APPENDIX G

Traffic and Transportation Study

Traffic Study for
LADWP Scattergood Generating Station
Repowering Project
Los Angeles, CA

April 10, 2012

Prepared For:
POWER Engineers, Inc.
731 East Ball Road, Suite 100
Anaheim, CA 92805
(714) 507-2700

Prepared by:

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
(323) 260-4703

JB01238

Table of Contents

List of Figures

List of Tables

Appendices

1. Introduction

The purpose of this traffic study is to assess the traffic impacts on the surrounding roadway system of proposed construction activities for the Scattergood Generating Station (SGS) Repowering Project.

The study quantitatively assesses project impacts on weekday a.m. and p.m. peak-hour operations at seven study intersections and eight study roadway segments near the Project site. This includes the major signalized intersections and adjacent roadway segments along employee vehicle and construction truck routes to and from the project site within the study area.

Any potential traffic impacts from this proposed project are expected to occur only during project construction. Once the Project construction efforts are completed, the trip generation from the project site is expected to return to existing levels.

A. Project Location

The SGS is an existing power plant that is operated by the City of Los Angeles Department of Water and Power (LADWP). The plant is located within the City of Los Angeles, southwest of the Los Angeles International Airport (LAX) and immediately west of the City of El Segundo.

Figure 1 illustrates the location of the existing Project site. The SGS site is primarily located on the north side of Grand Avenue, with some ancillary uses such as former storage tanks and adjacent functions located on the south side of Grand Avenue.

B. Project Construction and Operations

LADWP has proposed to remove the existing Scattergood Generating Station (SGS) electrical Generation Unit 3 from operation and replace its generating capacity with modern high-efficiency generation units, to be constructed within the SGS property boundaries.

SGS is a wholly developed industrial property consisting of approximately 55 acres. Grand Avenue divides the SGS property into northern and southern parcels. The northern parcel is approximately 40 acres in size, and the southern parcel is approximately 15 acres. Most existing facilities, including all of the active electrical generation and generation support elements, are located in the northern parcel (north of Grand Avenue). The northern parcel rises in elevation from west to east and contains three essentially level terraces that are separated by landscaped embankments. All of the existing generation units are located on the lowest terrace, along the west side of the property.

SGS includes three operating generation units that supply power to the LADWP in-basin electrical transmission grid. The southern parcel of SGS (south of Grand Avenue) contains four large fuel oil storage tanks that are no longer used in station operations and have been emptied. Employee vehicle parking is accommodated primarily in a paved lot along the western edge of the northern parcel.

The goal of the proposed project is to improve the LADWP generation system efficiency, reliability, and flexibility.

LADWP is considering different improvement scenarios for SGS, but this report provides a review of the most construction-intensive scenario. This provides a conservative analysis for the review of potentially significant impacts to traffic during construction activities related to planned SGS improvements.

Site Access Points

The proposed project scenario considered in this analysis entails the construction of two new generating units at the SGS site, as well as the subsequent demolition of an existing generating unit.

The main operations access gate will be moved from its current location on Vista Del Mar to Grand Avenue during the repowering construction. This gate would be used by plant personnel, for most normal deliveries, for deliveries related to some of the work on the lower terrace combined cycle generating system (CCGS), and for deliveries/hauling related to the middle terrace construction. A gate on Vista Del Mar would be used for deliveries/hauling related to the construction of the CCGS on the lower terrace. The new Grand Avenue gate will become the permanent SGS entry gate for operations after construction.

Source: POWER Engineers, Inc.

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station (SGS) Construction EIR

Figure 1
Project Site Location

Laydown and Parking Areas

Construction laydown and construction employee parking during construction (and operations employees upon completion of construction) will be accommodated at SGS as follows:

- The area around the former vehicle maintenance building at the far east end of the northern parcel would be used for office trailers and parking.
- The paved area along the west side of the upper terrace would provide for parking and light materials storage.
- Demolition of the four fuel oil tanks on the southern parcel (south side of Grand Avenue) would provide laydown/parking area to support construction.
- The partial use of the fuel tank area for laydown will necessitate some transfer of materials and equipment across Grand through the gate and to the construction sites.

Construction Duration and Intensity

Construction of the proposed project would occur over an approximate eight-year period, planned by LADWP to start in October 2012 and finish in late 2020. Construction activities would peak in February 2015, with a total of 524 construction employees on site. During this peak time, construction truck trips to/from the site are estimated to be two round trips each day. Although other construction periods will have a higher number of daily truck trips, the highest total trip generation will occur in February 2015 (Month 26) due to the number of construction workers. The planned construction phases are as follows:

- Phase 1: Site Preparation (12 months)
- Phase 2: Generation Unit Construction and Commissioning (28 months)
- Phase 3: Decommissioning and Demolition of Unit 3 (approximately 4.5 to 5 years total, although not all months during this timeframe will have activity)

Trip generation estimates for construction truck trips and construction employee vehicle trips are discussed further within Section 4 of this report.

Post-Project Operations Personnel

The number of personnel on-site (120 currently) will not change for project operations.

C. Project Study Area

The Project construction activities would generate additional vehicle trips in the immediate area, based on necessary truck hauling/delivery trips and the construction employee population.

Operational activities will not increase from current conditions and will therefore not exceed the LADOT threshold of 43 peak-hour trips for requiring an evaluation of operational traffic impacts.

Turn movement counts were conducted on a weekday during a.m. and p.m. peak periods (7:00 a.m. to 9:00 a.m., 4:00 p.m. to 6:00 p.m.) for each study intersection location. Roadway segment counts were conducted over one contiguous 24-hour weekday timeframe.

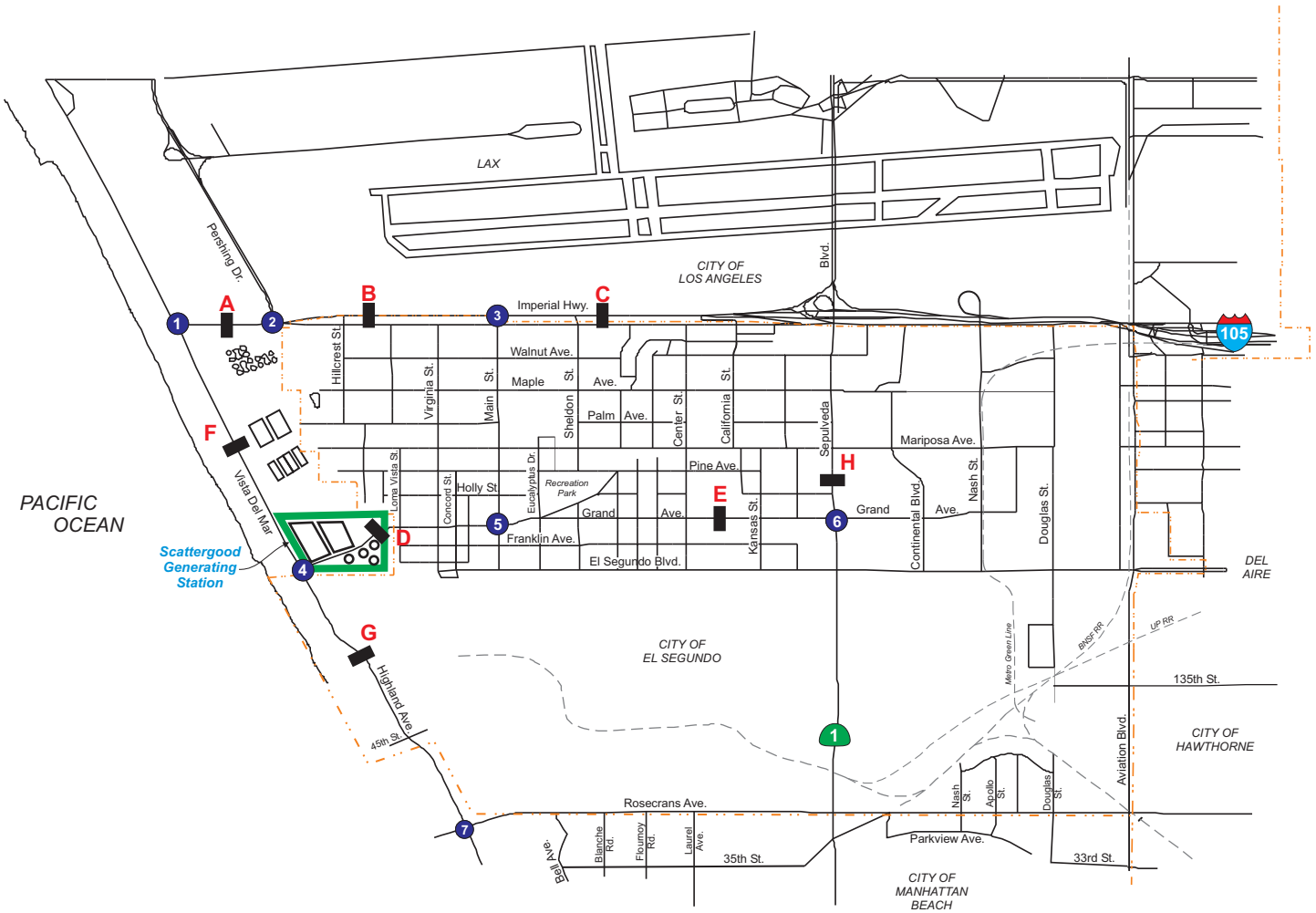
The list below defines the study intersections that were included in the traffic impact analysis:

1. Vista del Mar / Imperial Highway
2. Pershing Drive / Imperial Highway
3. Main Street / Imperial Highway
4. Vista del Mar / Grand Avenue
5. Grand Avenue / Main Street
6. Grand Avenue / Sepulveda Boulevard
7. Highland Avenue / Rosecrans Avenue

The list below defines the study roadway segments that were included in the traffic impact analysis:

A. Imperial Highway, between Vista del Mar & Pershing Drive
B. Imperial Highway, between Pershing Drive & Main Street
C. Imperial Highway, between Main Street & Sepulveda Boulevard
D. Grand Avenue, between Vista del Mar & Main Street
E. Grand Avenue, between Main Street & Sepulveda Boulevard
F. Vista del Mar, between Imperial Highway & Grand Avenue
G. Vista del Mar, between Grand Avenue & Rosecrans Avenue
H. Sepulveda Boulevard, between Imperial Highway & Grand Avenue

Figure 2 illustrates the locations of the study intersections and roadway segments.



