

Appendix B

Traffic Analysis

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TECHNICAL MEMORANDUM

To: Debbie Stevens
Environmental Audit, Inc.
100-A Ortega Way, Suite A
Placentia CA 92870

From: Sean Daly
Iteris, Inc.
801 South Grand Avenue, Suite 530
Los Angeles, CA 90017

Date: October 3, 2019

RE: Shippers Transport Express Container Storage Project
Technical Memorandum – Traffic Study

INTRODUCTION

Shippers Transport Express (Shippers) is proposing to move their existing truck and container storage facility at 1150 East Sepulveda Boulevard, Carson, California (existing site) to 2149 East Sepulveda Boulevard, Carson, California (Project site), approximately one mile east of the existing Shippers. Shipper's leases its existing site from Tesoro Logistics Operations LLC, who is developing the existing site for additional refinery-related activities. Shippers will need to move their existing container storage facility operations in the near future. Therefore, Shippers is proposing to move their existing container storage operations to 2149 East Sepulveda Blvd. The general site plan layout is shown on the following page.

This Technical Memorandum (Technical Memo) summarizes the methodology and results of a focused traffic study in support of the Negative Declaration for the Shippers Transport Express Container Storage Project (the proposed Project) located in the City of Carson, California. This analysis will utilize existing City of Carson significance thresholds and will look at changes in intersection operations at the Sepulveda Boulevard/Alameda Street Connector intersection and site driveway access.

Baseline conditions will be developed through intersection and driveway counts. The signalized intersection between the two sites will be analyzed for changes due to shifting project trips from the existing site to the proposed Project site. Given the near-term nature of the project, the Baseline Conditions will be directly compared to a baseline plus Project conditions. Study area analysis locations including lane geometrics, signalization, intersection volume to capacity ratio and vehicle level of service (LOS) analysis with and without the project will also be described.


Consistent with City of Carson traffic study guidelines, the study intersection level of service will be calculated using Intersection Capacity Utilization methodology. The City of Carson considers LOS "D" as the threshold level of service. The City's traffic study guidelines require mitigation of project traffic whenever traffic generated by the proposed project exceeds a significant threshold of increasing an intersections V/C ratio in accordance with the following guideline:

- V/C ratio of 0.02 or greater if the final LOS is E or F.

Appendix B
Shippers Transport Express Container Storage Project
Technical Memorandum – Traffic Study

I:\3117\General Site Plan (Created) 09/05/19 (Drawn By) A.S.K. (Check By) D.B.S. (Last Rev.) 09/06/19



 Environmental Audit, Inc.

GENERAL SITE PLAN
Proposed Shipper Transport Facility
2149 East Sepulveda Boulevard
Carson, CA 90745

0 250'

Project No. 3117

Figure 1-2

The concept of passenger car equivalent (PCE) will be used in the study to adjust for the effect of trucks in the traffic stream. PCE is defined as the amount of capacity in terms of passenger cars used by a signal heavy vehicle of a particular type under specified roadway, traffic, and control conditions. A PCE factor of 1.1 will be applied to tractors (bobtails), and a PCE factor of 2.0 will be applied to chassis as well as container truck volumes for the LOS calculations. These factors are consistent with factors applied in previous port studies, including the 2004 Port of Los Angeles Baseline Transportation Study. They are also consistent with subsequent work conducted for various environmental studies in the Port area.

PROJECT DESCRIPTION

Shippers Transport Express is proposing to move their existing truck and container storage facility at 1150 East Sepulveda Boulevard, Carson, California (existing site) to the 20-acre site at 2149 East Sepulveda Boulevard, Carson, California (Project site), approximately one mile east of the existing Shippers site. Shipper's leases its existing site (approximately 60 acres) from Tesoro Logistics Operations LLC, who is developing the site for additional refinery-related activities. Therefore, Shippers will need to relocate in the near future. The City of Carson has indicated that a CUP will be required for the use of the 20-acre project site for truck and container storage and parking.

Under the project, Shippers will move its operations to 2149 East Sepulveda. Containers delivered to the ports via marine vessel will be temporarily staged at the Project site until they can be delivered to their ultimate destination. This site will be a container storage yard for approximately 700 containers. The number of workers at the project site is expected to be six workers. There are no buildings on the Project site, and no permanent buildings are proposed for the site. Shippers will bring in three portable security offices (guard shacks) – two for the entrance on Sepulveda Blvd, and one for the exit on Alameda Street.

Shippers expects to process approximately 200 containers per day at the 2148 East Sepulveda Site. Trucks will travel from the Port of Long Beach to the Project site for temporary storage via the Terminal Island 103 Freeway to Sepulveda Blvd. From the Project site, the containers will be picked up from Shippers and travel from the site to Alameda Street northbound where they can connect to the I-405, I-710, or SR-91 freeways.

No major renovations are expected as the Project site is currently vacant. Furthermore, no off-site improvements are planned to accommodate the project. Construction activities will be limited to the installation of the security offices, which are portable structures that will be moved on to the site. In addition, Shippers will install wheel stops and K rail. The minor site renovations are expected to begin as soon as all approvals are received from the City of Carson and be completed within about one month.

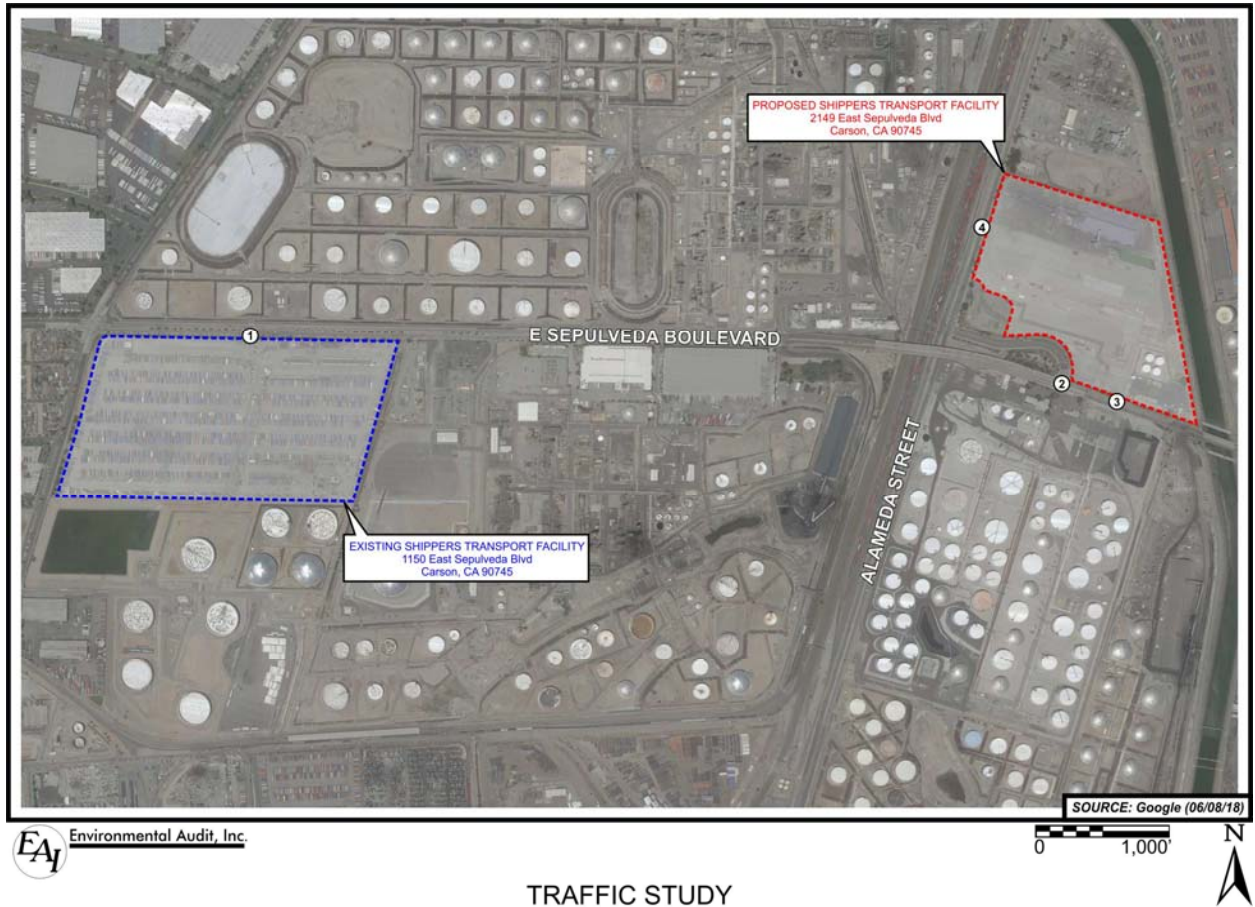
TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

Study Area

The following intersection was identified for inclusion in the traffic impact analysis:

1. Sepulveda/Alameda Ramp

Two site driveways are also assessed for their adequacy to process site traffic and prevent queuing onto adjacent roadways. **Figure 1** illustrates the study area including the locations of the study intersection (#2) analyzed and driveways (#s 1, 3, 4) in this report.



Study Analysis Periods

Traffic Operations are evaluated for each of the following scenarios during the weekday a.m. peak hour and the p.m. peak hour:

- Baseline (Existing) Conditions (2019)
- Baseline Conditions Plus Project (2019)

Baseline (existing) conditions are obtained from turning movement traffic counts taken February 2019 during the peak hours of operations (6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) as well as existing roadway signal and geometric conditions.¹ Based on traffic counts at the driveway located at 1150 East Sepulveda Boulevard (1-Existing Site), there are a total of 351 daily trips in the peak periods generated by

¹ Counts for existing conditions were taken on February 20, 2019 at locations 1-4 shown in **Figure 1**.

truck and container storage and parking for the baseline conditions. Driveway counts are included in **Table 1**. Traffic counts are included in **Appendix A**.

TABLE 1: DRIVEWAY COUNTS FOR EXISTING SITE

Type	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	15	10	25	42	22	64
Truck	38	55	93	88	81	169
Total	53	65	118	130	103	233
PCE Total	91	120	211	218	184	402

There are no buildings on the Project site, and no permanent buildings are proposed for the site. Shippers will bring in three security offices (guard shacks) – two for the entrance on Sepulveda Blvd, and one for the exit on Alameda Street.

No major renovations are expected as the Project site is currently vacant. Construction activities will be limited to the installation of the security offices, which are portable structures that will be moved on to the site. In addition, Shippers will install wheel stops and K rail. The minor site renovations are expected to begin as soon as all approvals are received from the City of Carson and be completed within about one month.²

The traffic analysis is based on the trips associated with moving Shippers from their existing site at 1150 East Sepulveda Boulevard to the proposed Project site at 2149 East Sepulveda Boulevard. Proposed project site trip generation is based on a 24-hour driveway count survey of the existing site. Based on the physical difference between the two sites—60 acres vs. 20 acres—it was assumed one-third of the trips associated with the existing site would shift to the proposed Project site. These trips were rounded up to the closest increment of five trips in the analysis as shown in **Table 2**.

TABLE 2: PROPOSED PROJECT SITE TRIP GENERATION (2149 E. SEPULVEDA BLVD.)

Type	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	5	5	10	15	5	20
Truck	15	20	35	30	25	55
Vehicle Total	20	25	45	45	30	75
PCE Total	35	45	80	75	55	130

Changes in traffic patterns associated with moving the Shippers site were estimated by routing the one-third of the existing site trips (**Table 2**) to the new Project site (2149 E. Sepulveda Blvd.) at the inbound driveway located along Sepulveda Boulevard and outbound driveway located on Alameda Street. Auto trips are assumed to access the Project site from the north using I-710. The proposed project is assumed to reroute auto trips from Wilmington Avenue to Sepulveda Boulevard via Willow Street (for autos) and the Terminal Island Freeway (SR-103).

² Construction trips were not part of this study.

Inbound trips from Alameda Street would be rerouted at the study intersection from the southbound right-turn lane to the left-turn lane. Inbound trips from the Terminal Island Freeway (SR-103) would be removed from the westbound through lanes of the study intersection on Sepulveda Boulevard since those trips would access the site prior to the study intersection rather than continuing westbound to access the existing site (1150 E. Sepulveda Blvd.). Outbound trips would exit the Project site directly onto Alameda Street and, due to a raised median, would only be able to turn right in the northbound direction.

