of Service	A
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	12	12
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3341		1770	3539	1770	1538
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3341		1770	3539	1770	1538
Volume (vph)	665	305	77	504	364	54
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	700	321	81	531	383	57
RTOR Reduction (vph)	50	0	0	0	0	41
Lane Group Flow (vph)	971	0	81	531	383	16
Confl. Peds. (#/hr)		10	10		10	10
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	43.8		6.6	55.8	23.4	23.4
Effective Green, g (s)	45.2		8.0	57.2	24.8	24.8
Actuated g/C Ratio	0.50		0.09	0.64	0.28	0.28
Clearance Time (s)	5.4		5.4	5.4	5.4	5.4
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1678		157	2249	488	424
v/s Ratio Prot	c0.29		c0.05	0.15	c0.22	
v/s Ratio Perm						0.01
v/c Ratio	0.58		0.52	0.24	0.78	0.04
Uniform Delay, d1	15.7		39.2	7.0	30.1	23.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5		2.8	0.1	8.1	0.0
Delay (s)	17.2		42.0	7.1	38.2	23.9
Level of Service	B		D	A	D	C
Approach Delay (s)	17.2			11.7	36.4	
Approach LOS	B			B	D	
Intersection Summary						
HCM Average Control Delay			19.6		HCM Level of Service	B
HCM Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			62.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	697	22	0	581	0	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	734	23	0	612	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)	205					
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			757		1357	378
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			468		1207	2
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			884		143	878
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	489	268	612	24		
Volume Left	0	0	0	0		
Volume Right	0	23	0	24		
cSH	1700	1700	1700	878		
Volume to Capacity	0.29	0.16	0.36	0.03		
Queue Length 95th (ft)	0	0	0	2		
Control Delay (s)	0.0	0.0	0.0	9.2		
Lane LOS				A		
Approach Delay (s)	0.0		0.0	9.2		
Approach LOS				A		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			33.9%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	554	166	17	470	111	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	583	175	18	495	117	34
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total (vph)	389	369	18	495	151	
Volume Left (vph)	0	0	18	0	117	
Volume Right (vph)	0	175	0	0	34	
Hadj (s)	0.03	-0.30	0.53	0.03	0.05	
Departure Headway (s)	5.7	5.4	6.5	6.0	6.6	
Degree Utilization, x	0.61	0.55	0.03	0.82	0.28	
Capacity (veh/h)	616	659	532	589	515	
Control Delay (s)	16.2	13.5	8.5	29.5	12.1	
Approach Delay (s)	14.9		28.8		12.1	
Approach LOS	B		D		B	
Intersection Summary						
Delay			19.6			
HCM Level of Service			C			
Intersection Capacity Utilization			41.2%	ICU Level of Service	A	
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	567	5	5	468	0	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	597	5	5	493	0	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			602		1103	599
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			602		1103	599
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			883		233	501
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	602	498	6			
Volume Left	0	5	0			
Volume Right	5	0	6			
cSH	1700	883	501			
Volume to Capacity	0.35	0.01	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.2	12.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization		40.1%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	0	143	6	0	183
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	0	151	6	0	193
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	346	154			157	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	346	154			157	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	650	892			1423	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	11	157	193			
Volume Left	11	0	0			
Volume Right	0	6	0			
cSH	650	1700	1423			
Volume to Capacity	0.02	0.09	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	10.6	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.6	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.3				
Intersection Capacity Utilization		19.6%		ICU Level of Service		A
Analysis Period (min)		15				

APPENDIX G

CUMULATIVE WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

Table 4 - Trip Generation Rates for Tractor Supply Project									
Land Use	Unit	Trip Generation Rates							
		Daily	AM Peak Hour			PM Peak Hour			% Out
			Total % of Daily	% In	% Out	Total % of Daily	% In	% Out	
Specialty Store	KSF	40 00	3%	60%	40%	9%	50%	50%	
Storage/Display	KSF	5 0	13%	70%	30%	15%	40%	60%	
KSF = 1,000 square feet, Storage/Display KSF=2.0									