LEGEND

- Project Location
- City Boundary
- Study Intersections and Reference Number
- Roadway Segments

N

No Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 2

Study Intersections and Roadway Segments

D. Impact Analysis Methodology

As defined by the LADOT traffic study guidelines, significant impacts of a proposed project at an intersection must be mitigated to a level of insignificance. The guidelines are focused on development projects, where the impact potential is on-going for the life of a proposed development or facility. For this analysis, impacts are based on temporary construction-period impacts, but the same impact standards were applied.

In the sections that follow, the project-only and cumulative impacts of the construction of the proposed Project on study area roadways and intersections are discussed. The analysis is based on the impacts of Project construction activities relative to the conditions at the study intersections and roadway segments during the peak of activity (Year 2015). A post-Project construction (operations) analysis was not undertaken, as the subject Project will not generate new trips after construction is complete, and therefore will not create a significant traffic impacts.

Existing traffic volumes were defined by peak-period intersection turn movement counts conducted for this report. From the two-hour peak period volume totals, peak-hour periods for each intersection and for each peak hour (AM and PM) were defined by the four highest consecutive 15-minute periods.

This methodology allows for the true peak-hour of each analyzed intersection to be examined. For this reason, volumes across adjacent intersections may vary, but the analysis provides peak conditions for each single study intersection.

Project construction would peak in early 2015. The Year 2015 was selected for the future analysis year due to the timing of the peak-period of Project construction.

KOA analyzed the trip distribution, trip assignment, and intersection level of service calculations for the study area roadway network. Intersection analysis was performed using Circular 212 Planning or Critical Movement Analysis (CMA) methodology. The CMA methodology is based on the volume-to-capacity ratios for each approach movement (left turns, thru movements, right turns) and the sums of critical movements for the intersection. Critical movements are the highest-volume opposing and conflicting movements, such as the eastbound thru movement and the westbound left turn. These movements cannot proceed through the intersection at the same time, so one movement affects the other.

Based on the LADOT traffic guidelines, an intersection is generally considered impacted when project related increases the volume-to-capacity (V/C) ratio of the study intersection to the threshold. The following increases in peak hour V/C ratios are considered significant impacts:

Level of Service	**Final V/C***	**Project Related V/C increase**
C	< 0.700 – 0.800	Equal to or greater than 0.040
D	< 0.800– 0.900	Equal to or greater than 0.020
E and F	0.901 or more	Equal to or greater than 0.010

** Final V/C is the V/C ratio at an intersection, considering impacts from the project, ambient and related project growth, and without proposed traffic impact mitigations.*

For study locations within the City of El Segundo or the City of Manhattan Beach, policies on traffic impacts used by those jurisdictions were applied to the analysis. Both use a modified version of the impact standards defined in the County of Los Angeles Congestion Management Program. The modified impact standards are based on a change in V/C or Intersection Capacity Utilization methodology values of 0.02 or more, causing or worsening LOS E or F.

Appendix A provides further explanation of the level-of-service definitions.

2. Existing Year-2011 Conditions

This section documents existing traffic conditions in the study area. The discussion presented here is limited to the study intersections and the study roadway segments.

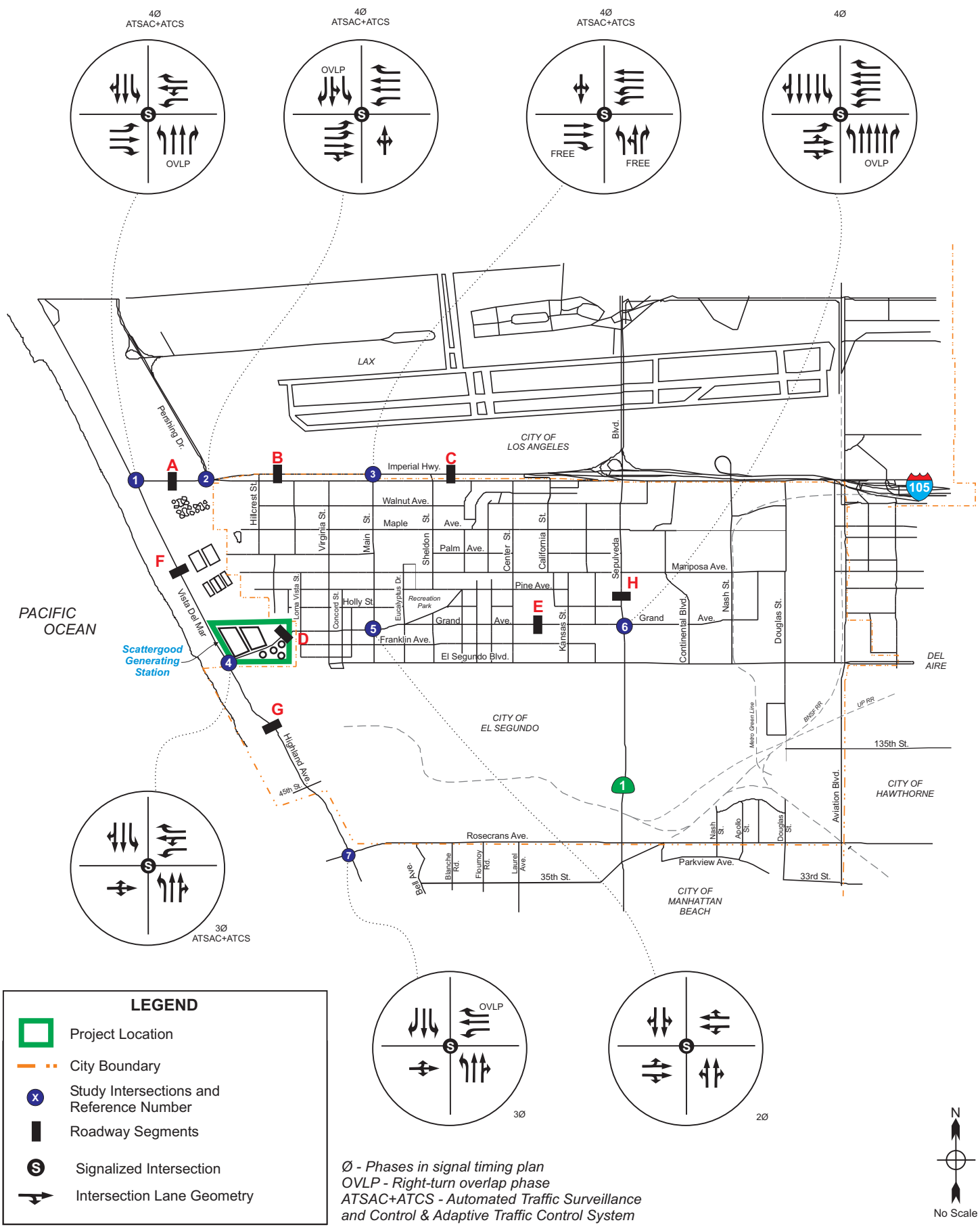
A. Roadway Characteristics

Table 1 provides a summary of the existing study area roadway characteristics. Within individual segments, some characteristics may vary. Figure 3 illustrates the lane configurations and intersection control at the study intersections.