For this analysis, the Baseline Conditions are directly compared to a baseline plus Project conditions to determine the potential for significant impacts at the study location.

Driveway Analysis

Two driveways serve the project site. Under the proposed project conditions, truck access would be from the driveway on Sepulveda Boulevard (#3 on Figure 1) for inbound site access and the driveway on Alameda Street (#4 on Figure 1) would be the outbound site access. Autos would use the Sepulveda Street driveway for both inbound and outbound access.

Inbound Sepulveda Boulevard Driveway

The hourly peak demand placed on the inbound driveway for the AM peak hour would be 15 trucks and five autos and for the PM peak hour it would be 30 trucks and 15 autos. Under the existing conditions the striped median lane does not permit left-turns. Therefore, inbound access would need to be from the westbound direction with trucks using the Terminal Island Freeway (SR 103) to access the site.

Outbound Alameda Street Driveway

No alteration to the median of Alameda Street is proposed for the project, therefore the outbound project site driveway would limit trucks to right-turn only onto northbound Alameda Street with regional access to I-710.

BASELINE CONDITIONS

This section presents an overview of the existing roadway system within the study area and the methodology used to determine existing traffic volumes.

Roadway Configurations

The existing configurations of the roadways within the study area are described as follows:

Sepulveda Boulevard, oriented in an east-west direction, consists of two lanes in each direction. On-street parking is prohibited along Sepulveda Boulevard in the study area. East of the I-710 freeway, Sepulveda Boulevard transitions to Willow Street. Trucks are prohibited from traveling along Willow Street, therefore regional highway access is from Alameda Street, Wilmington Avenue and the SR-103 Terminal Island Freeway.

Baseline Traffic Volumes

Vehicle turning movement counts at the study intersections were collected in February 2019 during the a.m. (6:00 a.m. to 9:00 a.m.) and p.m. (4:00 p.m. and 6:00 p.m.) peak periods. The traffic counts are a reasonable estimate of conditions during the baseline period. Detailed traffic count sheets are provided in **Appendix A**.

BASELINE PLUS PROJECT CONDITIONS

The proposed Project peak hour trip generation (**Table 2**) was distributed at the analysis location based on the distribution described previously. For inbound auto trips, five southbound left-turning vehicles in the a.m. peak hour and fifteen trips in the p.m. peak hour were added to the baseline volume. For inbound truck trips (described in PCE) from Alameda Street, fifteen PCE in the a.m. peak hour and 30 PCE in the p.m. peak hour were shifted from the southbound right-turn to Willow Street (autos) and the Terminal Island Freeway (SR-103) to the site driveway via Sepulveda Boulevard. The shifting results removed trips from the southbound right-turn and westbound through movement.

Table 5 summarizes the LOS at the study intersections comparing baseline to baseline plus project conditions. As shown in Table 5, the shift in traffic conditions resulting from the movement of operations to the project site and the space limitations of the new site as compared to baseline conditions results in lower demand placed on the study intersection and slightly improved intersection operations in each peak hour. Therefore the threshold of significance would not be exceeded and there is no forecasted significant impact on traffic conditions due to the proposed Project based on the City of Carson traffic analysis guidelines. The LOS calculation worksheets are included in **Appendix B**.

TABLE 5: EXISTING WITH PROJECT INTERSECTION LOS

Intersection		Baseline Existing (2019)				Baseline with Project (2019)				a.m. Change in V/C	p.m. Change in V/C	Significant Impact?
		a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS			
1	Sepulveda/Alameda Ramp	0.899	D	0.799	C	0.890	D	0.781	C	-0.018	-0.002	No

CONCLUSION

As shown in **Table 5**, under the Baseline Existing Conditions (2019) Plus Project, trips calculated will not result in a significant impact at the Sepulveda/Alameda Intersection.

APPENDIX A: TRAFFIC COUNTS

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

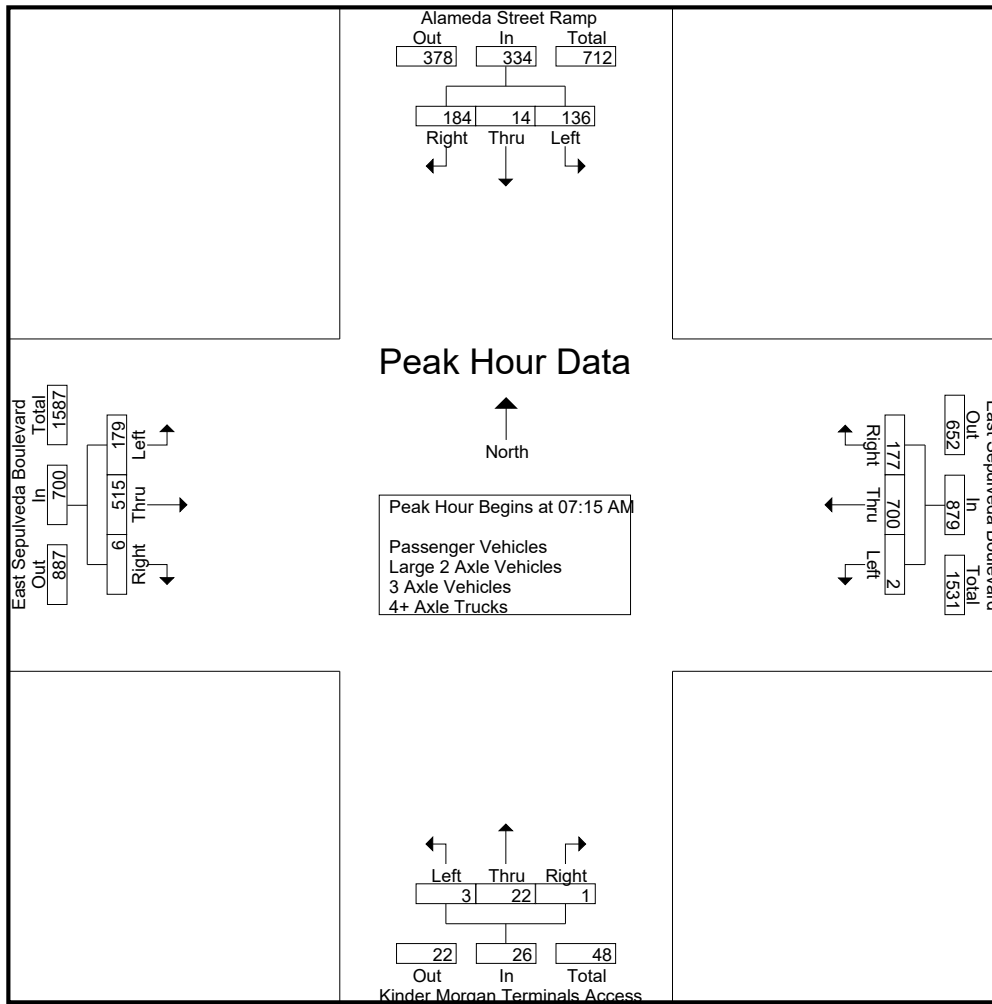
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	36	4	32	72	4	162	40	206	0	2	1	3	24	78	1	103	384
07:15 AM	35	3	40	78	0	181	41	222	0	8	0	8	21	122	1	144	452
07:30 AM	28	2	58	88	0	178	46	224	0	0	1	1	53	129	1	183	496
07:45 AM	36	3	51	90	2	178	48	228	3	8	0	11	43	133	4	180	509
Total	135	12	181	328	6	699	175	880	3	18	2	23	141	462	7	610	1841
08:00 AM	37	6	35	78	0	163	42	205	0	6	0	6	62	131	0	193	482
08:15 AM	40	4	38	82	0	174	41	215	1	4	2	7	27	110	0	137	441
08:30 AM	35	2	32	69	0	125	54	179	0	1	1	2	39	102	1	142	392
08:45 AM	32	4	50	86	0	120	37	157	0	2	2	4	29	95	0	124	371
Total	144	16	155	315	0	582	174	756	1	13	5	19	157	438	1	596	1686
09:00 AM	29	3	32	64	1	117	29	147	1	0	1	2	20	96	0	116	329
09:15 AM	31	1	45	77	0	96	49	145	1	3	0	4	27	66	0	93	319
09:30 AM	24	5	31	60	0	112	44	156	0	2	1	3	23	79	0	102	321
09:45 AM	30	2	39	71	0	94	50	144	1	4	0	5	32	77	1	110	330
Total	114	11	147	272	1	419	172	592	3	9	2	14	102	318	1	421	1299
Grand Total	393	39	483	915	7	1700	521	2228	7	40	9	56	400	1218	9	1627	4826
Apprch %	43	4.3	52.8		0.3	76.3	23.4		12.5	71.4	16.1		24.6	74.9	0.6		
Total %	8.1	0.8	10	19	0.1	35.2	10.8	46.2	0.1	0.8	0.2	1.2	8.3	25.2	0.2	33.7	
Passenger Vehicles	129	10	277	416	5	1422	215	1642	2	5	3	10	236	904	8	1148	3216
% Passenger Vehicles	32.8	25.6	57.3	45.5	71.4	83.6	41.3	73.7	28.6	12.5	33.3	17.9	59	74.2	88.9	70.6	66.6
Large 2 Axle Vehicles	36	1	20	57	0	35	14	49	2	0	0	2	12	20	0	32	140
% Large 2 Axle Vehicles	9.2	2.6	4.1	6.2	0	2.1	2.7	2.2	28.6	0	0	3.6	3	1.6	0	2	2.9
3 Axle Vehicles	115	6	54	175	1	104	66	171	1	7	4	12	31	71	1	103	461
% 3 Axle Vehicles	29.3	15.4	11.2	19.1	14.3	6.1	12.7	7.7	14.3	17.5	44.4	21.4	7.8	5.8	11.1	6.3	9.6
4+ Axle Trucks	113	22	132	267	1	139	226	366	2	28	2	32	121	223	0	344	1009
% 4+ Axle Trucks	28.8	56.4	27.3	29.2	14.3	8.2	43.4	16.4	28.6	70	22.2	57.1	30.2	18.3	0	21.1	20.9

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	35	3	40	78	0	181	41	222	0	8	0	8	21	122	1	144	452
07:30 AM	28	2	58	88	0	178	46	224	0	0	1	1	53	129	1	183	496
07:45 AM	36	3	51	90	2	178	48	228	3	8	0	11	43	133	4	180	509
08:00 AM	37	6	35	78	0	163	42	205	0	6	0	6	62	131	0	193	482
Total Volume	136	14	184	334	2	700	177	879	3	22	1	26	179	515	6	700	1939
% App. Total	40.7	4.2	55.1		0.2	79.6	20.1		11.5	84.6	3.8		25.6	73.6	0.9		
PHF	.919	.583	.793	.928	.250	.967	.922	.964	.250	.688	.250	.591	.722	.968	.375	.907	.952

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	28	2	58	88	4	162	40	206	0	8	0	8	21	122	1	144
+15 mins.	36	3	51	90	0	181	41	222	0	0	1	1	53	129	1	183
+30 mins.	37	6	35	78	0	178	46	224	3	8	0	11	43	133	4	180
+45 mins.	40	4	38	82	2	178	48	228	0	6	0	6	62	131	0	193
Total Volume	141	15	182	338	6	699	175	880	3	22	1	26	179	515	6	700
% App. Total	41.7	4.4	53.8		0.7	79.4	19.9		11.5	84.6	3.8		25.6	73.6	0.9	
PHF	.881	.625	.784	.939	.375	.965	.911	.965	.250	.688	.250	.591	.722	.968	.375	.907