Table 5 - Tractor Supply Project Trip Generation Summary									
Land Use	# of Units	Unit	Daily	Total Trip Generation					
				AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Specialty Store	19,169	KSF	767	23	16	7	69	35	34
Storage/Display	17,957.5	KSF	90	12	8	4	14	6	8
Total Project Trips		KSF	857	35	24	11	83	41	42
KSF = 1000 square feet;									

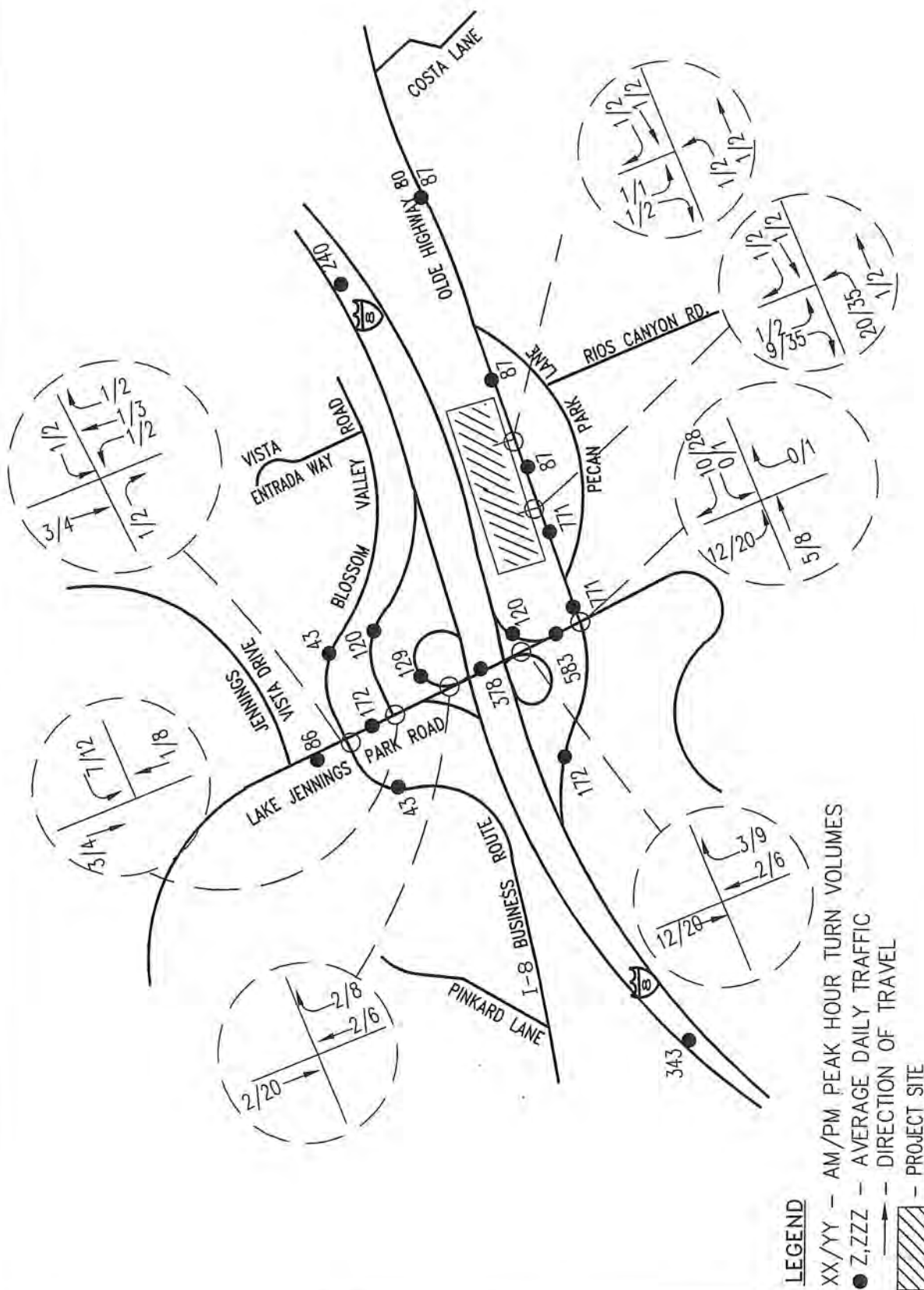


FIGURE 6
PROJECT TRAFFIC VOLUMES

Darnell & ASSOCIATES, INC.