Table 1 – Existing Study Area Roadway System Characteristics

	Segment	From	To	Funtional Classification	Lanes		Median Type	Parking Restrictions		Land Use	Speed Limit
					NB/EB	SB/WB		NB/EB	SB/WB		
EAST-WEST ROADWAYS											
	Imperial Hwy	Vista Del Mar	Pershing Dr	Major Hwy Class II	2	2	RM	NSAT	NSAT	Airport / Hyperian Treatment Plant	50
	Imperial Hwy	Pershing Dr	Main St	Major Hwy Class II	2	2	LM	NSAT	NSAT	Airport	50
	Imperial Hwy	Main St	Sepulveda Blvd	Major Hwy Class II	2/3	2/3	RM	NSAT	NSAT	Airport	50
	Grand Ave	Vista Del Mar	Loma Vista St	Secondary Arterial	1	2	DY	NSAT	NSAT	Industry	25
	Grand Ave	Loma Vista St	Concord St	Secondary Arterial	2	2	DY	NS 6 a.m. to 9 a.m.;3 p.m. to 6 p.m.	NS 6 a.m. to 9 a.m.;3 p.m. to 6 p.m.	Commercial / Residential	25
	Grand Ave	Concord St	Main St	Secondary Arterial	2	2	RM	NP (Wednesday) 5 a.m to 6 a.m. / 2 Hr. 8 a.m. to 6 p.m.	NP (Wednesday) 5 a.m to 6 a.m. / 2 Hr. 8 a.m. to 6 p.m.	Commercial	25
	Grand Ave	Main St	Eucalyptus Dr	Secondary Arterial	2	2	RM	NP (Monday-Friday) 5 a.m. to 7 a.m. / NP (Wednesday) 8 a.m . to 9 a.m.	NP (Monday-Friday) 5 a.m. to 7 a.m. / NP (Wednesday) 8 a.m . to 9 a.m. / 20 Min.	Commercial	25
	Grand Ave	Eucalyptus Dr	Sepulveda Blvd	Secondary Arterial	2	2	DY	NS 6 a.m. to 8 a.m.; 4 p.m. to 6 p.m. / NSAT	NS 6 a.m. to 8 a.m.; 4 p.m. to 6 p.m. / NSAT	Commercial / Residential	35
	Grand Ave	Sepulveda Blvd	Continental Blvd	Secondary Arterial	3	3	RM	NSAT	NSAT	Commercial	35
	El Segundo Blvd	Concord St	Main St	Local	1	1	DY	NSAT	NSAT	Industry	35
	El Segundo Blvd	Main St	Sepulveda Blvd	Secondary Arterial	2	2	DY	NSAT	NSAT	Commercial / Industry	35
	El Segundo Blvd	Sepulveda Blvd	Continental Blvd	Major Arterial	3	3	RM	NSAT	NSAT	Office	No Posting
	Rosecrans Ave	Highland Ave	Bell Ave	Regional Arterial	2	2	RM	NP (Monday/Thursday) 8 a.m. to 9 a.m. / 2 Hr. MP 8 a.m. to 9 p.m. / 24 Min. MP 8 a.m. to 9 p.m.	NP (Monday/Thursday) 8 a.m. to 9 a.m. / 2 Hr. MP 8 a.m. to 9 p.m.	Industry / Residential	35
	Rosecrans Ave	Bell Ave	Sepulveda Blvd	Regional Arterial	2/3	2/3	RM	NSAT	NP (Tuesday/Friday) 12 p.m. to 2 p.m.	Industry / Residential	35-45
NORTH-SOUTH ROADWAYS											
	Vista Del Mar	North of Imperial Hwy		Major Hwy Class II	2	2	DY	NP 10 p.m. to 6 a.m. / NSAT	NP 10 p.m. to 6 a.m. / NSAT	Open Space	40
	Vista Del Mar	Imperial Hwy	Grand Ave	Major Hwy Class II	2	2	2LT	NSAT	NSAT	Ocean / Industry	45
	Vista Del Mar	Grand Ave	45th St	Secondary Arterial	2	2	2LT	NSAT	NSAT	Ocean / Industry	45
	Vista Del Mar - Highland Ave	45th St	Rosecrans Ave	Minor Arterial	2	2	DY	NP (Monday - Friday) 6:30 a.m. to 9 a.m. / NSAT	NP (Tuesday/Friday) 8 a.m. to 9 a.m. / 2 Hr. MP 8 a.m. to 9 p.m.	Commercial / Residential	30
	Highland Ave	Rosecrans Ave	34th St	Minor Arterial	1	1	DY	2 Hr. MP 8 a.m. To 9 p.m. / NP (Monday - Friday) 6:30 a.m. to 9 a.m.	Red Curb/Loading Zone 2 a.m. to 11:00 a.m. / Pancho's Valet / NP (Tuesday/Friday) 8 a.m. to 9 a.m. / 2Hr. MP 8 a.m. to 9 p.m.	Commercial	25
	Main St	Imperial Hwy	Mariposa Ave	4-Lane Collector	2	2	DY	NP (Wednesday) 10 a.m. to 12 p.m.	NP (Wednesday) 10 a.m. to 12 p.m.	Commercial / Residential	25
	Main St	Mariposa Ave	El Segundo Blvd	Secondary Arterial / 4- Lane Collector	2	2	DY	NP (Thursday) 2 p.m. to 8 p.m. / 2 Hr. 8 a.m. to 6 p.m.	NP (Thursday) 2 p.m. to 8 p.m. / 2 Hr. 8 a.m. to 6 p.m.	Commercial	25
	Sepulveda Blvd	North of Imperial Hwy		Major Hwy Class I	3	3	RM	NSAT	NSAT	Airport	40-45
	Sepulveda Blvd	Imperial Hwy	Walnut Ave	Major Arterial	3	4	RM	NSAT	NSAT	Commercial	40
	Sepulveda Blvd	Walnut Ave	Grand Ave	Major Arterial	4	4	RM	NSAT	NS 6 a.m. to 9 a.m.; 3 p.m. to 6 p.m.	Commercial	No Posting
	Sepulveda Blvd	Grand Ave	Rosecrans Ave	Major Arterial	4	4	RM	NSAT	NSAT	Commercial / Industry	35-45

NP - No Parking NS - No Stopping NSAT - No Stopping Anytime MP - Metered Parking DY - Double Yellow 2LT - Dual Left Turn RM - Raised Median LM - Landscaped Median



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 3

Lane Configurations and Intersection Control

B. Area Transit Service

There are not any public transit lines that operate in close proximity to the project site. The closest transit access is provided by a Metro bus line that has stops located approximately 1.5 miles from the project site. Therefore, the primary project trip generation analysis is based on the assumption that construction workers will use private vehicles to access the site and some will carpool.

C. Study Intersection Operations Analysis

Traffic counts at the study intersections and on the roadway segments were conducted on Thursday, June 9, 2011. The traffic count data sheets are included in Appendix B of this report.

A level of service (LOS) analysis was conducted to determine peak-hour conditions at the study intersections. The Critical Movement Analysis (CMA) methodology was used for the analysis of study intersections in the Cities of Los Angeles and Manhattan Beach, which is an acceptable methodology in those jurisdictions based on adopted traffic study policies and guidelines. The Intersection Capacity Utilization (ICU) methodology was used to analyze City of El Segundo study intersections, based on the policies and guidelines of that jurisdiction.

Table 2 provides the results of this analysis.

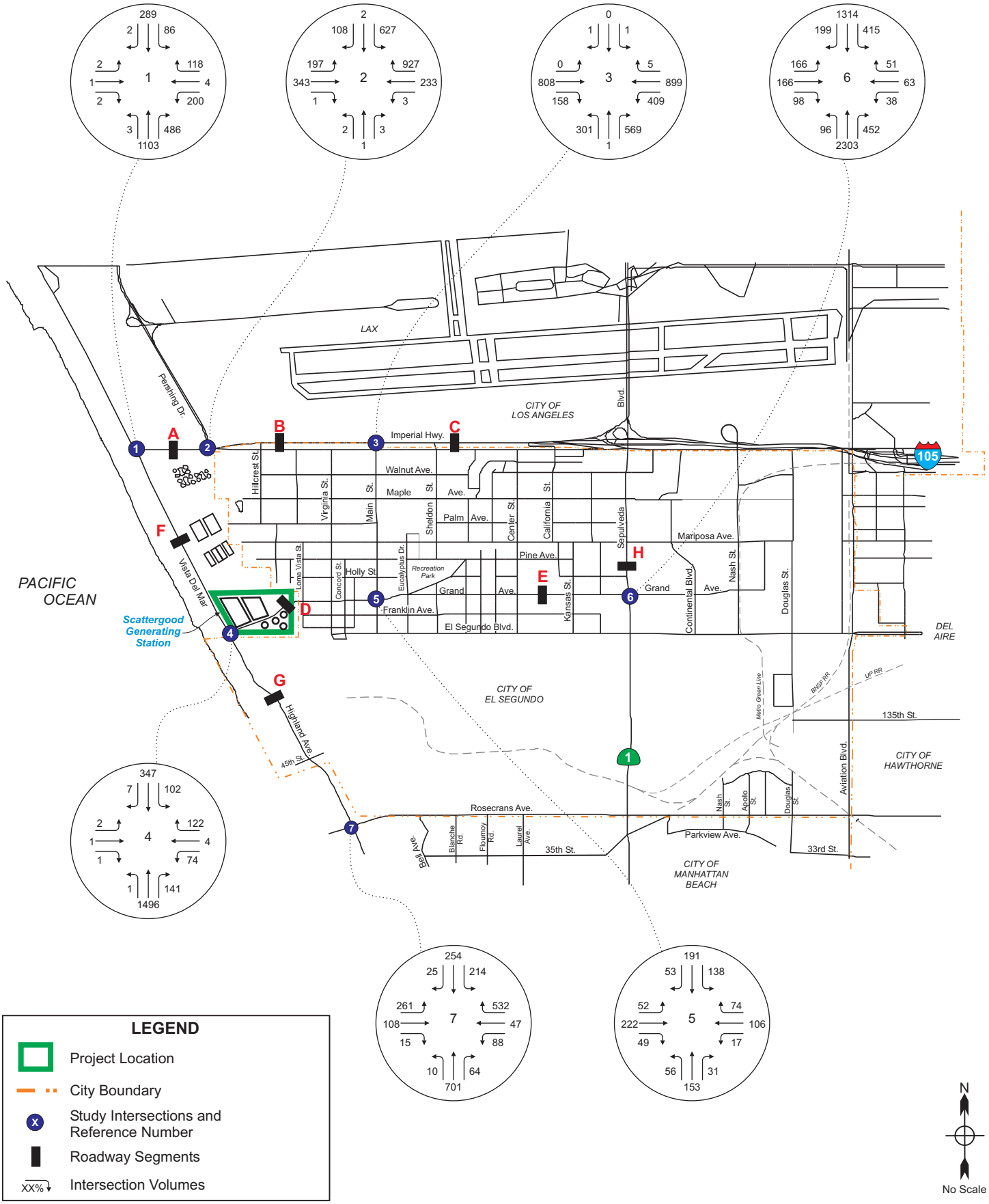
Table 2 – Study Intersection Levels of Service – Existing Conditions

Study Intersections	Weekday AM Peak		Weekday PM Peak	
	V/C	LOS	V/C	LOS
1. Imperial Hwy & Vista Del Mar	0.440	A	0.456	A
2. Imperial Hwy & Pershing Dr	0.772	C	0.449	A
3. Imperial Hwy & Main St	0.634	B	0.453	A
4. Grand Ave & Vista Del Mar	0.599	A	0.416	A
5. Grand Ave & Main St	0.320	A	0.340	A
6. Grand Ave & Sepulveda Blvd	0.855	D	0.937	E
7. Rosecrans Ave & Highland Ave	0.825	D	0.764	C

As shown in Table 2, the study intersection of Grand Avenue / Sepulveda Boulevard operates at LOS E in the p.m. peak hour.

The existing LOS calculation worksheets for the study intersections analyzed in CMA methodology are provided in Appendix C of this report. The study intersections analyzed in ICU methodology area provided in Appendix D of this report.