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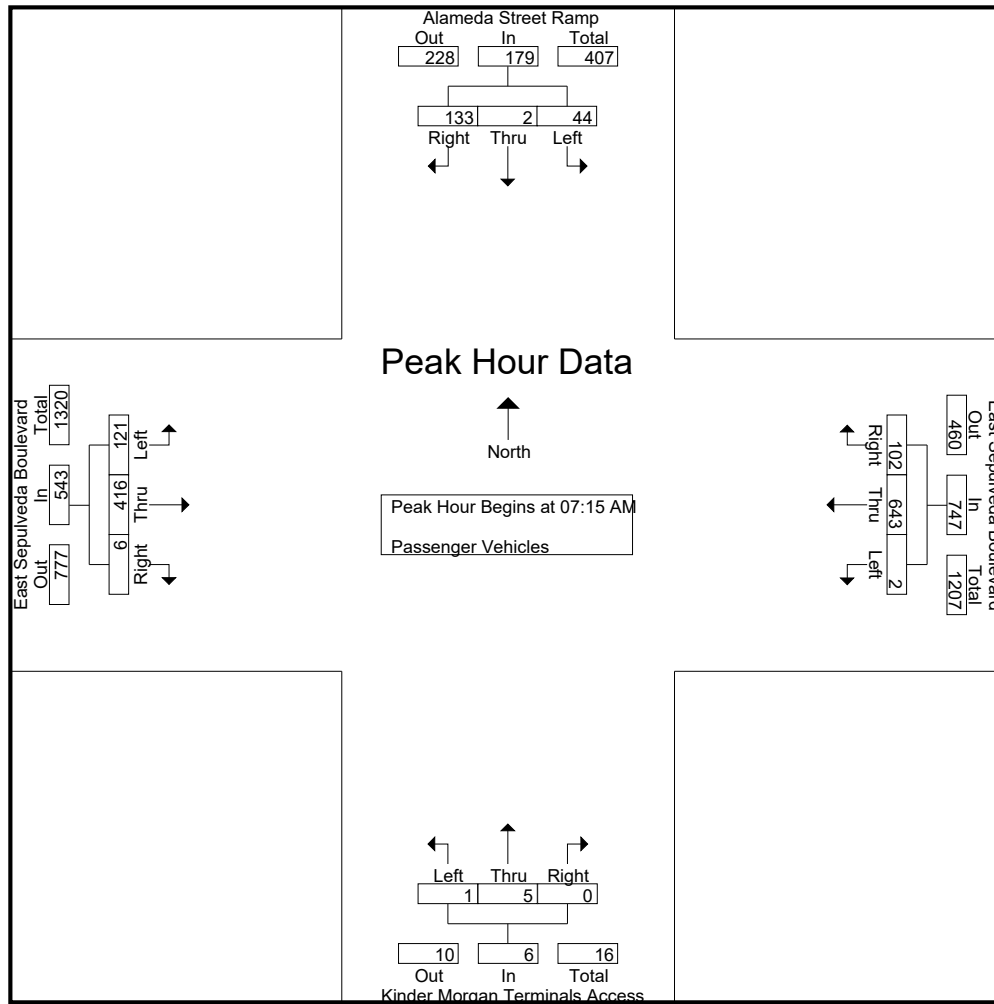
Groups Printed- Passenger Vehicles

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	17	2	19	38	2	146	21	169	0	0	0	0	19	56	1	76	283
07:15 AM	12	1	28	41	0	166	22	188	0	1	0	1	16	100	1	117	347
07:30 AM	9	0	43	52	0	164	33	197	0	0	0	0	36	109	1	146	395
07:45 AM	13	0	36	49	2	164	29	195	1	3	0	4	26	108	4	138	386
Total	51	3	126	180	4	640	105	749	1	4	0	5	97	373	7	477	1411
08:00 AM	10	1	26	37	0	149	18	167	0	1	0	1	43	99	0	142	347
08:15 AM	15	1	26	42	0	151	20	171	1	0	1	2	19	80	0	99	314
08:30 AM	9	1	13	23	0	102	20	122	0	0	0	0	24	78	1	103	248
08:45 AM	9	1	28	38	0	98	13	111	0	0	1	1	14	68	0	82	232
Total	43	4	93	140	0	500	71	571	1	1	2	4	100	325	1	426	1141
09:00 AM	9	1	11	21	1	85	7	93	0	0	1	1	7	68	0	75	190
09:15 AM	10	0	17	27	0	57	10	67	0	0	0	0	7	45	0	52	146
09:30 AM	4	1	10	15	0	77	10	87	0	0	0	0	8	49	0	57	159
09:45 AM	12	1	20	33	0	63	12	75	0	0	0	0	17	44	0	61	169
Total	35	3	58	96	1	282	39	322	0	0	1	1	39	206	0	245	664
Grand Total	129	10	277	416	5	1422	215	1642	2	5	3	10	236	904	8	1148	3216
Apprch %	31	2.4	66.6		0.3	86.6	13.1		20	50	30		20.6	78.7	0.7		
Total %	4	0.3	8.6	12.9	0.2	44.2	6.7	51.1	0.1	0.2	0.1	0.3	7.3	28.1	0.2	35.7	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	12	1	28	41	0	166	22	188	0	1	0	1	16	100	1	117	347
07:30 AM	9	0	43	52	0	164	33	197	0	0	0	0	36	109	1	146	395
07:45 AM	13	0	36	49	2	164	29	195	1	3	0	4	26	108	4	138	386
08:00 AM	10	1	26	37	0	149	18	167	0	1	0	1	43	99	0	142	347
Total Volume	44	2	133	179	2	643	102	747	1	5	0	6	121	416	6	543	1475
% App. Total	24.6	1.1	74.3		0.3	86.1	13.7		16.7	83.3	0		22.3	76.6	1.1		
PHF	.846	.500	.773	.861	.250	.968	.773	.948	.250	.417	.000	.375	.703	.954	.375	.930	.934

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	12	1	28	41	0	166	22	188	0	1	0	1	16	100	1	117
+15 mins.	9	0	43	52	0	164	33	197	0	0	0	0	36	109	1	146
+30 mins.	13	0	36	49	2	164	29	195	1	3	0	4	26	108	4	138
+45 mins.	10	1	26	37	0	149	18	167	0	1	0	1	43	99	0	142
Total Volume	44	2	133	179	2	643	102	747	1	5	0	6	121	416	6	543
% App. Total	24.6	1.1	74.3		0.3	86.1	13.7		16.7	83.3	0		22.3	76.6	1.1	
PHF	.846	.500	.773	.861	.250	.968	.773	.948	.250	.417	.000	.375	.703	.954	.375	.930

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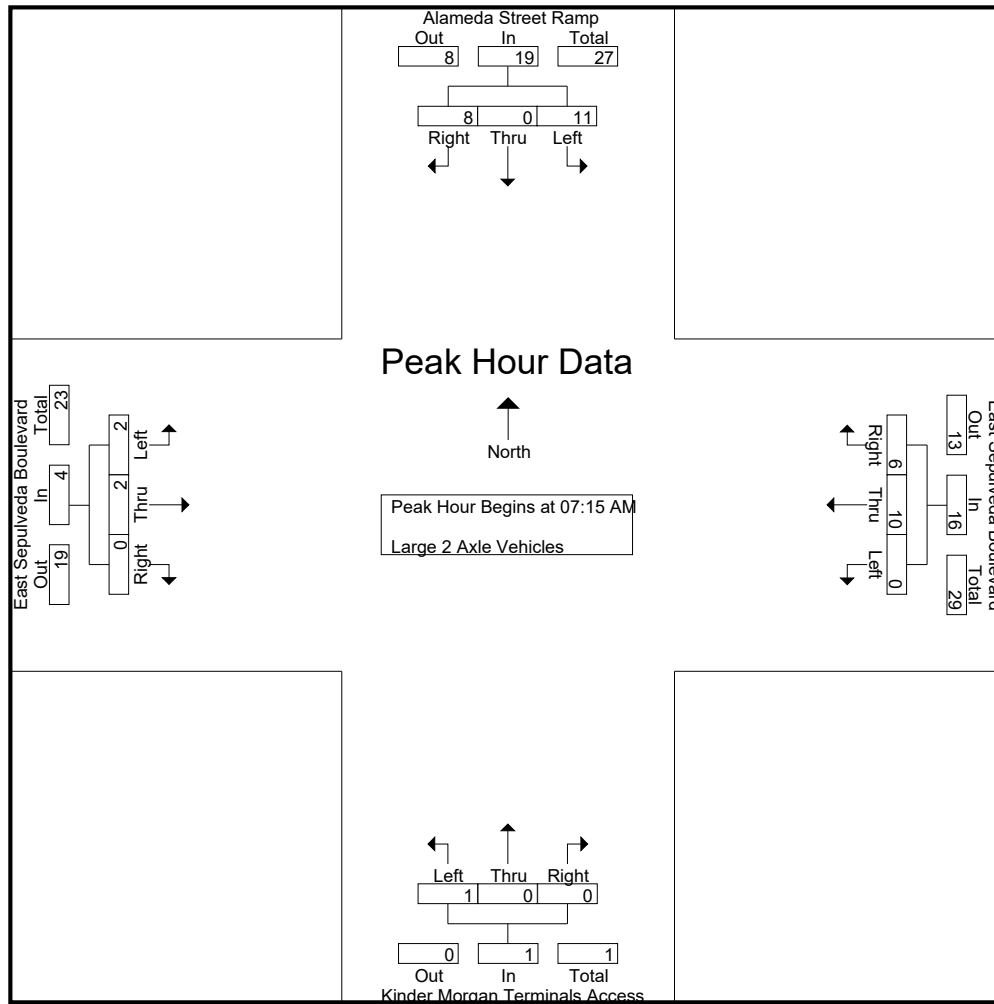
Groups Printed- Large 2 Axle Vehicles

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	1	0	1	4
07:15 AM	0	0	1	1	0	4	1	5	0	0	0	0	0	0	0	0	6
07:30 AM	5	0	1	6	0	3	1	4	0	0	0	0	0	1	0	1	11
07:45 AM	1	0	5	6	0	3	4	7	1	0	0	1	2	1	0	3	17
Total	6	0	8	14	0	12	6	18	1	0	0	1	2	3	0	5	38
08:00 AM	5	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	6
08:15 AM	2	0	0	2	0	6	1	7	0	0	0	0	1	1	0	2	11
08:30 AM	5	0	2	7	0	1	1	2	0	0	0	0	2	4	0	6	15
08:45 AM	5	0	3	8	0	2	3	5	0	0	0	0	3	2	0	5	18
Total	17	0	6	23	0	9	5	14	0	0	0	0	6	7	0	13	50
09:00 AM	4	0	2	6	0	4	0	4	0	0	0	0	0	3	0	3	13
09:15 AM	5	0	2	7	0	2	0	2	0	0	0	0	2	2	0	4	13
09:30 AM	3	1	1	5	0	4	2	6	0	0	0	0	1	3	0	4	15
09:45 AM	1	0	1	2	0	4	1	5	1	0	0	1	1	2	0	3	11
Total	13	1	6	20	0	14	3	17	1	0	0	1	4	10	0	14	52
Grand Total	36	1	20	57	0	35	14	49	2	0	0	2	12	20	0	32	140
Apprch %	63.2	1.8	35.1		0	71.4	28.6		100	0	0		37.5	62.5	0		
Total %	25.7	0.7	14.3	40.7	0	25	10	35	1.4	0	0	1.4	8.6	14.3	0	22.9	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	1	1	0	4	1	5	0	0	0	0	0	0	0	0	6
07:30 AM	5	0	1	6	0	3	1	4	0	0	0	0	0	1	0	1	11
07:45 AM	1	0	5	6	0	3	4	7	1	0	0	1	2	1	0	3	17
08:00 AM	5	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Total Volume	11	0	8	19	0	10	6	16	1	0	0	1	2	2	0	4	40
% App. Total	57.9	0	42.1		0	62.5	37.5		100	0	0		50	50	0		
PHF	.550	.000	.400	.792	.000	.625	.375	.571	.250	.000	.000	.250	.250	.500	.000	.333	.588

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	1	1	0	4	1	5	0	0	0	0	0	0	0	0
+15 mins.	5	0	1	6	0	3	1	4	0	0	0	0	0	1	0	1
+30 mins.	1	0	5	6	0	3	4	7	1	0	0	1	2	1	0	3
+45 mins.	5	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	11	0	8	19	0	10	6	16	1	0	0	1	2	2	0	4
% App. Total	57.9	0	42.1		0	62.5	37.5		100	0	0		50	50	0	
PHF	.550	.000	.400	.792	.000	.625	.375	.571	.250	.000	.000	.250	.250	.500	.000	.333