130706 - FIGURES BB.dwg 3-25-14 JAM

NT AM Peak Hour
3: Mapleview Street & Ashwood Street

W/O Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)	1770	3425		1770	3539	1583		1807			1821	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.88			0.59	1.00
Satd. Flow (perm)	1770	3425		1770	3539	1583		1599			1094	1583
Volume (vph)	273	222	61	43	512	263	45	150	35	135	161	458
Peak-hour factor, PHF	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)	287	234	64	45	539	277	47	158	37	142	169	482
RTOR Reduction (vph)	0	27	0	0	0	248	0	8	0	0	0	273
Lane Group Flow (vph)	287	271	0	45	539	29	0	234	0	0	311	209
Turn Type	Prot			Prot		Over	pm+pt			pm+pt		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases							2			6		
Actuated Green, G (s)	17.6	32.4		2.8	17.6	7.3		17.9			30.6	17.6
Effective Green, g (s)	19.0	33.8		4.2	19.0	8.7		19.3			32.0	19.0
Actuated g/C Ratio	0.23	0.41		0.05	0.23	0.11		0.24			0.39	0.23
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	410	1412		91	820	168		376			504	367
v/s Ratio Prot	c0.16	0.08		0.03	c0.15	0.02					c0.07	0.13
v/s Ratio Perm								0.15			c0.18	
v/c Ratio	0.70	0.19		0.49	0.66	0.17		0.62			0.62	0.57
Uniform Delay, d1	28.9	15.4		37.9	28.5	33.4		28.1			20.1	27.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	5.2	0.1		4.2	1.9	0.5		3.2			2.2	2.1
Delay (s)	34.1	15.4		42.0	30.5	33.9		31.3			22.3	30.0
Level of Service	C	B		D	C	C		C			C	C
Approach Delay (s)		24.6			32.2			31.3			27.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			28.6				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			82.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			71.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

NT AM Peak Hour
4: Mapleview Street & Pino Drive

W/O Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97			0.99	1.00
Satd. Flow (prot)	1770	3461		1770	3539	1583		1746			1850	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.80			0.98	1.00
Satd. Flow (perm)	1770	3461		1770	3539	1583		1453			1819	1583
Volume (vph)	8	319	55	17	516	1	114	12	35	3	18	26
Peak-hour factor, PHF	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)	8	336	58	18	543	1	120	13	37	3	19	27
RTOR Reduction (vph)	0	18	0	0	0	1	0	8	0	0	0	13
Lane Group Flow (vph)	8	376	0	18	543	0	0	162	0	0	22	14
Turn Type	Prot			Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		6
Actuated Green, G (s)	1.0	13.8		1.2	14.0	14.0		29.8			29.8	29.8
Effective Green, g (s)	2.4	15.2		2.6	15.4	15.4		31.2			31.2	31.2
Actuated g/C Ratio	0.04	0.25		0.04	0.25	0.25		0.51			0.51	0.51
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	70	862		75	893	400		743			930	810
v/s Ratio Prot	0.00	0.11		c0.01	c0.15							
v/s Ratio Perm						0.00		c0.11			0.01	0.01
v/c Ratio	0.11	0.44		0.24	0.61	0.00		0.22			0.02	0.02
Uniform Delay, d1	28.3	19.3		28.2	20.1	17.0		8.2			7.4	7.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.7	0.4		1.7	1.2	0.0		0.7			0.0	0.0
Delay (s)	29.0	19.6		29.9	21.3	17.0		8.9			7.4	7.4
Level of Service	C	B		C	C	B		A			A	A
Approach Delay (s)		19.8			21.6			8.9			7.4	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay			18.6				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			61.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			36.7%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Lake Jennings Park Road & El Monte Rd [NT AM PH]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.757

Loss Time (sec): 0 Average Delay (sec/veh): 16.3

Optimal Cycle: 0 Level Of Service: C

Street Name: Lake Jennings Park Rd El Monte Rd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

-----|-----|-----|-----|

Control: Stop Sign Stop Sign Stop Sign Stop Sign

Rights: Include Include Include Ignore

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 0 1 0 1 0 1 1 0 0 1 0 0 0 1

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Volume Module:

Base Vol: 145 417 24 18 217 17 60 27 102 40 39 24

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 145 417 24 18 217 17 60 27 102 40 39 24

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00

PHF Volume: 153 439 25 19 228 18 63 28 107 42 41 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 153 439 25 19 228 18 63 28 107 42 41 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

FinalVolume: 153 439 25 19 228 18 63 28 107 42 41 0

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Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 1.00 0.95 0.05 1.00 1.85 0.15 0.69 0.31 1.00 0.51 0.49 1.00

Final Sat.: 556 580 33 468 939 74 322 145 541 229 223 512

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Capacity Analysis Module:

Vol/Sat: 0.27 0.76 0.76 0.04 0.24 0.24 0.20 0.20 0.20 0.18 0.18 0.00

Crit Moves: **** **** **** ****

Delay/Veh: 11.4 23.7 23.7 10.4 11.6 11.5 11.6 11.6 10.3 11.6 11.6 0.0

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 11.4 23.7 23.7 10.4 11.6 11.5 11.6 11.6 10.3 11.6 11.6 0.0

LOS by Move: B C C B B B B B B B B *

ApproachDel: 20.7 11.5 10.9 11.6

Delay Adj: 1.00 1.00 1.00 1.00

ApprAdjDel: 20.7 11.5 10.9 11.6

LOS by Appr: C B B B

AllWayAvgQ: 0.4 2.6 2.6 0.0 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.0

Note: Queue reported is the number of cars per lane.

NT AM Peak Hour
6: Harritt Rd & Lake Jennings Park Road

W/O Project
HCM Signalized Intersection Capacity Analysis

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1736		1863	1583	1770	1863
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1736		1863	1583	1770	1863
Volume (vph)	101	32	534	40	18	355
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	34	562	42	19	374
RTOR Reduction (vph)	15	0	0	11	0	0
Lane Group Flow (vph)	125	0	562	31	19	374
Turn Type			pt+ov		Prot	
Protected Phases	8		2	2 8	1	6
Permitted Phases						
Actuated Green, G (s)	9.3		42.3	57.0	10.1	57.8
Effective Green, g (s)	10.7		43.7	58.4	11.5	59.2
Actuated g/C Ratio	0.14		0.56	0.75	0.15	0.76
Clearance Time (s)	5.4		5.4		5.4	5.4
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	238		1045	1187	261	1416
v/s Ratio Prot	c0.07		c0.30	0.02	0.01	c0.20
v/s Ratio Perm						
v/c Ratio	0.53		0.54	0.03	0.07	0.26
Uniform Delay, d1	31.2		10.8	2.5	28.6	2.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1		2.0	0.0	0.5	0.1
Delay (s)	33.3		12.7	2.5	29.1	2.9
Level of Service	C		B	A	C	A
Approach Delay (s)	33.3		12.0			4.2
Approach LOS	C		B			A
Intersection Summary						
HCM Average Control Delay			11.9		HCM Level of Service	B
HCM Volume to Capacity ratio			0.49			
Actuated Cycle Length (s)			77.9		Sum of lost time (s)	12.0
Intersection Capacity Utilization			42.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

NT AM Peak Hour
7: I-8 Business Route & Lake Jennings Park Road

W/O Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1826	1583		1756		1770	1817		1770	1863	1583
Flt Permitted		0.98	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1826	1583		1756		1770	1817		1770	1863	1583
Volume (vph)	50	73	216	237	57	72	110	434	85	59	423	57
Peak-hour factor, PHF	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)	53	77	227	249	60	76	116	457	89	62	445	60
RTOR Reduction (vph)	0	0	192	0	10	0	0	8	0	0	0	21
Lane Group Flow (vph)	0	130	35	0	375	0	116	538	0	62	445	39
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)		10.8	10.8		18.4		5.3	25.5		2.9	23.1	23.1
Effective Green, g (s)		12.2	12.2		19.8		6.7	26.9		4.3	24.5	24.5
Actuated g/C Ratio		0.15	0.15		0.25		0.08	0.34		0.05	0.31	0.31
Clearance Time (s)		5.4	5.4		5.4		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		281	244		439		150	617		96	576	490
v/s Ratio Prot		c0.07			c0.21		c0.07	c0.30		0.04	0.24	
v/s Ratio Perm			0.02									0.02
v/c Ratio		0.46	0.14		0.85		0.77	0.87		0.65	0.77	0.08
Uniform Delay, d1		30.5	29.0		28.3		35.5	24.5		36.7	24.8	19.4
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.2	0.3		14.9		21.6	12.9		14.0	6.4	0.1
Delay (s)		31.7	29.3		43.3		57.1	37.4		50.7	31.2	19.4
Level of Service		C	C		D		E	D		D	C	B
Approach Delay (s)		30.2			43.3			40.9			32.1	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM Average Control Delay			36.9				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			79.2				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			68.5%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