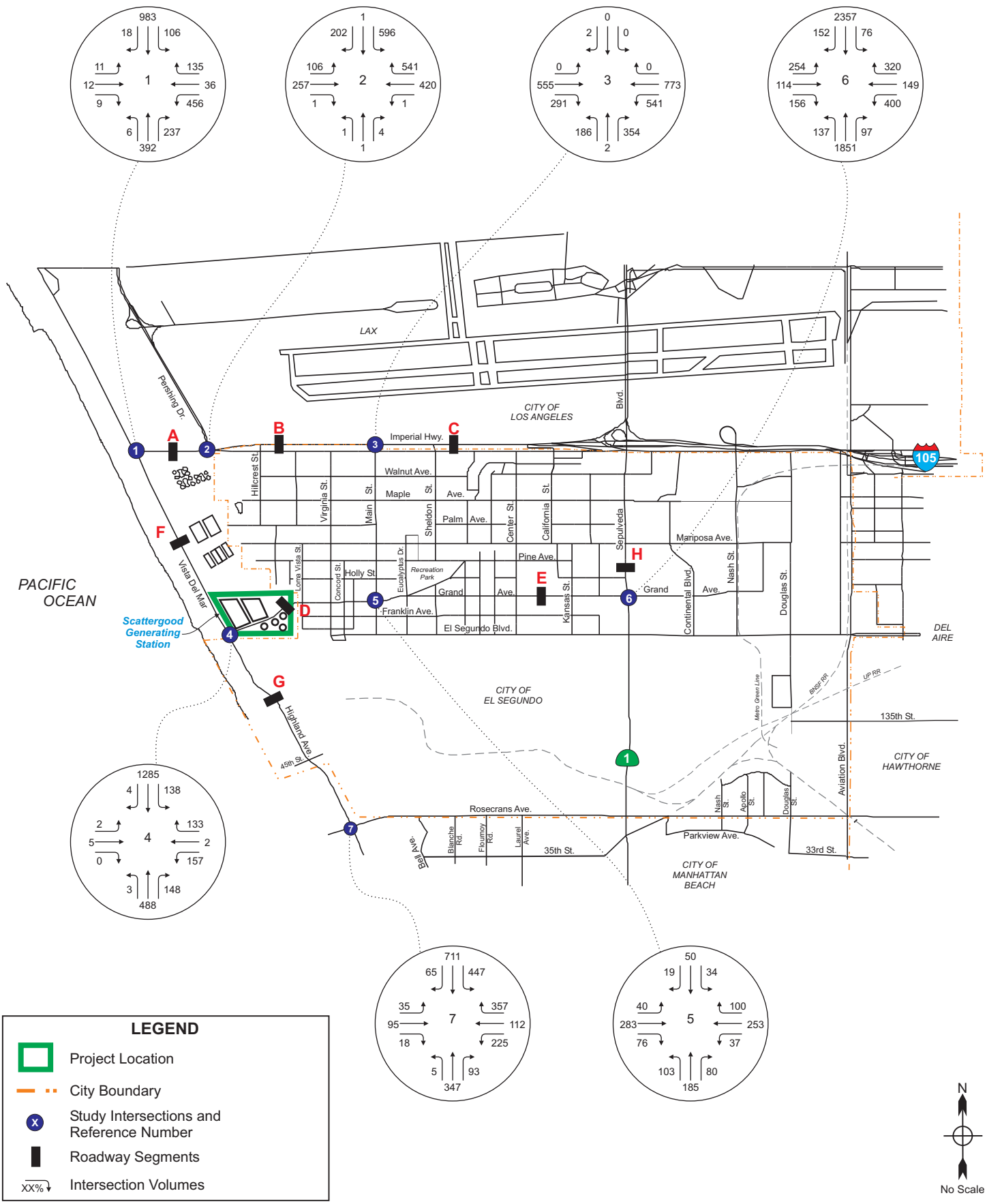
Figure 4 and Figure 5 illustrate the existing a.m. and p.m. peak-hour traffic volumes at the study intersections.



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 4

Existing Year-2011 AM Peak-Hour Traffic Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 5

Existing Year-2011 PM Peak-Hour Traffic Volumes

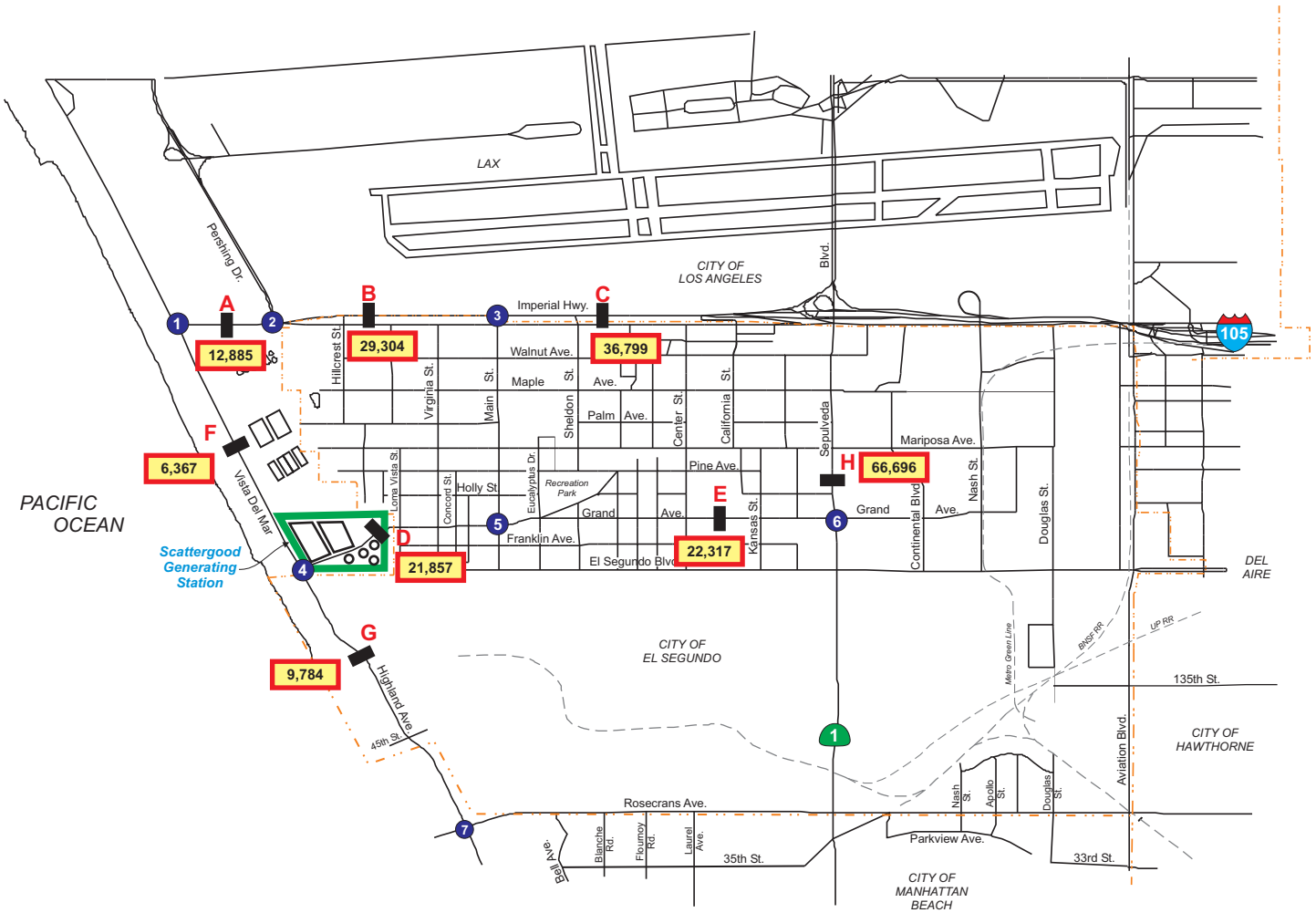
E. Study Roadway Segment Operations Analysis

An existing level of service analysis was conducted for the study roadway segments. Table 3 summarizes the results of this analysis. As shown, all of the study roadway segments operate at an excellent service level, LOS A.

Table 3 – Study Roadway Segment Levels of Service – Existing Conditions

	Street Segments	Existing (2011) Daily Traffic	Existing Peak Hour Traffic	# Lanes	Peak Hour Capacity Per Lane	Peak Hour Roadway Capacity	Peak Hour V/C	Peak Hour LOS
A	Imperial Highway – between Vista del Mar & Pershing Drive	12,885	991	4	1,600	6,400	0.155	A
B	Imperial Highway – between Pershing Drive & Main Street	29,304	2,079	4	1,600	6,400	0.325	A
C	Imperial Highway – between Main Street & Sepulveda Boulevard	36,799	2,641	4	1,600	6,400	0.413	A
D	Grand Avenue – between Vista del Mar & Main Street	21,857	2,041	4	1,600	6,400	0.319	A
E	Grand Avenue – between Main Street & Sepulveda Boulevard	22,317	2,067	4	1,600	6,400	0.323	A
F	Vista del Mar – between Imperial Highway & Grand Avenue	6,367	608	4	1,600	6,400	0.095	A
G	Vista del Mar – between Grand Avenue & Rosecrans Avenue	9,784	774	4	1,600	6,400	0.121	A
H	Sepulveda Boulevard – between Imperial Highway & Grand Avenue	66,696	5,040	8	1,600	12,800	0.394	A

Figure 6 illustrates the existing weekday daily volumes on the study roadway segments.



LEGEND

- Project Location
- City Boundary
- Study Intersections and Reference Number
- Roadway Segments
- 1,234 Segment Daily Volumes

N

No Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 6

Existing Year-2011 Daily Weekday Roadway Segment Volumes

3. Future Year-2015 No-Project Conditions

This section provides the analysis of "No Project" Conditions in the study area with ambient growth and area project trips. Project construction is anticipated to be completed by the end of year 2020. However, the future analysis year was defined as year 2015, since the project construction activities would peak in the early months of that year.

A. Ambient Growth

In order to forecast Year 2015 baseline traffic volumes, Year 2011 peak hour volumes were increased by an ambient growth rate of 0.26% per year (a four-year factor of 1.0104). This growth rate was determined from the traffic growth projections for the South Bay/LAX area in the current 2010 County of Los Angeles Congestion Management Program (CMP).

B. Area Projects

A one-mile radius line from four perimeter study intersections were used to define the capture area for approved and pending area projects, which resulted in a broader capture area than if a one-mile or 1.5-mile radius around the project site were used. The study intersections used were Imperial Hwy/Main St, Imperial Hwy/Sepulveda Blvd, Grand Ave/Sepulveda Blvd, and Rosecrans Ave/Highland Ave. Information regarding area projects was obtained from LADOT, City of El Segundo and City of Manhattan Beach.