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

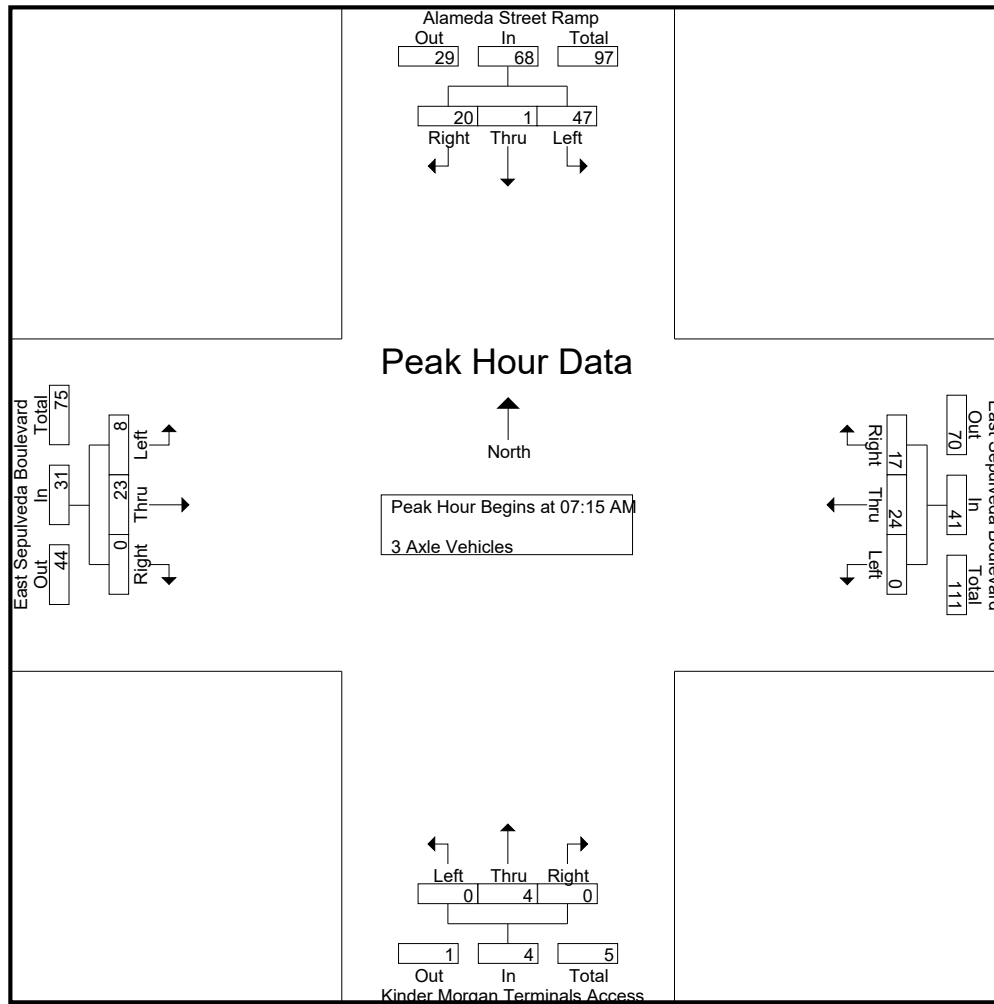
Groups Printed- 3 Axle Vehicles

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	10	2	8	20	1	10	3	14	0	1	1	2	1	4	0	5	41
07:15 AM	17	0	6	23	0	8	5	13	0	2	0	2	1	8	0	9	47
07:30 AM	7	0	8	15	0	6	2	8	0	0	0	0	5	3	0	8	31
07:45 AM	9	1	3	13	0	5	5	10	0	2	0	2	0	5	0	5	30
Total	43	3	25	71	1	29	15	45	0	5	1	6	7	20	0	27	149
08:00 AM	14	0	3	17	0	5	5	10	0	0	0	0	2	7	0	9	36
08:15 AM	13	0	1	14	0	4	3	7	0	0	1	1	2	2	0	4	26
08:30 AM	8	0	3	11	0	9	7	16	0	0	1	1	1	7	0	8	36
08:45 AM	7	1	4	12	0	6	2	8	0	0	1	1	5	8	0	13	34
Total	42	1	11	54	0	24	17	41	0	0	3	3	10	24	0	34	132
09:00 AM	8	1	6	15	0	14	2	16	0	0	0	0	4	8	0	12	43
09:15 AM	7	1	8	16	0	15	10	25	1	0	0	1	3	5	0	8	50
09:30 AM	6	0	3	9	0	10	11	21	0	0	0	0	4	6	0	10	40
09:45 AM	9	0	1	10	0	12	11	23	0	2	0	2	3	8	1	12	47
Total	30	2	18	50	0	51	34	85	1	2	0	3	14	27	1	42	180
Grand Total	115	6	54	175	1	104	66	171	1	7	4	12	31	71	1	103	461
Apprch %	65.7	3.4	30.9		0.6	60.8	38.6		8.3	58.3	33.3		30.1	68.9	1		
Total %	24.9	1.3	11.7	38	0.2	22.6	14.3	37.1	0.2	1.5	0.9	2.6	6.7	15.4	0.2	22.3	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	17	0	6	23	0	8	5	13	0	2	0	2	1	8	0	9	47
07:30 AM	7	0	8	15	0	6	2	8	0	0	0	0	5	3	0	8	31
07:45 AM	9	1	3	13	0	5	5	10	0	2	0	2	0	5	0	5	30
08:00 AM	14	0	3	17	0	5	5	10	0	0	0	0	2	7	0	9	36
Total Volume	47	1	20	68	0	24	17	41	0	4	0	4	8	23	0	31	144
% App. Total	69.1	1.5	29.4		0	58.5	41.5		0	100	0		25.8	74.2	0		
PHF	.691	.250	.625	.739	.000	.750	.850	.788	.000	.500	.000	.500	.400	.719	.000	.861	.766

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
 Start Date : 2/20/2019
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	17	0	6	23	0	8	5	13	0	2	0	2	1	8	0	9
+15 mins.	7	0	8	15	0	6	2	8	0	0	0	0	5	3	0	8
+30 mins.	9	1	3	13	0	5	5	10	0	2	0	2	0	5	0	5
+45 mins.	14	0	3	17	0	5	5	10	0	0	0	0	2	7	0	9
Total Volume	47	1	20	68	0	24	17	41	0	4	0	4	8	23	0	31
% App. Total	69.1	1.5	29.4		0	58.5	41.5		0	100	0		25.8	74.2	0	
PHF	.691	.250	.625	.739	.000	.750	.850	.788	.000	.500	.000	.500	.400	.719	.000	.861

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

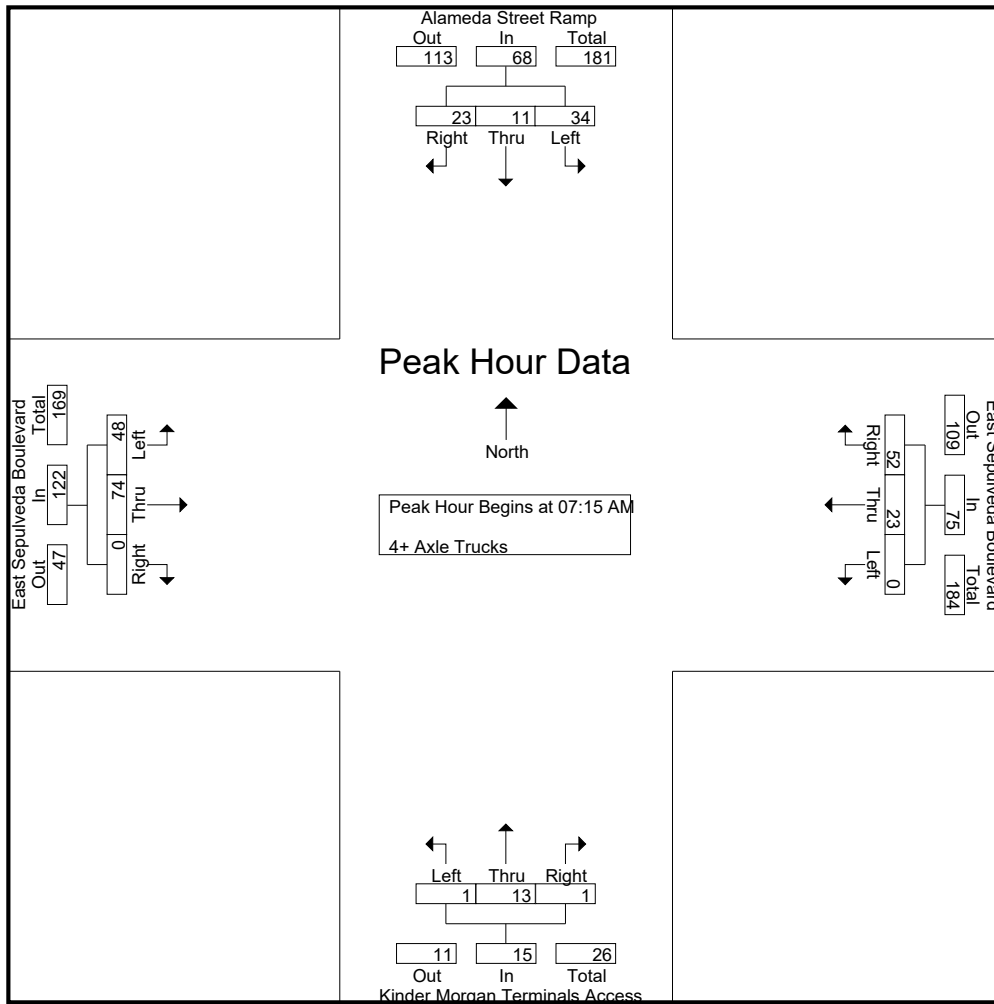
Groups Printed- 4+ Axle Trucks

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	9	0	4	13	1	4	16	21	0	1	0	1	4	17	0	21	56
07:15 AM	6	2	5	13	0	3	13	16	0	5	0	5	4	14	0	18	52
07:30 AM	7	2	6	15	0	5	10	15	0	0	1	1	12	16	0	28	59
07:45 AM	13	2	7	22	0	6	10	16	1	3	0	4	15	19	0	34	76
Total	35	6	22	63	1	18	49	68	1	9	1	11	35	66	0	101	243
08:00 AM	8	5	5	18	0	9	19	28	0	5	0	5	17	25	0	42	93
08:15 AM	10	3	11	24	0	13	17	30	0	4	0	4	5	27	0	32	90
08:30 AM	13	1	14	28	0	13	26	39	0	1	0	1	12	13	0	25	93
08:45 AM	11	2	15	28	0	14	19	33	0	2	0	2	7	17	0	24	87
Total	42	11	45	98	0	49	81	130	0	12	0	12	41	82	0	123	363
09:00 AM	8	1	13	22	0	14	20	34	1	0	0	1	9	17	0	26	83
09:15 AM	9	0	18	27	0	22	29	51	0	3	0	3	15	14	0	29	110
09:30 AM	11	3	17	31	0	21	21	42	0	2	1	3	10	21	0	31	107
09:45 AM	8	1	17	26	0	15	26	41	0	2	0	2	11	23	0	34	103
Total	36	5	65	106	0	72	96	168	1	7	1	9	45	75	0	120	403
Grand Total	113	22	132	267	1	139	226	366	2	28	2	32	121	223	0	344	1009
Apprch %	42.3	8.2	49.4		0.3	38	61.7		6.2	87.5	6.2		35.2	64.8	0		
Total %	11.2	2.2	13.1	26.5	0.1	13.8	22.4	36.3	0.2	2.8	0.2	3.2	12	22.1	0	34.1	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	2	5	13	0	3	13	16	0	5	0	5	4	14	0	18	52
07:30 AM	7	2	6	15	0	5	10	15	0	0	1	1	12	16	0	28	59
07:45 AM	13	2	7	22	0	6	10	16	1	3	0	4	15	19	0	34	76
08:00 AM	8	5	5	18	0	9	19	28	0	5	0	5	17	25	0	42	93
Total Volume	34	11	23	68	0	23	52	75	1	13	1	15	48	74	0	122	280
% App. Total	50	16.2	33.8		0	30.7	69.3		6.7	86.7	6.7		39.3	60.7	0		
PHF	.654	.550	.821	.773	.000	.639	.684	.670	.250	.650	.250	.750	.706	.740	.000	.726	.753