NT AM Peak Hour
8: I-8 WB On Ramp & Lake Jennings Park Road

W/O Project
HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	16	0	278	0	346	484	0	309	559
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
Hourly flow rate (vph)	0	0	0	17	0	293	0	364	509	0	325	588
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)											333	
pX, platoon unblocked												
vC, conflicting volume	982	1199	325	689	1278	364	914				874	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	982	1199	325	689	1278	364	914				874	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	95	100	57	100				100	
cM capacity (veh/h)	130	185	716	360	166	681	746				772	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2						
Volume Total	17	293	364	509	325	588						
Volume Left	17	0	0	0	0	0						
Volume Right	0	293	0	509	0	588						
cSH	360	681	1700	1700	1700	1700						
Volume to Capacity	0.05	0.43	0.21	0.30	0.19	0.35						
Queue Length 95th (ft)	4	54	0	0	0	0						
Control Delay (s)	15.5	14.2	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	14.3	0.0		0.0								
Approach LOS	B											
Intersection Summary												
Average Delay	2.1											
Intersection Capacity Utilization	42.1%			ICU Level of Service				A				
Analysis Period (min)	15											

NT AM Peak Hour
9: I-8 EB Off Ramp & Lake Jennings Park Road

W/O Project
7/21/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	199	278	9	27	0	534	0	57	29	161	17	187
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
Hourly flow rate (vph)	209	293	9	28	0	562	0	60	31	169	18	197
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	209	302	28	562	91	187	197					
Volume Left (vph)	209	0	28	0	0	169	0					
Volume Right (vph)	0	9	0	562	31	0	197					
Hadj (s)	0.53	0.01	0.23	-0.57	-0.17	0.21	-0.57					
Departure Headway (s)	5.9	5.3	5.7	3.2	5.3	5.5	3.2					
Degree Utilization, x	0.34	0.45	0.04	0.50	0.13	0.29	0.17					
Capacity (veh/h)	598	656	582	1116	626	613	1121					
Control Delay (s)	10.7	11.4	9.0	9.4	9.2	10.8	6.9					
Approach Delay (s)	11.1		9.3		9.2	8.8						
Approach LOS	B		A		A	A						
Intersection Summary												
Delay			9.8									
HCM Level of Service			A									
Intersection Capacity Utilization			62.6%	ICU Level of Service		B						
Analysis Period (min)			15									

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	344	55	4	484	116	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	362	58	4	509	122	1
Pedestrians	10			10	10	
Lane Width (ft)	12.0			13.0	14.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			430		929	411
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			430		929	411
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		58	100
cM capacity (veh/h)			929		290	629
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	420	4	509	122	1	
Volume Left	0	4	0	122	0	
Volume Right	58	0	0	0	1	
cSH	1700	929	1700	290	629	
Volume to Capacity	0.25	0.00	0.30	0.42	0.00	
Queue Length 95th (ft)	0	0	0	50	0	
Control Delay (s)	0.0	8.9	0.0	26.1	10.7	
Lane LOS		A		D	B	
Approach Delay (s)	0.0	0.1		26.0		
Approach LOS				D		
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			