Area projects included in the analysis were those considered to potentially contribute measurable traffic volumes to the study area during the future analysis period. Trip generations for area projects were either calculated using the rates from the Institute of Transportation Engineers' *Trip Generation Manual (8th Edition)*, obtained from environmental documentation or traffic studies, or provided by the jurisdiction.

The area projects included in this study for future period analysis, and the trip generation for each, are provided in Table 4.

Table 4 – Area Projects Trip Generation Estimates

MAP #	Locations	Land Use	Intensity	Units	Daily Total	AM Peak Total	AM Peak In	AM Peak Out	PM Peak Total	PM Peak In	PM Peak Out
	Los Angeles										
1	6225 W Century Bl. [2][3]	Hotel	340	Rooms	**4,110**	**336**	168	168	**346**	173	173
		Airport Parking Facility	1,726	Stalls							
2	10701 S La Cienega Bl. [2][4]	Bus Facility (Metro)			**2,430**	**243**	197	46	**239**	55	184
6	11604 Aviation Bl.[5]	Residential Condominium/Townhouse	281	Dwelling Units							
		Apartment	112	Dwelling Units	**1,114**	**171**	28	143	**83**	48	35
		Shopping Center	26.5	1,000 Sq. Feet							
	El Segundo										
3	540 E Imperial Ave.	Senior Assisted Living	150	Dwelling Units	399	21	14	7	33	15	18
		School (to be removed)	*22.5*	*1,000 Sq. Feet*	*(347)*	*(261)*	*(144)*	*(117)*	*(27)*	*(12)*	*(15)*
					52	**(240)**	(130)	(110)	**6**	3	3
4	900 N Sepulveda Bl.	Warehouse	20.819	1,000 Sq. Feet	74	6	5	1	7	2	5
		Office	139.558	1,000 Sq. Feet	1,724	245	216	29	235	40	195
		Manufacturing	14.025	1,000 Sq. Feet	54	10	8	2	10	4	6
		Warehouse (to be removed)	*80.165*	*1,000 Sq. Feet*	*(285)*	*(24)*	*(19)*	*(5)*	*(26)*	*(7)*	*(19)*
		Office (to be removed)	*72.084*	*1,000 Sq. Feet*	*(1,037)*	*(144)*	*(127)*	*(17)*	*(160)*	*(27)*	*(133)*
		Manufacturing (to be removed)	*2.554*	*1,000 Sq. Feet*	*(10)*	*(2)*	*(2)*	*0*	*(2)*	*(1)*	*(1)*
					520	**91**	81	10	**64**	11	53
5	888 N Sepulveda Bl.	Hotel	179	Rooms	**1,462**	**100**	61	39	**106**	56	50
7	700 N Nash St. [6]	Office	1,740	1,000 Sq. Feet							
		Hotel	87	1,000 Sq. Feet							
		Research and Development	100	1,000 Sq. Feet	**24,845**	**2,563**	2,003	561	**3,170**	916	2,254
		Retail	248	1,000 Sq. Feet							
		Park	5	acre							
8	600 N Sepulveda Bl.	Fast Food w/ Drive-Thru	3.714	1,000 Sq. Feet	1,843	183	93	90	126	66	60
		Pass-by Trip Reduction (50%)			*(922)*	*(92)*	*(47)*	*(45)*	*(63)*	*(33)*	*(30)*
					921	**91**	46	45	**63**	33	30
9	525 N Sepulveda Bl. [7]	Parking Structure	1,029	Stalls	**4,116**	**617**	494	123	**617**	123	494
10	445 Continental Bl.	Office	174.24	1,000 Sq. Feet	2,046	292	257	35	274	47	227
		Research & Development	300	1,000 Sq. Feet	2,433	342	284	58	320	48	272
		Office (to be removed)	*55*	*1,000 Sq. Feet*	*(842)*	*(116)*	*(102)*	*(14)*	*(140)*	*(24)*	*(116)*
					3,637	**518**	439	79	**454**	71	383
11	555 N Nash St. [8]	Indoor Ice Rink	17.315	1,000 Sq. Feet	**ngl.**	**7**	7	0	**(26)**	(13)	(13)
12	444 N Nash St.	Office	116.756	1,000 Sq. Feet	1,503	212	187	25	210	36	174
		Office (to be removed)	*82.857*	*1,000 Sq. Feet*	*(1,154)*	*(161)*	*(142)*	*(19)*	*(172)*	*(29)*	*(143)*
					349	**51**	45	6	**38**	7	31
13	445 N Douglas St.	Office	332.137	1,000 Sq. Feet	3,362	490	431	59	451	77	374
		Office (to be removed)	*106*	*1,000 Sq. Feet*	*(1,395)*	*(197)*	*(173)*	*(24)*	*(198)*	*(34)*	*(164)*
		Warehouse (to be removed)	*117*	*1,000 Sq. Feet*	*(417)*	*(35)*	*(28)*	*(7)*	*(37)*	*(9)*	*(28)*
					1,550	**258**	230	28	**216**	34	182

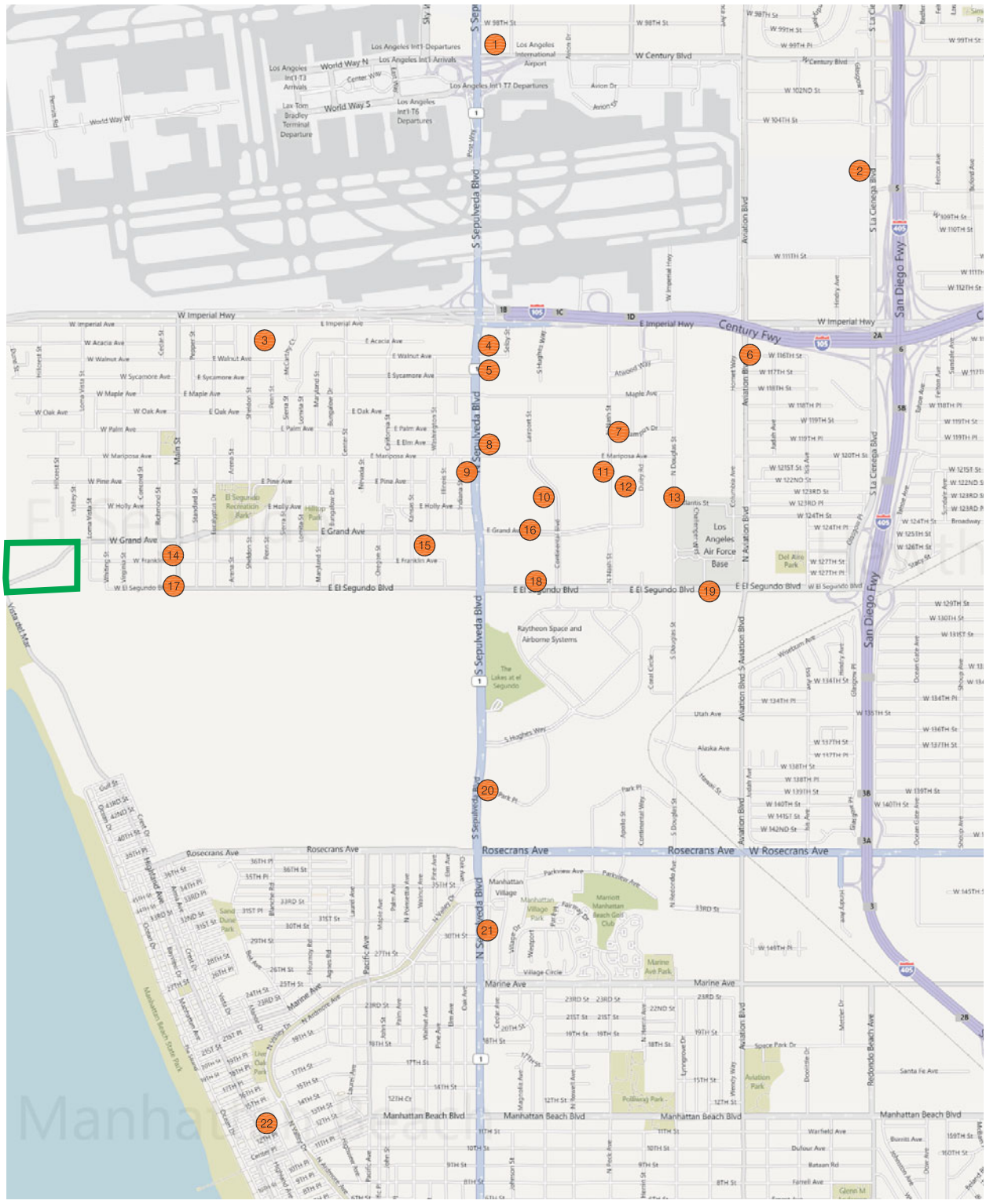
Table 4 – Area Projects Trip Generation Estimates (continued)

MAP #	Locations	Land Use	Intensity	Units	Daily Total	AM Peak Total	AM Peak In	AM Peak Out	PM Peak Total	PM Peak In	PM Peak Out
14	141 Main St.	Office	8.41	1,000 Sq. Feet	198	26	23	3	88	15	73
		Retail [9]	4.14	1,000 Sq. Feet	183	5	2	3	11	5	6
					381	**31**	25	6	**99**	20	79
15	222 Kansas St.	Condominium/Townhouse	55	Dwelling Units	320	24	4	20	29	19	10
		Manufacturing (to be removed)	*93.473*	*1,000 Sq. Feet*	*(357)*	*(68)*	*(53)*	*(15)*	*(68)*	*(24)*	*(44)*
					(37)	**(44)**	(49)	5	**(39)**	(5)	(34)
16	1960 E Grand Ave.	Hotel	150	Rooms	**1,226**	**84**	51	33	**89**	47	42
17	116 W El Segundo Ave.	Office	38	1,000 Sq. Feet	**633**	**86**	76	10	**121**	21	100
18	101 Continental Bl.	Hotel	167	Rooms	**1,364**	**94**	57	37	**99**	52	47
19	2350 E El Segundo Bl.	Office	165	1,000 Sq. Feet	1,962	280	246	34	264	45	219
		Office (to be removed)	*120*	*1,000 Sq. Feet*	*(1,535)*	*(217)*	*(191)*	*(26)*	*(213)*	*(36)*	*(177)*
					427	**63**	55	8	**51**	9	42
20	850 S Sepulveda Bl.	Shopping Center	70	1,000 Sq. Feet	**5,386**	**70**	43	27	**501**	245	256
	Manhattan Beach										
21	3200 N Sepulveda Bl	Shopping Center	124	1,000 Sq. Feet	**7,810**	**124**	76	48	**735**	360	375
22	1320 Highland Ave	Library	21.5	1,000 Sq. Feet	1,209	22	16	6	157	75	82
		Library (to be removed)	*12.3*	*1,000 Sq. Feet*	(692)	(13)	(9)	(4)	(90)	(43)	(47)
					517	**9**	7	2	**67**	32	35
		TOTAL			**62,813**	**5,323**	**4,010**	**1,314**	**7,099**	**2,298**	**4,801**