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda AM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	6	2	5	13	0	3	13	16	0	5	0	5	4	14	0	18
+15 mins.	7	2	6	15	0	5	10	15	0	0	1	1	12	16	0	28
+30 mins.	13	2	7	22	0	6	10	16	1	3	0	4	15	19	0	34
+45 mins.	8	5	5	18	0	9	19	28	0	5	0	5	17	25	0	42
Total Volume	34	11	23	68	0	23	52	75	1	13	1	15	48	74	0	122
% App. Total	50	16.2	33.8		0	30.7	69.3		6.7	86.7	6.7		39.3	60.7	0	
PHF	.654	.550	.821	.773	.000	.639	.684	.670	.250	.650	.250	.750	.706	.740	.000	.726

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

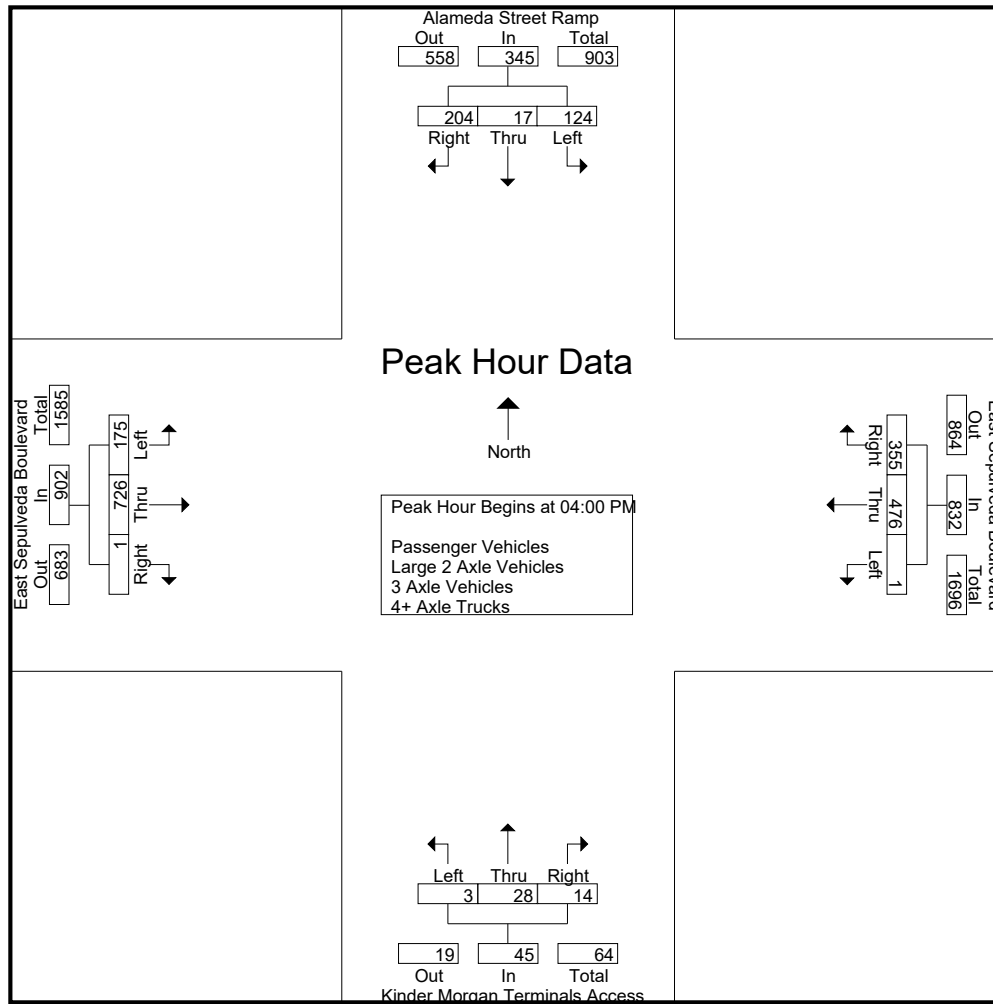
Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	34	2	53	89	0	116	92	208	1	4	7	12	41	173	0	214	523
04:15 PM	25	1	47	73	1	103	88	192	2	19	6	27	38	189	0	227	519
04:30 PM	31	8	54	93	0	124	90	214	0	3	1	4	54	201	0	255	566
04:45 PM	34	6	50	90	0	133	85	218	0	2	0	2	42	163	1	206	516
Total	124	17	204	345	1	476	355	832	3	28	14	45	175	726	1	902	2124
05:00 PM	22	4	36	62	0	126	78	204	0	2	1	3	50	174	1	225	494
05:15 PM	25	3	35	63	1	109	44	154	2	3	1	6	64	168	0	232	455
05:30 PM	30	1	45	76	1	101	54	156	4	4	0	8	70	199	0	269	509
05:45 PM	24	4	41	69	0	94	58	152	1	4	0	5	51	170	0	221	447
Total	101	12	157	270	2	430	234	666	7	13	2	22	235	711	1	947	1905
Grand Total	225	29	361	615	3	906	589	1498	10	41	16	67	410	1437	2	1849	4029
Apprch %	36.6	4.7	58.7		0.2	60.5	39.3		14.9	61.2	23.9		22.2	77.7	0.1		
Total %	5.6	0.7	9	15.3	0.1	22.5	14.6	37.2	0.2	1	0.4	1.7	10.2	35.7	0	45.9	
Passenger Vehicles	110	2	229	341	1	724	276	1001	7	15	14	36	280	1206	2	1488	2866
% Passenger Vehicles	48.9	6.9	63.4	55.4	33.3	79.9	46.9	66.8	70	36.6	87.5	53.7	68.3	83.9	100	80.5	71.1
Large 2 Axle Vehicles	7	0	9	16	0	6	7	13	0	0	1	1	8	11	0	19	49
% Large 2 Axle Vehicles	3.1	0	2.5	2.6	0	0.7	1.2	0.9	0	0	6.2	1.5	2	0.8	0	1	1.2
3 Axle Vehicles	39	2	60	101	1	85	123	209	0	2	0	2	35	71	0	106	418
% 3 Axle Vehicles	17.3	6.9	16.6	16.4	33.3	9.4	20.9	14	0	4.9	0	3	8.5	4.9	0	5.7	10.4
4+ Axle Trucks	69	25	63	157	1	91	183	275	3	24	1	28	87	149	0	236	696
% 4+ Axle Trucks	30.7	86.2	17.5	25.5	33.3	10	31.1	18.4	30	58.5	6.2	41.8	21.2	10.4	0	12.8	17.3

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	34	2	53	89	0	116	92	208	1	4	7	12	41	173	0	214	523
04:15 PM	25	1	47	73	1	103	88	192	2	19	6	27	38	189	0	227	519
04:30 PM	31	8	54	93	0	124	90	214	0	3	1	4	54	201	0	255	566
04:45 PM	34	6	50	90	0	133	85	218	0	2	0	2	42	163	1	206	516
Total Volume	124	17	204	345	1	476	355	832	3	28	14	45	175	726	1	902	2124
% App. Total	35.9	4.9	59.1		0.1	57.2	42.7		6.7	62.2	31.1		19.4	80.5	0.1		
PHF	.912	.531	.944	.927	.250	.895	.965	.954	.375	.368	.500	.417	.810	.903	.250	.884	.938

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



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

	04:00 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	34	2	53	89	0	116	92	208	1	4	7	12	50	174	1	225
+15 mins.	25	1	47	73	1	103	88	192	2	19	6	27	64	168	0	232
+30 mins.	31	8	54	93	0	124	90	214	0	3	1	4	70	199	0	269
+45 mins.	34	6	50	90	0	133	85	218	0	2	0	2	51	170	0	221
Total Volume	124	17	204	345	1	476	355	832	3	28	14	45	235	711	1	947
% App. Total	35.9	4.9	59.1		0.1	57.2	42.7		6.7	62.2	31.1		24.8	75.1	0.1	
PHF	.912	.531	.944	.927	.250	.895	.965	.954	.375	.368	.500	.417	.839	.893	.250	.880

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

Groups Printed- Passenger Vehicles

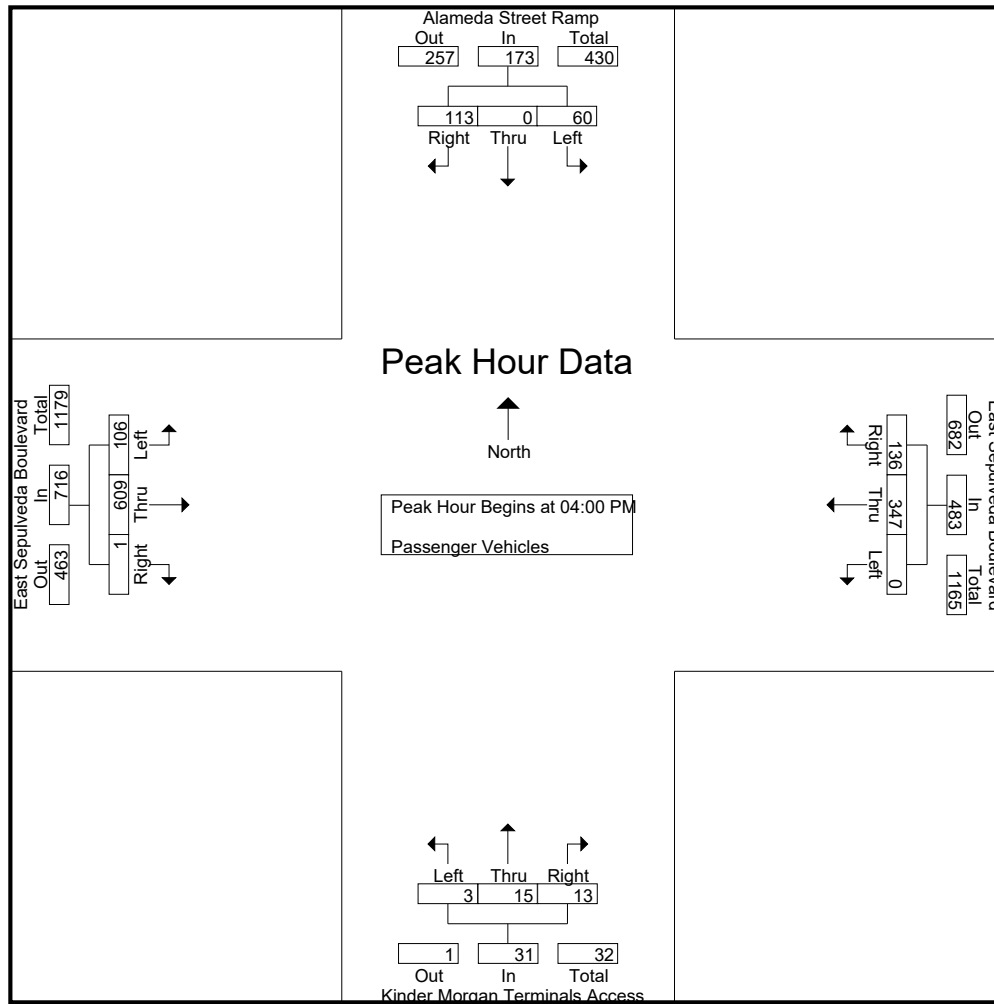
Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	13	0	27	40	0	82	23	105	1	3	6	10	22	148	0	170	325
04:15 PM	13	0	21	34	0	67	32	99	2	12	6	20	20	150	0	170	323
04:30 PM	16	0	32	48	0	92	41	133	0	0	1	1	35	170	0	205	387
04:45 PM	18	0	33	51	0	106	40	146	0	0	0	0	29	141	1	171	368
Total	60	0	113	173	0	347	136	483	3	15	13	31	106	609	1	716	1403
05:00 PM	11	0	31	42	0	106	47	153	0	0	1	1	38	149	1	188	384
05:15 PM	13	2	25	40	0	101	21	122	0	0	0	0	38	136	0	174	336
05:30 PM	14	0	31	45	1	89	39	129	4	0	0	4	58	173	0	231	409
05:45 PM	12	0	29	41	0	81	33	114	0	0	0	0	40	139	0	179	334
Total	50	2	116	168	1	377	140	518	4	0	1	5	174	597	1	772	1463
Grand Total	110	2	229	341	1	724	276	1001	7	15	14	36	280	1206	2	1488	2866
Apprch %	32.3	0.6	67.2		0.1	72.3	27.6		19.4	41.7	38.9		18.8	81	0.1		
Total %	3.8	0.1	8	11.9	0	25.3	9.6	34.9	0.2	0.5	0.5	1.3	9.8	42.1	0.1	51.9	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	13	0	27	40	0	82	23	105	1	3	6	10	22	148	0	170	325
04:15 PM	13	0	21	34	0	67	32	99	2	12	6	20	20	150	0	170	323
04:30 PM	16	0	32	48	0	92	41	133	0	0	1	1	35	170	0	205	387
04:45 PM	18	0	33	51	0	106	40	146	0	0	0	0	29	141	1	171	368
Total Volume	60	0	113	173	0	347	136	483	3	15	13	31	106	609	1	716	1403
% App. Total	34.7	0	65.3		0	71.8	28.2		9.7	48.4	41.9		14.8	85.1	0.1		
PHF	.833	.000	.856	.848	.000	.818	.829	.827	.375	.313	.542	.388	.757	.896	.250	.873	.906