NT AM Peak Hour
11: Pecan Park & Rios Canyon Road

W/O Project
HCM Unsignalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	4	151	42	1	156	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	159	44	1	164	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			163		173	84
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			163		173	84
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		79	95
cM capacity (veh/h)			1415		791	976
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	163	45	211			
Volume Left	0	44	164			
Volume Right	159	0	46			
cSH	1700	1415	826			
Volume to Capacity	0.10	0.03	0.25			
Queue Length 95th (ft)	0	2	25			
Control Delay (s)	0.0	7.5	10.8			
Lane LOS		A	B			
Approach Delay (s)	0.0	7.5	10.8			
Approach LOS			B			
Intersection Summary						
Average Delay		6.3				
Intersection Capacity Utilization		34.2%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	346	0	12	447	20	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	364	0	13	471	21	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			364		860	364
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			364		860	364
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			99		93	98
cM capacity (veh/h)			958		322	681
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	364	13	471	36		
Volume Left	0	13	0	21		
Volume Right	0	0	0	15		
cSH	1700	958	1700	411		
Volume to Capacity	0.21	0.01	0.28	0.09		
Queue Length 95th (ft)	0	1	0	7		
Control Delay (s)	0.0	8.8	0.0	14.6		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.2		14.6		
Approach LOS				B		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			33.5%	ICU Level of Service		A
Analysis Period (min)			15			

NT PM Peak Hour
3: Mapleview Street & Ashwood Street

W/O Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85		0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.97	1.00
Satd. Flow (prot)	1770	3481		1770	3539	1583		1767			1810	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.94			0.46	1.00
Satd. Flow (perm)	1770	3481		1770	3539	1583		1672			856	1583
Volume (vph)	394	504	62	46	291	148	18	125	78	249	179	374
Peak-hour factor, PHF	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)	415	531	65	48	306	156	19	132	82	262	188	394
RTOR Reduction (vph)	0	10	0	0	0	140	0	23	0	0	0	146
Lane Group Flow (vph)	415	586	0	48	306	16	0	210	0	0	450	248
Turn Type	Prot			Prot		Over	pm+pt			pm+pt		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases							2			6		
Actuated Green, G (s)	21.2	32.8		2.9	14.5	7.1		17.8			30.3	21.2
Effective Green, g (s)	22.6	34.2		4.3	15.9	8.5		19.2			31.7	22.6
Actuated g/C Ratio	0.27	0.42		0.05	0.19	0.10		0.23			0.39	0.27
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	487	1448		93	685	164		391			429	435
v/s Ratio Prot	c0.23	c0.17		0.03	0.09	0.01					c0.11	0.16
v/s Ratio Perm								0.13			c0.30	
v/c Ratio	0.85	0.40		0.52	0.45	0.10		0.54			1.05	0.57
Uniform Delay, d1	28.2	16.9		37.9	29.3	33.4		27.6			25.2	25.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	13.5	0.2		4.8	0.5	0.3		1.4			56.9	1.8
Delay (s)	41.7	17.0		42.7	29.7	33.6		29.0			82.1	27.4
Level of Service	D	B		D	C	C		C			F	C
Approach Delay (s)		27.2			32.1			29.0			56.6	
Approach LOS		C			C			C			E	
Intersection Summary												
HCM Average Control Delay			37.9				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			82.2				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			78.7%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

NT PM Peak Hour
4: Maplevue Street & Pino Drive

W/O Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.99	1.00
Satd. Flow (prot)	1770	3443		1770	3539	1583		1774			1838	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.87			0.95	1.00
Satd. Flow (perm)	1770	3443		1770	3539	1583		1587			1769	1583
Volume (vph)	29	549	122	16	327	14	56	37	20	8	21	20
Peak-hour factor, PHF	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)	31	578	128	17	344	15	59	39	21	8	22	21
RTOR Reduction (vph)	0	22	0	0	0	11	0	7	0	0	0	11
Lane Group Flow (vph)	31	684	0	17	344	4	0	112	0	0	30	10
Turn Type	Prot			Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		6
Actuated Green, G (s)	2.7	18.4		1.2	16.9	16.9		30.0			30.0	30.0
Effective Green, g (s)	4.1	19.8		2.6	18.3	18.3		31.4			31.4	31.4
Actuated g/C Ratio	0.06	0.30		0.04	0.28	0.28		0.48			0.48	0.48
Clearance Time (s)	5.4	5.4		5.4	5.4	5.4		5.4			5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	110	1036		70	984	440		757			844	755
v/s Ratio Prot	c0.02	c0.20		0.01	0.10							
v/s Ratio Perm						0.00		c0.07			0.02	0.01
v/c Ratio	0.28	0.66		0.24	0.35	0.01		0.15			0.04	0.01
Uniform Delay, d1	29.4	20.1		30.6	19.0	17.2		9.7			9.1	9.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.4	1.5		1.8	0.2	0.0		0.4			0.1	0.0
Delay (s)	30.9	21.6		32.5	19.2	17.2		10.1			9.2	9.1
Level of Service	C	C		C	B	B		B			A	A
Approach Delay (s)		22.0			19.7			10.1			9.2	
Approach LOS		C			B			B			A	
Intersection Summary												
HCM Average Control Delay			19.7				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			65.8				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			43.7%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #6 Lake Jennings Park Road & El Monte Rd [NT PM PH]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.605