[1] Unless otherwise noted, all rates and directional distributions are taken from ITE Trip Generation Manual, 8th Edition.
[2] Trip generation taken from City of LA projects list.
[3] Assumed directional distribution of 50/50 for AM and PM peaks.
[4] Directional distribution for AM and PM peaks taken from ITE 090. Daily trips assumed from AM trips.
[5] DEIR for Avation Station Project, Linscott, Law & Greenspan, engineers, November 2009.
[6] Traffic Study for Proposed El Segundo Corporate Campus, Crain & Associates, September 2001.
[7] Assumed Daily trips as four times the number of stalls. AM and PM peak trip totals assumed as 60% of total stalls. Assumed directional distribution for AM of 80/20 and 20/80 for PM.
[8] Technical Letter for Toyota El Segundo, Crain & Associates, 2010.
[9] AM rate and directional distribution from SANDAG.

Table 4 indicates that the area projects are expected to generate approximately 62,813 daily trips, of which 5,323 trips (4,010 inbound trips and 1,314 outbound trips) would occur during the a.m. peak hour and 7,099 trips (2,298 inbound trips and 4,801 outbound trips) would occur during the p.m. peak hour.

Figure 7 illustrates the locations of the included area projects.



LEGEND

Project Location

X Related Project Locations

N

No Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 7

Location of Area Projects

C. Study Intersection Operations Analysis

The CMA and ICU methodologies were used, as applicable to the jurisdiction responsible for each study intersection, to analyze future intersection volumes with ambient growth traffic and area project trips.

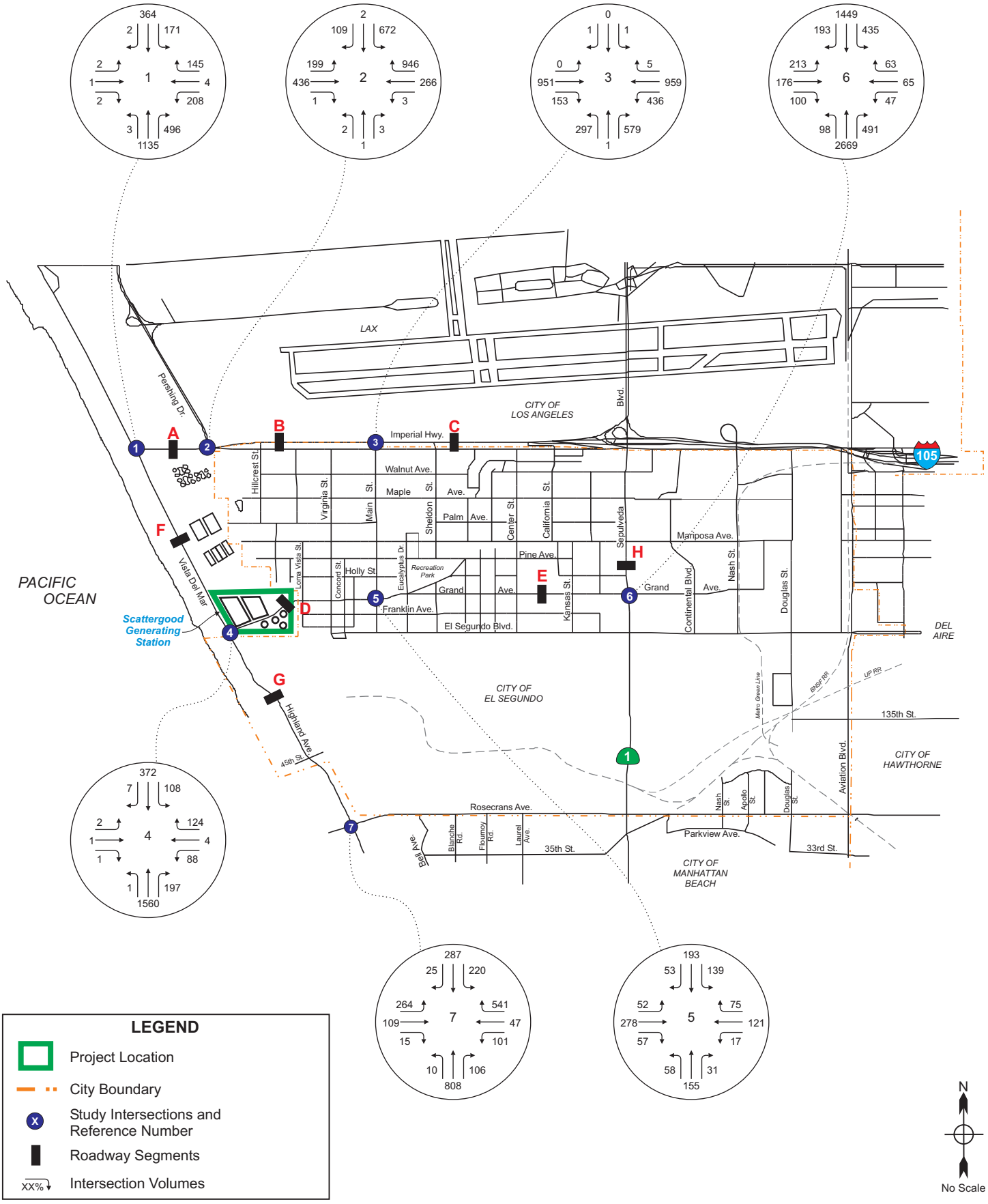
The results of the level of service analysis for future Year-2015 no-project peak hour conditions are shown in Table 5.

Table 5 – Study Intersection Levels of Service – Future No-Project Conditions

Study Intersections	Weekday AM Peak		Weekday PM Peak	
	V/C	LOS	V/C	LOS
1. Imperial Hwy & Vista Del Mar	0.516	A	0.485	A
2. Imperial Hwy & Pershing Dr	0.795	C	0.493	A
3. Imperial Hwy & Main St	0.707	C	0.533	A
4. Grand Ave & Vista Del Mar	0.645	B	0.469	A
5. Grand Ave & Main St	0.341	A	0.362	A
6. Grand Ave & Sepulveda Blvd	0.961	E	1.040	F
7. Rosecrans Ave & Highland Ave	0.886	D	0.886	D

Under this scenario, the study intersection of Grand Avenue / Sepulveda Boulevard would operate at LOS E in the a.m. peak hour and at LOS F in the p.m. peak hour.

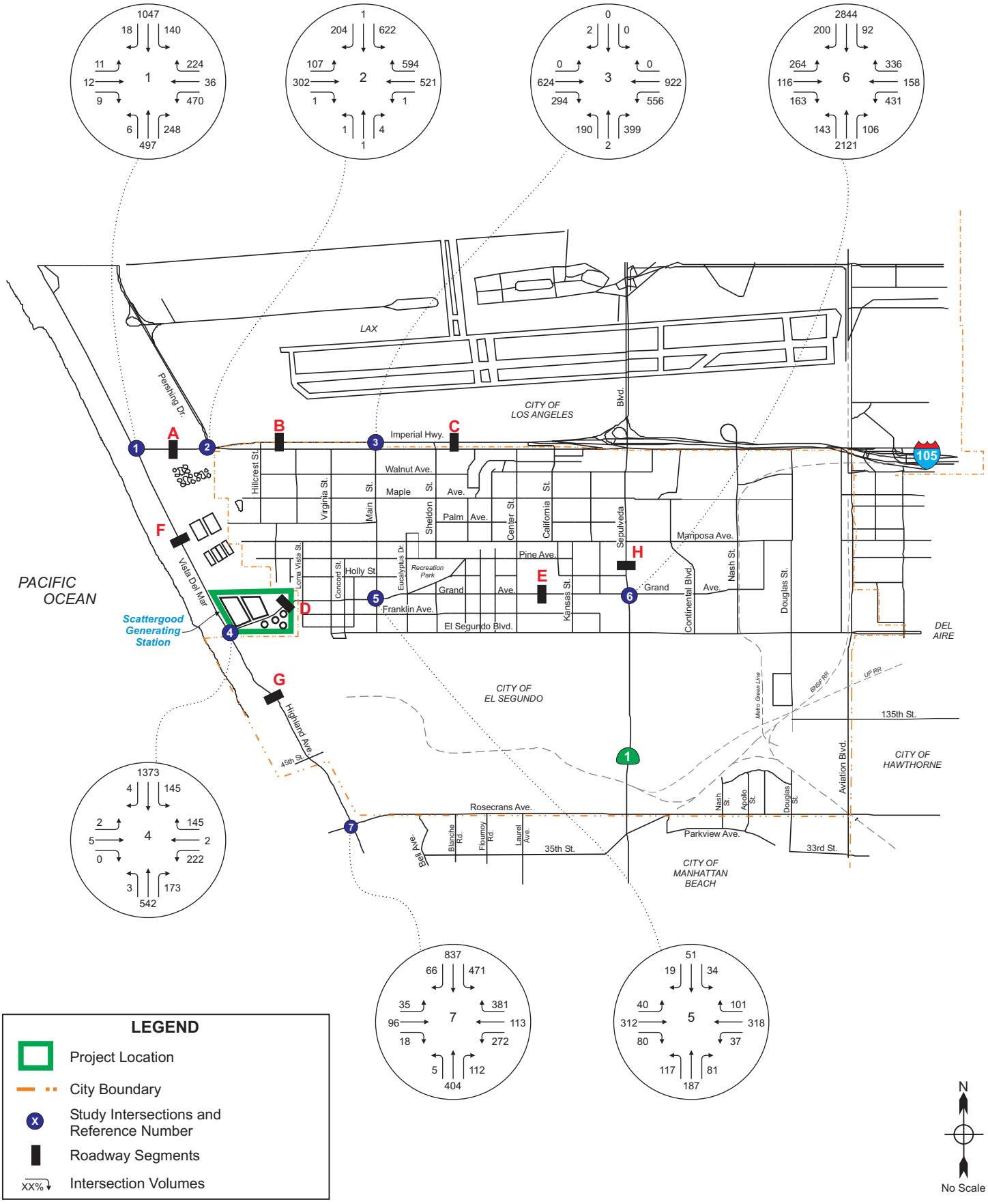
The future Year-2015 no-project calculation worksheets for the study intersections analyzed using CMA methodology are provided in Appendix C of this report. The study intersections analyzed using ICU methodology area provided in Appendix D of this report. The analyzed peak-hour traffic volumes at the study intersections for this scenario are presented in Figure 8 (a.m. peak) and Figure 9 (p.m. peak).