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

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	13	0	27	40	0	82	23	105	1	3	6	10	22	148	0	170
+15 mins.	13	0	21	34	0	67	32	99	2	12	6	20	20	150	0	170
+30 mins.	16	0	32	48	0	92	41	133	0	0	1	1	35	170	0	205
+45 mins.	18	0	33	51	0	106	40	146	0	0	0	0	29	141	1	171
Total Volume	60	0	113	173	0	347	136	483	3	15	13	31	106	609	1	716
% App. Total	34.7	0	65.3		0	71.8	28.2		9.7	48.4	41.9		14.8	85.1	0.1	
PHF	.833	.000	.856	.848	.000	.818	.829	.827	.375	.313	.542	.388	.757	.896	.250	.873

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

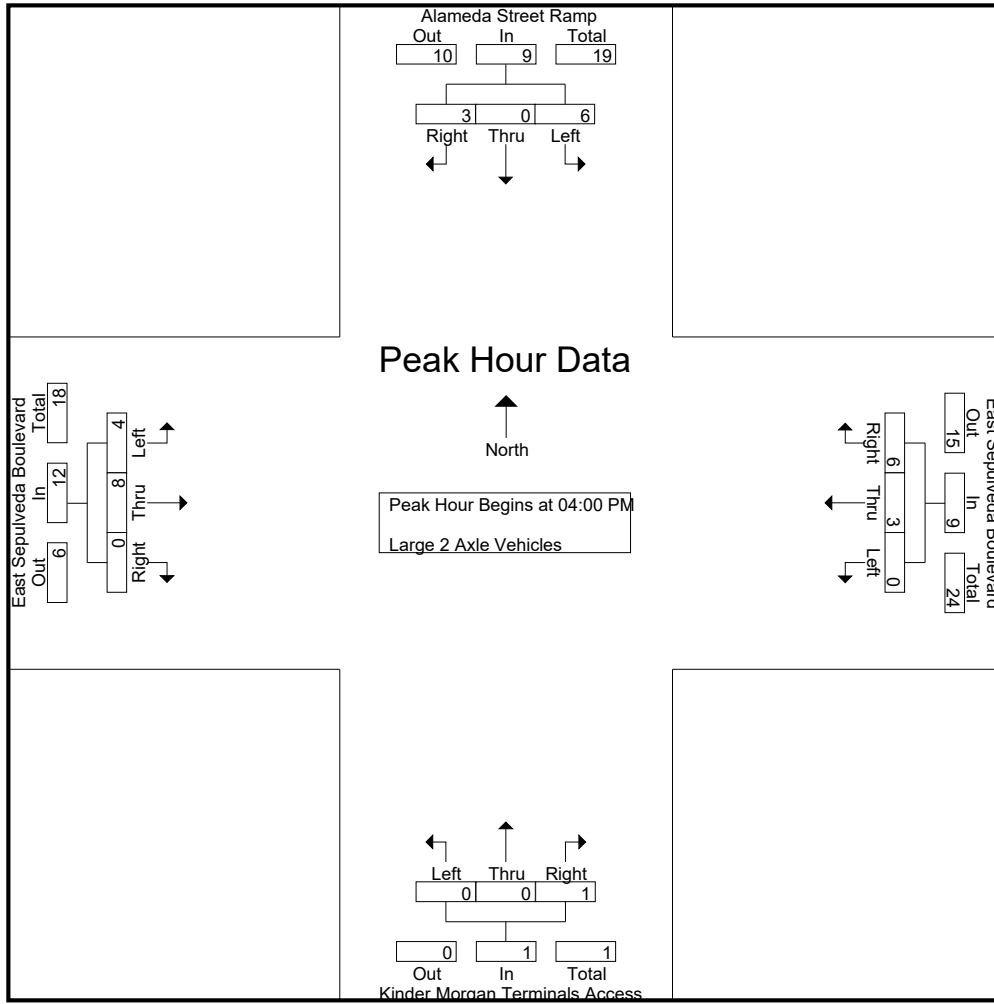
Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	5	0	0	5	0	0	0	0	0	0	1	1	0	1	0	1	7
04:15 PM	1	0	2	3	0	2	3	5	0	0	0	0	2	3	0	5	13
04:30 PM	0	0	1	1	0	0	1	1	0	0	0	0	1	3	0	4	6
04:45 PM	0	0	0	0	0	1	2	3	0	0	0	0	1	1	0	2	5
Total	6	0	3	9	0	3	6	9	0	0	1	1	4	8	0	12	31
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	1	2	0	3	6
05:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
05:30 PM	1	0	3	4	0	0	0	0	0	0	0	0	1	1	0	2	6
05:45 PM	0	0	2	2	0	0	1	1	0	0	0	0	1	0	0	1	4
Total	1	0	6	7	0	3	1	4	0	0	0	0	4	3	0	7	18
Grand Total	7	0	9	16	0	6	7	13	0	0	1	1	8	11	0	19	49
Apprch %	43.8	0	56.2		0	46.2	53.8		0	0	100		42.1	57.9	0		
Total %	14.3	0	18.4	32.7	0	12.2	14.3	26.5	0	0	2	2	16.3	22.4	0	38.8	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	5	0	0	5	0	0	0	0	0	0	1	1	0	1	0	1	7
04:15 PM	1	0	2	3	0	2	3	5	0	0	0	0	2	3	0	5	13
04:30 PM	0	0	1	1	0	0	1	1	0	0	0	0	1	3	0	4	6
04:45 PM	0	0	0	0	0	1	2	3	0	0	0	0	1	1	0	2	5
Total Volume	6	0	3	9	0	3	6	9	0	0	1	1	4	8	0	12	31
% App. Total	66.7	0	33.3		0	33.3	66.7		0	0	100		33.3	66.7	0		
PHF	.300	.000	.375	.450	.000	.375	.500	.450	.000	.000	.250	.250	.500	.667	.000	.600	.596

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

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	5	0	0	5	0	0	0	0	0	0	1	1	0	1	0	1
+15 mins.	1	0	2	3	0	2	3	5	0	0	0	0	2	3	0	5
+30 mins.	0	0	1	1	0	0	1	1	0	0	0	0	1	3	0	4
+45 mins.	0	0	0	0	0	1	2	3	0	0	0	0	1	1	0	2
Total Volume	6	0	3	9	0	3	6	9	0	0	1	1	4	8	0	12
% App. Total	66.7	0	33.3		0	33.3	66.7		0	0	100		33.3	66.7	0	
PHF	.300	.000	.375	.450	.000	.375	.500	.450	.000	.000	.250	.250	.500	.667	.000	.600

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

Groups Printed- 3 Axle Vehicles

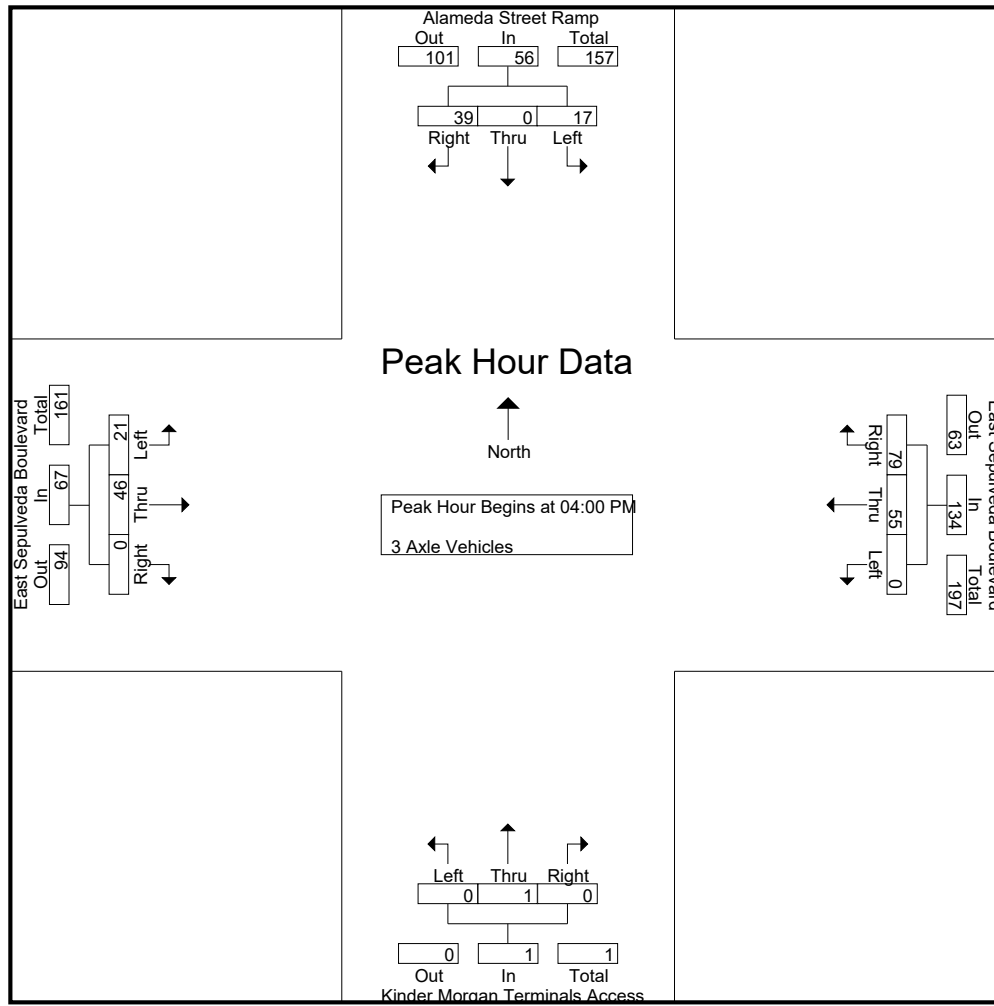
Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	5	0	15	20	0	10	20	30	0	0	0	0	7	12	0	19	69
04:15 PM	2	0	7	9	0	22	25	47	0	1	0	1	1	12	0	13	70
04:30 PM	5	0	9	14	0	11	16	27	0	0	0	0	4	16	0	20	61
04:45 PM	5	0	8	13	0	12	18	30	0	0	0	0	9	6	0	15	58
Total	17	0	39	56	0	55	79	134	0	1	0	1	21	46	0	67	258
05:00 PM	3	2	5	10	0	11	14	25	0	0	0	0	5	7	0	12	47
05:15 PM	7	0	5	12	1	4	13	18	0	0	0	0	4	7	0	11	41
05:30 PM	9	0	5	14	0	7	6	13	0	1	0	1	3	4	0	7	35
05:45 PM	3	0	6	9	0	8	11	19	0	0	0	0	2	7	0	9	37
Total	22	2	21	45	1	30	44	75	0	1	0	1	14	25	0	39	160
Grand Total	39	2	60	101	1	85	123	209	0	2	0	2	35	71	0	106	418
Apprch %	38.6	2	59.4		0.5	40.7	58.9		0	100	0		33	67	0		
Total %	9.3	0.5	14.4	24.2	0.2	20.3	29.4	50	0	0.5	0	0.5	8.4	17	0	25.4	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	5	0	15	20	0	10	20	30	0	0	0	0	7	12	0	19	69
04:15 PM	2	0	7	9	0	22	25	47	0	1	0	1	1	12	0	13	70
04:30 PM	5	0	9	14	0	11	16	27	0	0	0	0	4	16	0	20	61
04:45 PM	5	0	8	13	0	12	18	30	0	0	0	0	9	6	0	15	58
Total Volume	17	0	39	56	0	55	79	134	0	1	0	1	21	46	0	67	258
% App. Total	30.4	0	69.6		0	41	59		0	100	0		31.3	68.7	0		
PHF	.850	.000	.650	.700	.000	.625	.790	.713	.000	.250	.000	.250	.583	.719	.000	.838	.921