Loss Time (sec): 0 Average Delay (sec/veh): 15.2

Optimal Cycle: 0 Level Of Service: C

Street Name: Lake Jennings Park Road El Monte Rd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

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Control: Stop Sign Stop Sign Stop Sign Stop Sign

Rights: Include Include Include Ignore

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 0 1 0 1 0 1 1 0 0 1 0 0 0 1

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Volume Module:

Base Vol: 90 288 22 24 466 35 43 33 168 56 39 28

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 90 288 22 24 466 35 43 33 168 56 39 28

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00

PHF Volume: 95 303 23 25 491 37 45 35 177 59 41 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 95 303 23 25 491 37 45 35 177 59 41 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

FinalVolume: 95 303 23 25 491 37 45 35 177 59 41 0

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Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 1.00 0.93 0.07 1.00 1.86 0.14 0.57 0.43 1.00 0.59 0.41 1.00

Final Sat.: 493 501 38 472 957 72 257 197 520 252 176 482

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Capacity Analysis Module:

Vol/Sat: 0.19 0.60 0.60 0.05 0.51 0.51 0.18 0.18 0.34 0.23 0.23 0.00

Crit Moves: **** **** **** ****

Delay/Veh: 11.4 18.1 18.1 10.5 16.2 16.0 11.7 11.7 12.3 12.7 12.7 0.0

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 11.4 18.1 18.1 10.5 16.2 16.0 11.7 11.7 12.3 12.7 12.7 0.0

LOS by Move: B C C B C C B B B B B *

ApproachDel: 16.6 15.9 12.1 12.7

Delay Adj: 1.00 1.00 1.00

ApprAdjDel: 16.6 15.9 12.1 12.7

LOS by Appr: C C B B

AllWayAvgQ: 0.2 1.3 1.3 0.1 1.0 0.9 0.2 0.2 0.4 0.3 0.3 0.0

Note: Queue reported is the number of cars per lane.

NT PM Peak Hour
6: Harritt Rd & Lake Jennings Park Road

W/O Project
HCM Signalized Intersection Capacity Analysis

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1742		1863	1583	1770	1863
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1742		1863	1583	1770	1863
Volume (vph)	80	21	403	105	45	640
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	22	424	111	47	674
RTOR Reduction (vph)	12	0	0	28	0	0
Lane Group Flow (vph)	94	0	424	83	47	674
Turn Type			pt+ov		Prot	
Protected Phases	8		2	2 8	1	6
Permitted Phases						
Actuated Green, G (s)	8.4		42.3	56.1	10.1	57.8
Effective Green, g (s)	9.8		43.7	57.5	11.5	59.2
Actuated g/C Ratio	0.13		0.57	0.75	0.15	0.77
Clearance Time (s)	5.4		5.4		5.4	5.4
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	222		1057	1182	264	1432
v/s Ratio Prot	c0.05		0.23	0.05	0.03	c0.36
v/s Ratio Perm						
v/c Ratio	0.42		0.40	0.07	0.18	0.47
Uniform Delay, d1	31.0		9.3	2.6	28.6	3.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3		1.1	0.0	1.5	0.2
Delay (s)	32.3		10.5	2.6	30.1	3.5
Level of Service	C		B	A	C	A
Approach Delay (s)	32.3		8.8			5.2
Approach LOS	C		A			A
Intersection Summary						
HCM Average Control Delay			8.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			77.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			46.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