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 8

Future Year-2015 No-Project - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 9

Future Year-2015 No-Project - PM Peak Hour Intersection Volumes

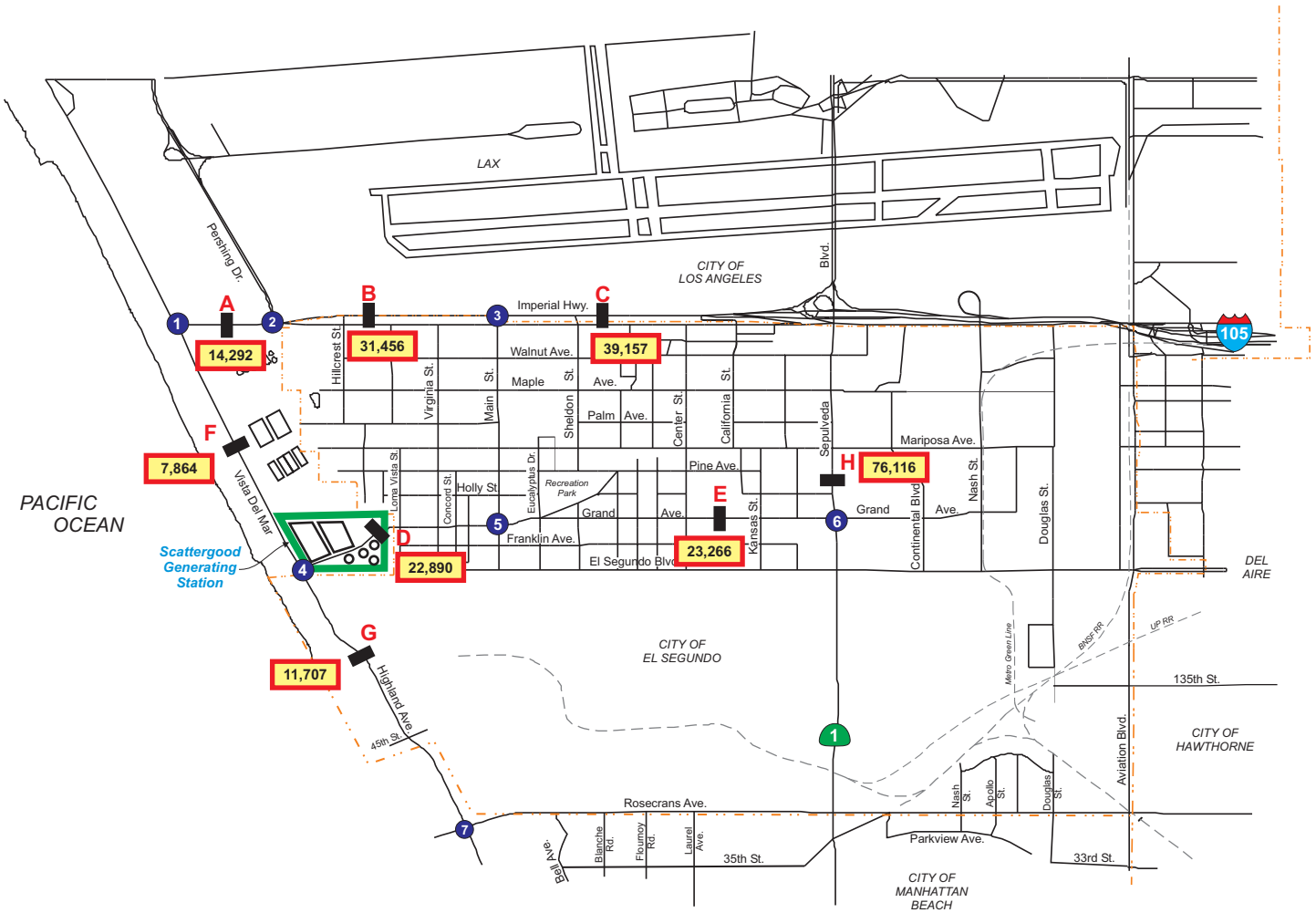
D. Study Roadway Segment Operations Analysis

A future Year-2015 no-project level of service analysis was conducted for the study roadway segments. Table 6 presents the results of this analysis, which shows that all of the study roadway segments would operate at an excellent service level, LOS A.

Table 6 – Study Roadway Segment Levels of Service – Future No-Project Conditions

	Street Segments	Future No Project (2015) Daily Traffic	Future No Project Peak Hour Traffic	# Lanes	Peak Hour Capacity Per Lane	Peak Hour Roadway Capacity	Peak Hour V/C	Peak Hour LOS
A	Imperial Highway – between Vista del Mar & Pershing Drive	14,292	1,140	4	1,600	6,400	0.178	A
B	Imperial Highway – between Pershing Drive & Main Street	31,456	2,272	4	1,600	6,400	0.355	A
C	Imperial Highway – between Main Street & Sepulveda Boulevard	39,157	2,736	4	1,600	6,400	0.428	A
D	Grand Avenue – between Vista del Mar & Main Street	22,890	2,166	4	1,600	6,400	0.338	A
E	Grand Avenue – between Main Street & Sepulveda Boulevard	23,266	2,172	4	1,600	6,400	0.339	A
F	Vista del Mar – between Imperial Highway & Grand Avenue	7,864	737	4	1,600	6,400	0.115	A
G	Vista del Mar – between Grand Avenue & Rosecrans Avenue	11,707	993	4	1,600	6,400	0.155	A
H	Sepulveda Boulevard – between Imperial Highway & Grand Avenue	76,116	5,746	8	1,600	12,800	0.449	A

The roadway segment daily volumes for this scenario are provided in Figure 10.



LEGEND

- Project Location
- City Boundary
- Study Intersections and Reference Number
- Roadway Segments
- Segment Daily Volumes

N

No Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 10

Future Year-2015 No-Project - Daily Roadway Segments

4. Project Construction Trips

This section focuses on the definition of construction truck and employee vehicle trips during the peak period of Project construction, along with the distribution and assignment of those trips to the study area roadway network.

A. Project Trip Generation Methodology

Project trip generation calculations included construction truck trip estimates and construction employee vehicle trips. The trip generation totals were determined based on the most intense period of construction activity for the project. Truck volumes were multiplied by a factor of 2.5 to estimate the number of passenger car equivalent trips, consistent with the Southern California Association of Governments (SCAG) *Heavy Duty Truck Model* analysis and other truck studies in the region.

The analysis summarized within this report was conducted at a planning-level of detail, used for the purposes of determining traffic impacts during the Project construction period. Empirical data for use in calculating peak hour and daily trip generation rates for construction sites is not generally available. Therefore, the methodology provided here is intended to develop trip generation forecasts that represent a worst-case scenario.

The maximum number of employees on site per day during the peak construction month (February 2015, Month 26) would be 524 employees (476 field personnel and 48 office/supervision staff) and the average truck trip activity during this month would be two round trips per day. There are other periods in the project construction schedule where more daily truck trips would be generated (up to 32 daily trips during months 2 and 3, in November and December of 2012), but the total trips analyzed represents the highest combined trips generated by both construction employees and trucks.

It is assumed that daily construction activities will occur in a single eight-hour shift that generally begins prior to the a.m. peak period and is generally complete prior to the p.m. peak period.

B. Project Trip Generation

In calculating peak-hour trips for the project, it is assumed that employees will arrive and depart the SGS site via personal vehicles. The morning arrival by employees is assumed to overlap the a.m. peak hour by 25 percent, with the remaining 75 percent of employees assumed to be at the site before 7:00 a.m., the start of the a.m. peak period. The same would occur during the p.m. peak, with 75 percent of employees assumed to depart the site before 4:00 p.m., the start of the p.m. peak period.

Therefore, a total of 25 percent of the total peak-period inbound and outbound trips would occur during the analyzed peak hours. Carpooling was assumed to provide an average number of employees per car at 1.2, based on one out of every six workers carpooling.

The weekday peak-hour trip generation calculations for the Project construction activities are provided in Table 7. The total daily trips in the table represent inbound and outbound trips by the field personnel and office staff, divided by a carpooling factor of 1.2. Truck trips are based on four round truck trips per day that overlap with the peak hours, multiplied by the applied PCE factor of 2.5 and rounded to whole numbers for the peak hours. Peak hour trips for employees were based on inbound and outbound flows, but multiplied by a factor of 0.25, to represent the assumed 25 percent overlap with the peak hour.