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

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	5	0	15	20	0	10	20	30	0	0	0	0	7	12	0	19
+15 mins.	2	0	7	9	0	22	25	47	0	1	0	1	1	12	0	13
+30 mins.	5	0	9	14	0	11	16	27	0	0	0	0	4	16	0	20
+45 mins.	5	0	8	13	0	12	18	30	0	0	0	0	9	6	0	15
Total Volume	17	0	39	56	0	55	79	134	0	1	0	1	21	46	0	67
% App. Total	30.4	0	69.6		0	41	59		0	100	0		31.3	68.7	0	
PHF	.850	.000	.650	.700	.000	.625	.790	.713	.000	.250	.000	.250	.583	.719	.000	.838

Appendix B
 Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 1

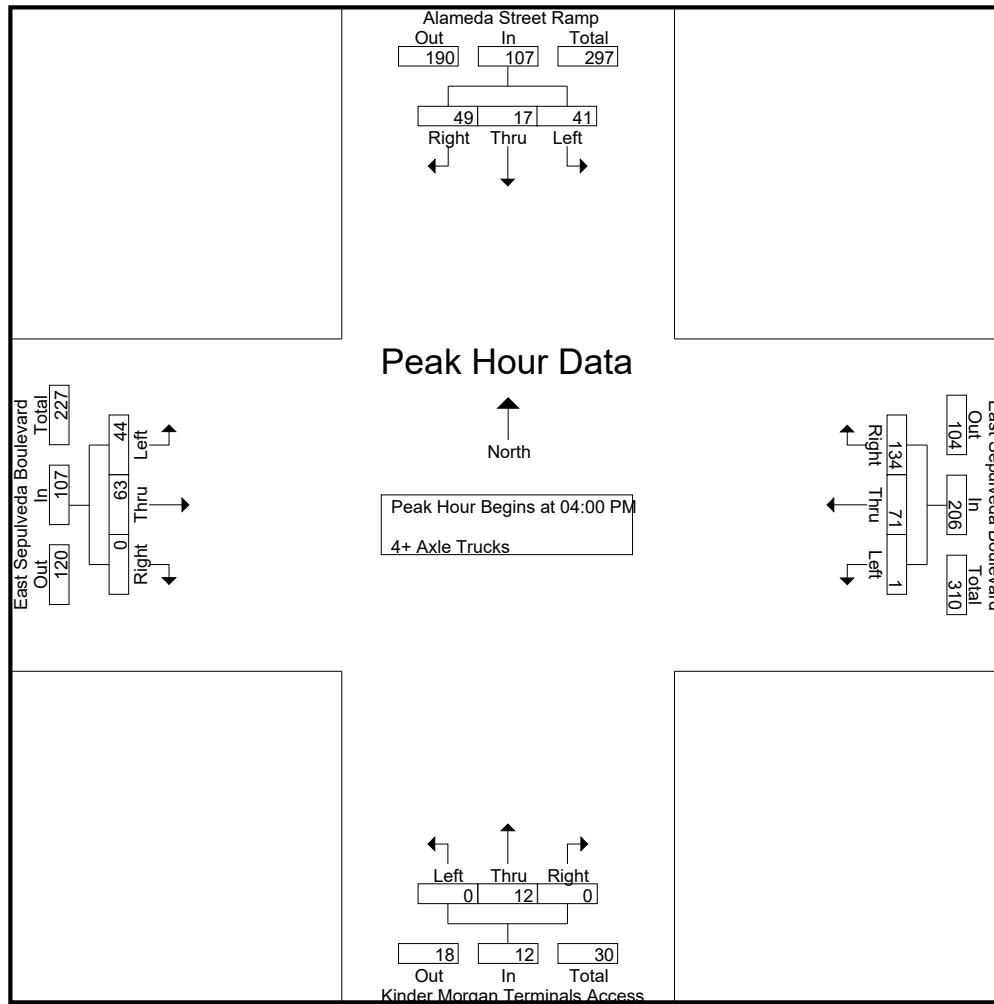
Groups Printed- 4+ Axle Trucks

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	11	2	11	24	0	24	49	73	0	1	0	1	12	12	0	24	122
04:15 PM	9	1	17	27	1	12	28	41	0	6	0	6	15	24	0	39	113
04:30 PM	10	8	12	30	0	21	32	53	0	3	0	3	14	12	0	26	112
04:45 PM	11	6	9	26	0	14	25	39	0	2	0	2	3	15	0	18	85
Total	41	17	49	107	1	71	134	206	0	12	0	12	44	63	0	107	432
05:00 PM	8	2	0	10	0	6	17	23	0	2	0	2	6	16	0	22	57
05:15 PM	5	1	4	10	0	4	10	14	2	3	1	6	21	25	0	46	76
05:30 PM	6	1	6	13	0	5	9	14	0	3	0	3	8	21	0	29	59
05:45 PM	9	4	4	17	0	5	13	18	1	4	0	5	8	24	0	32	72
Total	28	8	14	50	0	20	49	69	3	12	1	16	43	86	0	129	264
Grand Total	69	25	63	157	1	91	183	275	3	24	1	28	87	149	0	236	696
Apprch %	43.9	15.9	40.1		0.4	33.1	66.5		10.7	85.7	3.6		36.9	63.1	0		
Total %	9.9	3.6	9.1	22.6	0.1	13.1	26.3	39.5	0.4	3.4	0.1	4	12.5	21.4	0	33.9	

Start Time	Alameda Street Ramp Southbound				East Sepulveda Boulevard Westbound				Kinder Morgan Terminals Access Northbound				East Sepulveda Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	11	2	11	24	0	24	49	73	0	1	0	1	12	12	0	24	122
04:15 PM	9	1	17	27	1	12	28	41	0	6	0	6	15	24	0	39	113
04:30 PM	10	8	12	30	0	21	32	53	0	3	0	3	14	12	0	26	112
04:45 PM	11	6	9	26	0	14	25	39	0	2	0	2	3	15	0	18	85
Total Volume	41	17	49	107	1	71	134	206	0	12	0	12	44	63	0	107	432
% App. Total	38.3	15.9	45.8		0.5	34.5	65		0	100	0		41.1	58.9	0		
PHF	.932	.531	.721	.892	.250	.740	.684	.705	.000	.500	.000	.500	.733	.656	.000	.686	.885

City of Carson
 N/S: Alameda Street Ramp
 E/W: East Sepulveda Boulevard
 Weather: Clear

File Name : 01_CRS_Alameda Ramp_Sepulveda PM
 Site Code : 99919119
 Start Date : 2/20/2019
 Page No : 2



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

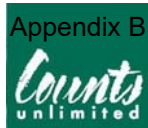
	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	11	2	11	24	0	24	49	73	0	1	0	1	12	12	0	24
+15 mins.	9	1	17	27	1	12	28	41	0	6	0	6	15	24	0	39
+30 mins.	10	8	12	30	0	21	32	53	0	3	0	3	14	12	0	26
+45 mins.	11	6	9	26	0	14	25	39	0	2	0	2	3	15	0	18
Total Volume	41	17	49	107	1	71	134	206	0	12	0	12	44	63	0	107
% App. Total	38.3	15.9	45.8		0.5	34.5	65		0	100	0		41.1	58.9	0	
PHF	.932	.531	.721	.892	.250	.740	.684	.705	.000	.500	.000	.500	.733	.656	.000	.686



City: Carson
 Location: 1150 E Sepulveda Blvd, Carson CA
 Date: Wednesday 2/20/2019
 Count Type: Driveway Classification
 Driveway: Driveway 1

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	11	25	36
0:15	1	0	8	20	29
0:30	0	0	7	34	41
0:45	0	0	3	29	32
1:00	0	0	6	20	26
1:15	0	1	7	23	31
1:30	0	0	5	19	24
1:45	0	0	3	24	27
2:00	1	0	2	26	29
2:15	0	0	0	6	6
2:30	0	0	0	12	12
2:45	0	0	1	2	3
3:00	0	0	1	0	1
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	1	0	0	0	1
4:00	2	0	0	0	2
4:15	1	0	1	0	2
4:30	0	0	0	0	0
4:45	4	0	0	0	4
5:00	0	0	0	0	0
5:15	4	0	0	0	4
5:30	6	0	0	1	7
5:45	10	0	0	0	10
6:00	3	0	5	0	8
6:15	6	0	2	0	8
6:30	3	0	9	0	12
6:45	7	1	4	0	12
7:00	8	1	16	0	25
7:15	3	0	11	1	15
7:30	5	0	12	1	18
7:45	5	0	8	0	13
8:00	4	1	8	0	13
8:15	0	0	6	3	9
8:30	3	0	6	9	18
8:45	8	2	10	5	25
9:00	2	0	14	10	26
9:15	0	0	19	6	25
9:30	7	1	10	7	25
9:45	3	2	11	3	19
10:00	1	0	28	11	40
10:15	2	1	7	0	10
10:30	1	0	17	7	25
10:45	4	1	20	4	29
11:00	0	2	16	6	24
11:15	2	0	19	5	26
11:30	3	0	21	4	28
11:45	1	1	17	4	23

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	27	5	32
0:15	0	0	26	7	33
0:30	1	0	27	12	40
0:45	0	1	23	4	28
1:00	1	0	24	5	30
1:15	2	0	26	4	32
1:30	1	0	14	8	23
1:45	1	0	6	5	12
2:00	17	0	5	4	26
2:15	18	0	3	4	25
2:30	28	0	0	1	29
2:45	12	0	3	0	15
3:00	8	0	0	0	8
3:15	9	0	0	1	10
3:30	3	0	0	0	3
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	1	0	0	0	1
4:30	1	0	0	0	1
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	2	0	0	0	2
5:45	1	0	1	0	2
6:00	6	0	0	0	6
6:15	0	0	0	0	0
6:30	1	1	1	1	4
6:45	3	0	2	0	5
7:00	0	2	1	5	8
7:15	0	0	3	5	8
7:30	0	1	3	13	17
7:45	3	2	1	14	20
8:00	2	0	3	8	13
8:15	1	1	1	12	15
8:30	3	1	5	14	23
8:45	1	1	6	8	16
9:00	2	0	6	11	19
9:15	2	1	5	7	15
9:30	1	1	3	11	16
9:45	5	1	5	10	21
10:00	1	1	13	12	27
10:15	0	0	2	6	8
10:30	1	1	6	23	31
10:45	4	0	4	20	28
11:00	3	1	6	26	36
11:15	3	0	8	9	20
11:30	2	0	9	14	25
11:45	0	1	3	10	14



City: Carson
 Location: 1150 E Sepulveda Blvd, Carson CA
 Date: Wednesday 2/20/2019
 Count Type: Driveway Classification
 Driveway: Driveway 1