NT PM Peak Hour
7: I-8 Business Route & Lake Jennings Park Road

W/O Project
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.96		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1808	1583		1754		1770	1787		1770	1863	1583
Flt Permitted		0.97	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1808	1583		1754		1770	1787		1770	1863	1583
Volume (vph)	64	42	171	167	25	44	143	494	185	75	563	75
Peak-hour factor, PHF	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)	67	44	180	176	26	46	151	520	195	79	593	79
RTOR Reduction (vph)	0	0	154	0	10	0	0	14	0	0	0	20
Lane Group Flow (vph)	0	111	26	0	238	0	151	701	0	79	593	59
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)		10.1	10.1		15.1		7.4	31.2		3.1	26.9	26.9
Effective Green, g (s)		11.5	11.5		16.5		8.8	32.6		4.5	28.3	28.3
Actuated g/C Ratio		0.14	0.14		0.20		0.11	0.40		0.06	0.35	0.35
Clearance Time (s)		5.4	5.4		5.4		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		256	224		357		192	718		98	650	552
v/s Ratio Prot		c0.06			c0.14		c0.09	c0.39		0.04	0.32	
v/s Ratio Perm			0.02									0.04
v/c Ratio		0.43	0.11		0.67		0.79	0.98		0.81	0.91	0.11
Uniform Delay, d1		31.8	30.4		29.8		35.2	23.9		37.9	25.2	17.9
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.2	0.2		4.7		18.8	27.6		36.6	17.2	0.1
Delay (s)		33.0	30.6		34.5		54.1	51.4		74.5	42.4	17.9
Level of Service		C	C		C		D	D		E	D	B
Approach Delay (s)		31.5			34.5			51.9			43.2	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM Average Control Delay		44.1					HCM Level of Service			D		
HCM Volume to Capacity ratio		0.77										
Actuated Cycle Length (s)		81.1					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		71.3%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

NT PM Peak Hour
8: I-8 WB On Ramp & Lake Jennings Park Road

W/O Project
HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	17	0	203	0	619	377	0	536	337
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
Hourly flow rate (vph)	0	0	0	18	0	214	0	652	397	0	564	355
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)											333	
pX, platoon unblocked	0.78	0.78	0.78	0.78	0.78		0.78					
vC, conflicting volume	1429	1613	564	1216	1571	652	919	1048				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1550	1784	442	1276	1730	652	896	1048				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	100	84	100	54	100	100				
cM capacity (veh/h)	39	64	481	112	69	468	592	664				
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2						
Volume Total	18	214	652	397	564	355						
Volume Left	18	0	0	0	0	0						
Volume Right	0	214	0	397	0	355						
cSH	112	468	1700	1700	1700	1700						
Volume to Capacity	0.16	0.46	0.38	0.23	0.33	0.21						
Queue Length 95th (ft)	14	59	0	0	0	0						
Control Delay (s)	43.1	19.0	0.0	0.0	0.0	0.0						
Lane LOS	E	C										
Approach Delay (s)	20.8		0.0		0.0							
Approach LOS	C											
Intersection Summary												
Average Delay	2.2											
Intersection Capacity Utilization	51.8%			ICU Level of Service				A				
Analysis Period (min)	15											

NT PM Peak Hour
9: I-8 EB Off Ramp & Lake Jennings Park Road

W/O Project
7/21/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	434	476	39	26	0	527	0	33	20	199	28	329
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
Hourly flow rate (vph)	457	501	41	27	0	555	0	35	21	209	29	346
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	457	542	27	555	56	239	346					
Volume Left (vph)	457	0	27	0	0	209	0					
Volume Right (vph)	0	41	0	555	21	0	346					
Hadj (s)	0.53	-0.02	0.23	-0.57	-0.19	0.21	-0.57					
Departure Headway (s)	6.0	5.5	6.2	3.2	6.1	6.1	3.2					
Degree Utilization, x	0.76	0.82	0.05	0.49	0.09	0.40	0.31					
Capacity (veh/h)	588	650	542	1116	568	571	1113					
Control Delay (s)	24.7	27.6	9.5	9.3	9.7	13.2	7.6					
Approach Delay (s)	26.2		9.3		9.7	9.9						
Approach LOS	D		A		A	A						

Intersection Summary

Delay	17.1						
HCM Level of Service	C						
Intersection Capacity Utilization	73.9%		ICU Level of Service			D	
Analysis Period (min)	15						