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	4	0	16	9	29
12:15	3	0	25	10	38
12:30	2	1	19	4	26
12:45	1	1	19	7	28
13:00	8	0	13	3	24
13:15	13	0	28	4	45
13:30	3	1	6	9	19
13:45	10	0	9	4	23
14:00	24	0	20	6	50
14:15	10	0	7	4	21
14:30	2	0	23	6	31
14:45	1	0	18	3	22
15:00	2	0	19	6	27
15:15	2	2	20	9	33
15:30	0	1	14	2	17
15:45	3	0	12	4	19
16:00	6	0	20	8	34
16:15	8	0	12	4	24
16:30	18	1	21	7	47
16:45	8	1	12	4	25
17:00	8	1	6	2	17
17:15	5	0	11	0	16
17:30	4	1	17	1	23
17:45	4	0	21	5	30
18:00	0	0	7	2	9
18:15	1	0	3	20	24
18:30	3	0	6	24	33
18:45	1	0	8	46	55
19:00	1	0	12	49	62
19:15	1	0	41	30	72
19:30	0	0	6	15	21
19:45	0	0	5	32	37
20:00	0	0	17	29	46
20:15	0	0	11	22	33
20:30	0	0	9	37	46
20:45	0	0	15	31	46
21:00	0	0	9	41	50
21:15	0	0	10	34	44
21:30	0	0	13	22	35
21:45	4	0	11	31	46
22:00	0	0	7	28	35
22:15	2	0	8	30	40
22:30	0	0	15	32	47
22:45	0	0	2	35	37
23:00	0	0	10	19	29
23:15	0	0	8	24	32
23:30	0	0	2	21	23
23:45	0	0	8	36	44
TOTAL	273	24	982	1138	2417

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	4	1	9	7	21
12:15	4	0	4	13	21
12:30	2	1	5	8	16
12:45	3	0	8	13	24
13:00	3	0	7	27	37
13:15	6	0	7	34	47
13:30	1	0	3	12	16
13:45	2	1	6	19	28
14:00	7	1	6	18	32
14:15	2	0	4	17	23
14:30	4	0	18	18	40
14:45	2	0	43	18	63
15:00	4	0	3	26	33
15:15	1	0	9	29	39
15:30	8	0	9	28	45
15:45	2	0	7	18	27
16:00	2	1	4	16	23
16:15	3	0	7	15	25
16:30	11	0	10	15	36
16:45	5	0	5	9	19
17:00	6	1	4	13	24
17:15	0	0	1	29	30
17:30	0	0	0	24	24
17:45	4	0	7	38	49
18:00	2	0	5	16	23
18:15	0	0	7	11	18
18:30	1	0	17	18	36
18:45	2	0	28	14	44
19:00	5	0	17	12	34
19:15	3	1	19	31	54
19:30	0	0	20	16	36
19:45	0	0	20	19	39
20:00	1	0	33	16	50
20:15	0	0	27	11	38
20:30	0	0	29	5	34
20:45	0	0	30	6	36
21:00	0	0	35	6	41
21:15	0	0	28	11	39
21:30	0	0	35	19	54
21:45	0	0	21	10	31
22:00	2	0	37	9	48
22:15	3	0	28	12	43
22:30	0	0	35	8	43
22:45	0	0	33	7	40
23:00	3	0	33	10	46
23:15	0	0	14	7	21
23:30	0	0	19	5	24
23:45	0	0	32	8	40
	258	24	1069	1050	2401

Appendix B

City: Carson
 Location: 2149 E Sepulveda Blvd, Carson CA
 Date: Wednesday 2/20/2019
 Count Type: Driveway Classification
 Driveway: Driveway 3

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	2	1	0	0	3
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	1	0	0	0	1
4:45	1	0	0	0	1
5:00	1	0	0	0	1
5:15	7	0	0	0	7
5:30	13	0	0	0	13
5:45	9	0	0	0	9
6:00	16	0	0	0	16
6:15	12	0	0	0	12
6:30	4	0	0	0	4
6:45	7	0	0	0	7
7:00	5	0	0	0	5
7:15	2	0	0	0	2
7:30	1	0	0	0	1
7:45	0	0	0	0	0
8:00	2	0	0	0	2
8:15	2	0	0	0	2
8:30	1	0	0	0	1
8:45	1	0	0	0	1
9:00	1	0	0	0	1
9:15	1	0	0	0	1
9:30	1	0	0	0	1
9:45	3	0	0	0	3
10:00	1	0	0	0	1
10:15	1	0	0	0	1
10:30	1	0	0	0	1
10:45	0	0	0	0	0
11:00	2	0	0	0	2
11:15	4	0	0	0	4
11:30	2	0	0	0	2
11:45	2	0	0	0	2
12:00	1	0	0	0	1
12:15	2	0	0	0	2
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	1	0	0	0	1
13:15	0	0	0	0	0
13:30	4	0	0	0	4
13:45	3	0	0	0	3
14:00	1	0	0	0	1
14:15	3	0	0	0	3
14:30	2	0	0	0	2
14:45	1	0	0	0	1
15:00	1	0	0	0	1
15:15	0	0	0	0	0
15:30	3	0	0	0	3
15:45	2	0	0	0	2
16:00	1	0	0	0	1
16:15	5	0	0	0	5
16:30	2	0	0	0	2
16:45	3	0	0	0	3
17:00	2	0	0	0	2
17:15	1	0	0	0	1
17:30	0	0	0	0	0
17:45	2	0	0	0	2
18:00	1	0	0	0	1
18:15	0	0	0	0	0
18:30	1	0	0	0	1
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	148	1	0	0	149

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	1	0	0	0	1
4:15	0	0	0	0	0
4:30	2	0	0	0	2
4:45	2	0	0	0	2
5:00	0	0	0	0	0
5:15	1	0	0	0	1
5:30	3	0	0	0	3
5:45	5	0	0	0	5
6:00	8	0	0	0	8
6:15	8	0	0	0	8
6:30	3	0	0	0	3
6:45	3	0	0	0	3
7:00	4	0	0	0	4
7:15	2	0	0	0	2
7:30	3	0	0	0	3
7:45	0	0	0	0	0
8:00	1	0	0	0	1
8:15	0	0	0	0	0
8:30	1	0	0	0	1
8:45	1	0	0	0	1
9:00	1	0	0	0	1
9:15	1	0	0	0	1
9:30	2	0	0	0	2
9:45	2	0	0	0	2
10:00	1	0	0	0	1
10:15	3	0	0	0	3
10:30	0	0	0	0	0
10:45	2	0	0	0	2
11:00	2	0	0	0	2
11:15	2	0	0	0	2
11:30	1	0	0	0	1
11:45	1	0	0	0	1
12:00	3	0	0	0	3
12:15	0	0	0	0	0
12:30	4	0	0	0	4
12:45	0	0	0	0	0
13:00	0	0	0	0	0
13:15	0	0	0	0	0
13:30	0	0	0	0	0
13:45	1	0	0	0	1
14:00	3	0	0	0	3
14:15	3	0	0	0	3
14:30	3	0	0	0	3
14:45	1	0	0	0	1
15:00	2	0	0	0	2
15:15	8	0	0	0	8
15:30	4	0	0	0	4
15:45	6	0	0	0	6
16:00	5	0	0	0	5
16:15	7	0	0	0	7
16:30	4	0	0	0	4
16:45	21	0	0	0	21
17:00	3	0	0	0	3
17:15	2	0	0	0	2
17:30	2	0	0	0	2
17:45	1	0	0	0	1
18:00	1	0	0	0	1
18:15	1	0	0	0	1
18:30	1	0	0	0	1
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	1	0	0	0	1
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	153	0	0	0	153

Appendix B

City: Carson
 Location: 2149 E Sepulvda Blvd, Carson CA
 Date: Wednesday 2/20/2019
 Count Type: Driveway Classification
 Driveway: Driveway 4

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	0	0	0
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	0	0	0	0
11:00	0	0	0	0	0
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0
12:00	0	0	0	0	0
12:15	0	0	0	0	0
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	0	0	0	0	0
13:15	0	0	0	0	0
13:30	0	0	0	0	0
13:45	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	0	0	0	0	0
14:45	0	0	0	0	0
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	1	0	0	0	1
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	1	0	0	0	1

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	0	0	0
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	0	0	0	0
11:00	0	0	0	0	0
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0
12:00	0	0	0	0	0
12:15	0	0	0	0	0
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	0	0	0	0	0
13:15	0	0	0	0	0
13:30	0	0	0	0	0
13:45	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	0	0	0	0	0
14:45	0	0	0	0	0
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	1	0	0	0	1
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	1	0	0	0	1

APPENDIX B: LOS CALCULATION SHEETS

Appendix B

Project: Shippers Traffic Study Int #: 1 North/South Street: SEPULVEDA BOULEVARD-ALAMEDA RAMP East/West Street: SEPULVEDA BOULEVARD Scenario: Baseline Plus Project						
Thru Lane: 1600 vph Left-Turn Lane: 1600 vph Dual LT Penalty: 10 %			N-S Split Phase : Y E-W Split Phase : N Lost Time (% of cycle) : 18			
Peak Period: AM PEAK HOUR						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	227	1,600	0.000	N-S(1): 0.100 * N-S(2): 0.000 E-W(1): 0.192 E-W(2): 0.619 * V/C: 0.719 Lost Time: 0.180
	TH	0.22	28	357	0.078	
	LT	1.78	223	2,559	0.087 *	
Westbound	RT	1.00	249	1,600	0.077	
	TH	1.00	747	1,600	0.467 *	
	LT	1.00	2	1,600	0.001	
Northbound	RT	0.00	5	0	0.000	
	TH	2.00	32	3,200	0.013 *	
	LT	0.00	5	1,600	0.003	
Eastbound	RT	0.00	5	0	0.000	ICU: 0.899 LOS: D
	TH	2.00	607	3,200	0.191	
	LT	1.00	243	1,600	0.152 *	
Peak Period: PM PEAK HOUR						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	292	1,600	0.033	N-S(1): 0.093 * N-S(2): 0.000 E-W(1): 0.263 E-W(2): 0.526 * V/C: 0.619 Lost Time: 0.180
	TH	0.31	34	501	0.068	
	LT	1.69	183	2,429	0.075 *	
Westbound	RT	1.00	569	1,600	0.288	
	TH	1.00	602	1,600	0.376 *	
	LT	1.00	2	1,600	0.001	
Northbound	RT	0.00	14	0	0.000	
	TH	2.00	41	3,200	0.018 *	
	LT	0.00	3	1,600	0.002	
Eastbound	RT	0.00	1	0	0.000	ICU: 0.799 LOS: C
	TH	2.00	836	3,200	0.262	
	LT	1.00	240	1,600	0.150 *	

* = Critical Movement

Appendix B

Project: Shippers Traffic Study Int #: 1 North/South Street: SEPULVEDA BOULEVARD-ALAMEDA RAMP East/West Street: SEPULVEDA BOULEVARD Scenario: Baseline Plus Project						
Thru Lane: 1600 vph Left-Turn Lane: 1600 vph Dual LT Penalty: 10 %			N-S Split Phase : Y E-W Split Phase : N Lost Time (% of cycle) : 18			
Peak Period: AM PEAK HOUR						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	212	1,600	0.000	N-S(1): 0.100 * N-S(2): 0.000 E-W(1): 0.192 E-W(2): 0.610 * V/C: 0.710 Lost Time: 0.180
	TH	0.22	28	357	0.078	
	LT	1.78	223	2,559	0.087 *	
Westbound	RT	1.00	249	1,600	0.077	
	TH	1.00	732	1,600	0.458 *	
	LT	1.00	2	1,600	0.001	
Northbound	RT	0.00	5	0	0.000	
	TH	2.00	32	3,200	0.013 *	
	LT	0.00	5	1,600	0.003	
Eastbound	RT	0.00	5	0	0.000	ICU: 0.890 LOS: D
	TH	2.00	607	3,200	0.191	
	LT	1.00	243	1,600	0.152 *	
Peak Period: PM PEAK HOUR						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	262	1,600	0.014	N-S(1): 0.093 * N-S(2): 0.000 E-W(1): 0.263 E-W(2): 0.508 * V/C: 0.601 Lost Time: 0.180
	TH	0.31	34	501	0.068	
	LT	1.69	183	2,429	0.075 *	
Westbound	RT	1.00	569	1,600	0.288	
	TH	1.00	572	1,600	0.358 *	
	LT	1.00	2	1,600	0.001	
Northbound	RT	0.00	14	0	0.000	
	TH	2.00	41	3,200	0.018 *	
	LT	0.00	3	1,600	0.002	
Eastbound	RT	0.00	1	0	0.000	ICU: 0.781 LOS: C
	TH	2.00	836	3,200	0.262	
	LT	1.00	240	1,600	0.150 *	

* = Critical Movement