Table 7 – Peak Hour Project Construction Trip Generation

TRIP GENERATION ELEMENT	PEAK FEB 2015 DAILY TRIPS			AM PEAK HOUR						PM PEAK HOUR					
				Truck Trips		Employee Trips		Total Trips		Truck Trips		Employee Trips		Total Trips	
	Trucks	Employee	Total	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Office and Supervision	0	80	80	0	0	10	0	10	0	0	0	0	10	0	10
Field Personnel	0	793	793	0	0	99	0	99	0	0	0	0	99	0	99
Delivery	12	0	12	3	3	0	0	3	3	3	3	0	0	3	3
TOTAL TRIPS	**12**	**873**	**885**	**3**	**3**	**109**	**0**	**112**	**3**	**3**	**3**	**0**	**109**	**3**	**112**

Passenger Car Equivalency (PCE) factor of 2.5 applied to truck trips. Single peak-hour truck trip rounded to a whole number of 3.

Field Personnel and Office/Supervision Staff - A 1.2 factor was applied to account for carpool activity. Inputs were 476 field personnel and 48 office/supervision staff, for February 2015 (month 15 of construction).

The totals within the bottom row of Table 7 indicate that, during the peak month of construction, the project would generate a daily total of 885 passenger car equivalent trips, with 115 trips occurring during both the a.m. and p.m. peak hours (112 inbound and 3 outbound in the a.m. peak, and 3 inbound and 112 outbound in the p.m. peak).

C. Project Trip Distribution

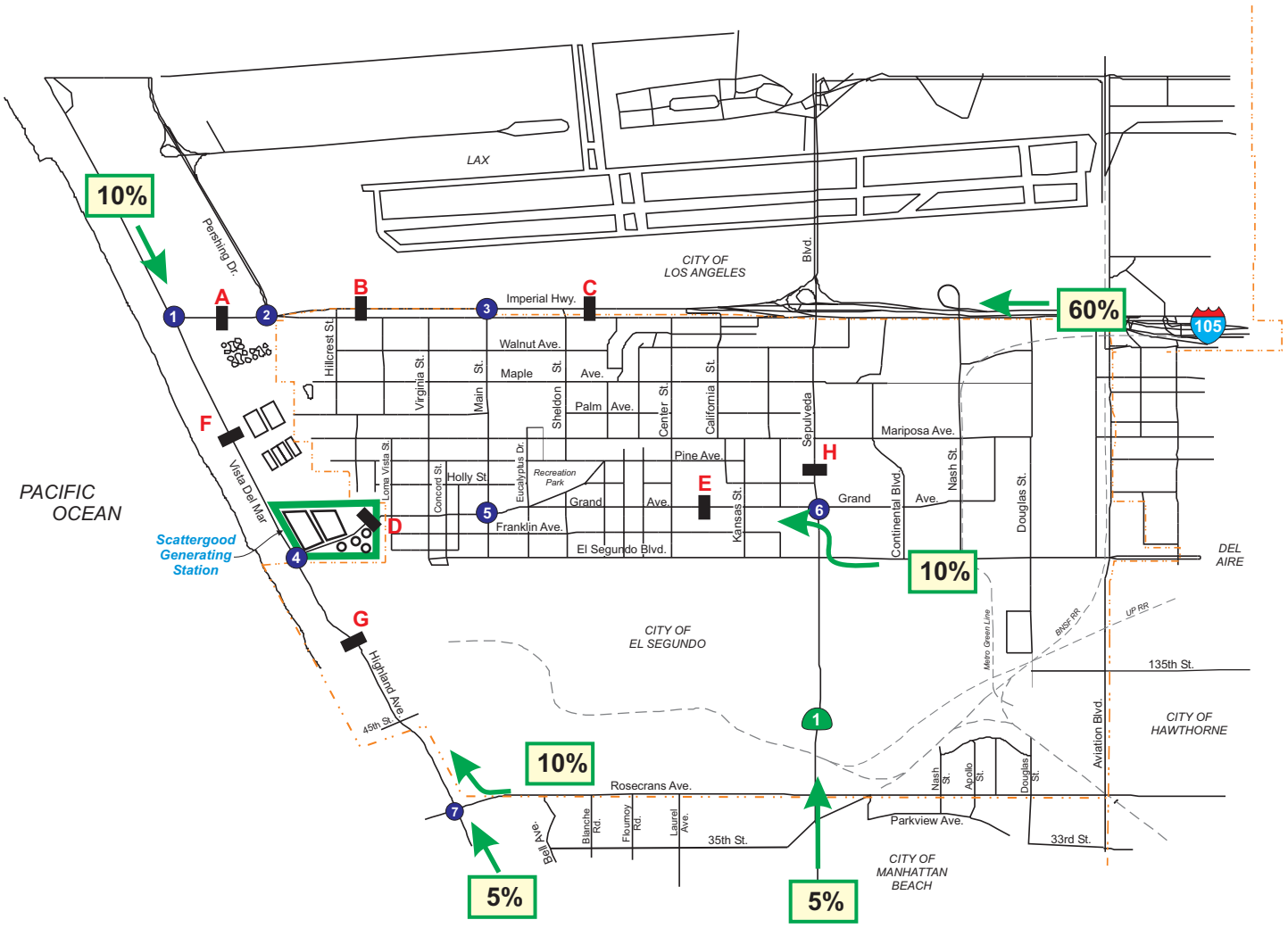
Based on project characteristics and the best routes between the site access points and the nearby I-105 freeway terminus/interchange at Imperial Highway, the Project construction worker trip distribution pattern is illustrated in Figure 11. Employee vehicle trip patterns were based on the local roadway network, in addition to the locations of the freeway interchanges.

The distribution assumed that the SGS parcels, on both the north and south sides of Grand Avenue, would accommodate all of the construction employee vehicles, as planned for by LADWP. The total available area for parking, as estimated by LADWP during Project site planning efforts, would be as follows:

- Tank Farm (south parcel): 108,900 square feet
- Fuel Unloading Area (north parcel) 24,500 square feet
- Auto Shop Area (north parcel) 20,000 square feet

These three areas total 153,400 square feet. Using a conservative estimate of gross area per space (including circulation, access points, etc.) of 350 square feet, it is estimated that 438 vehicles could be parked within these areas. With the carpooling estimate providing an average employee per vehicle ratio of 1.2, 437 vehicles would need to be parked on site.

The overall assignment of the Project construction trips to the study area, including both employee construction vehicles and construction trucks, is illustrated on Figure 12 (a.m. peak) and Figure 13 (p.m. peak).



LEGEND

- Project Location
- City Boundary
- Study Intersections and Reference Number
- Roadway Segments
- xx% Distribution Percentages

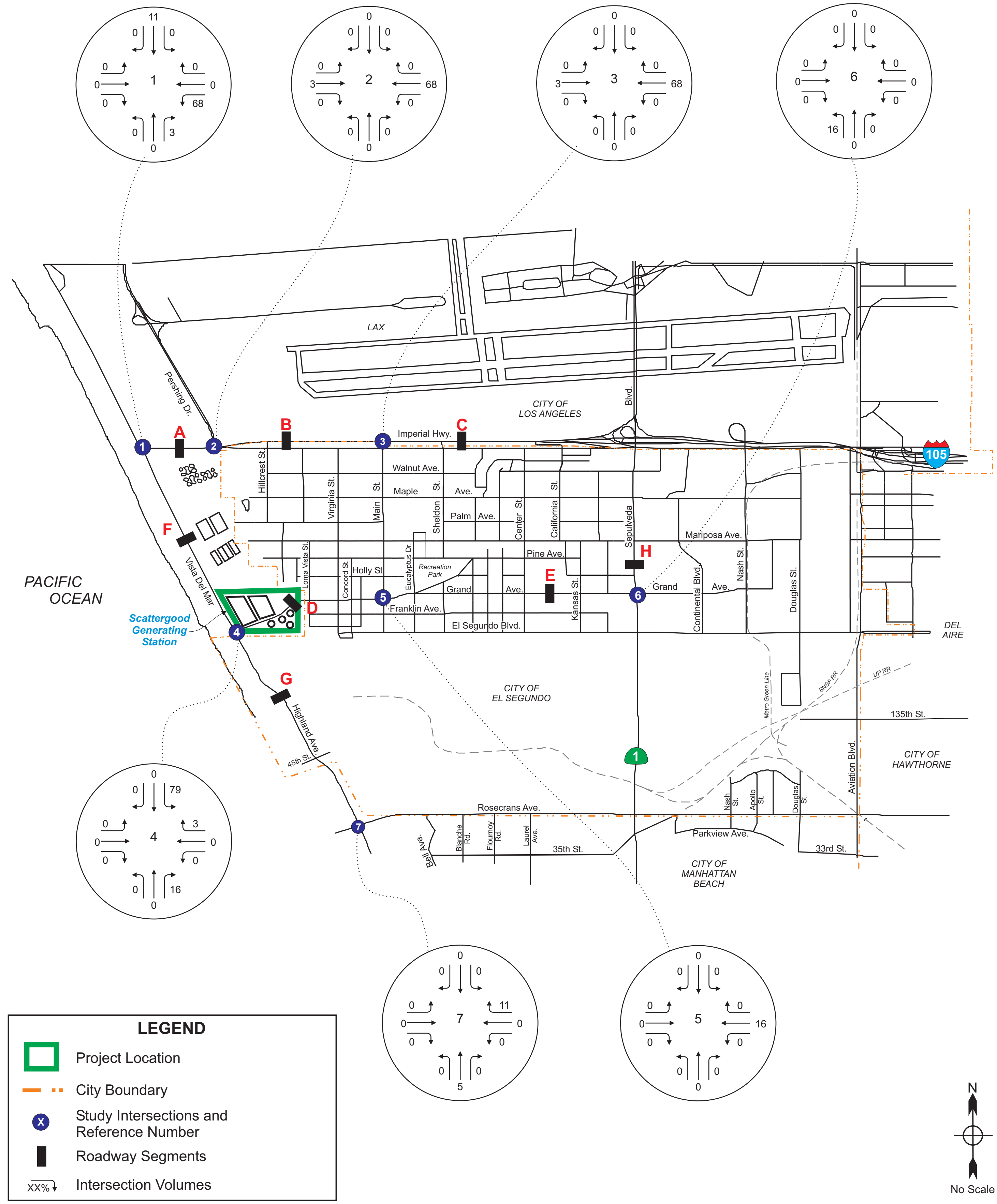
N

No Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 11

Employee Trip Distribution

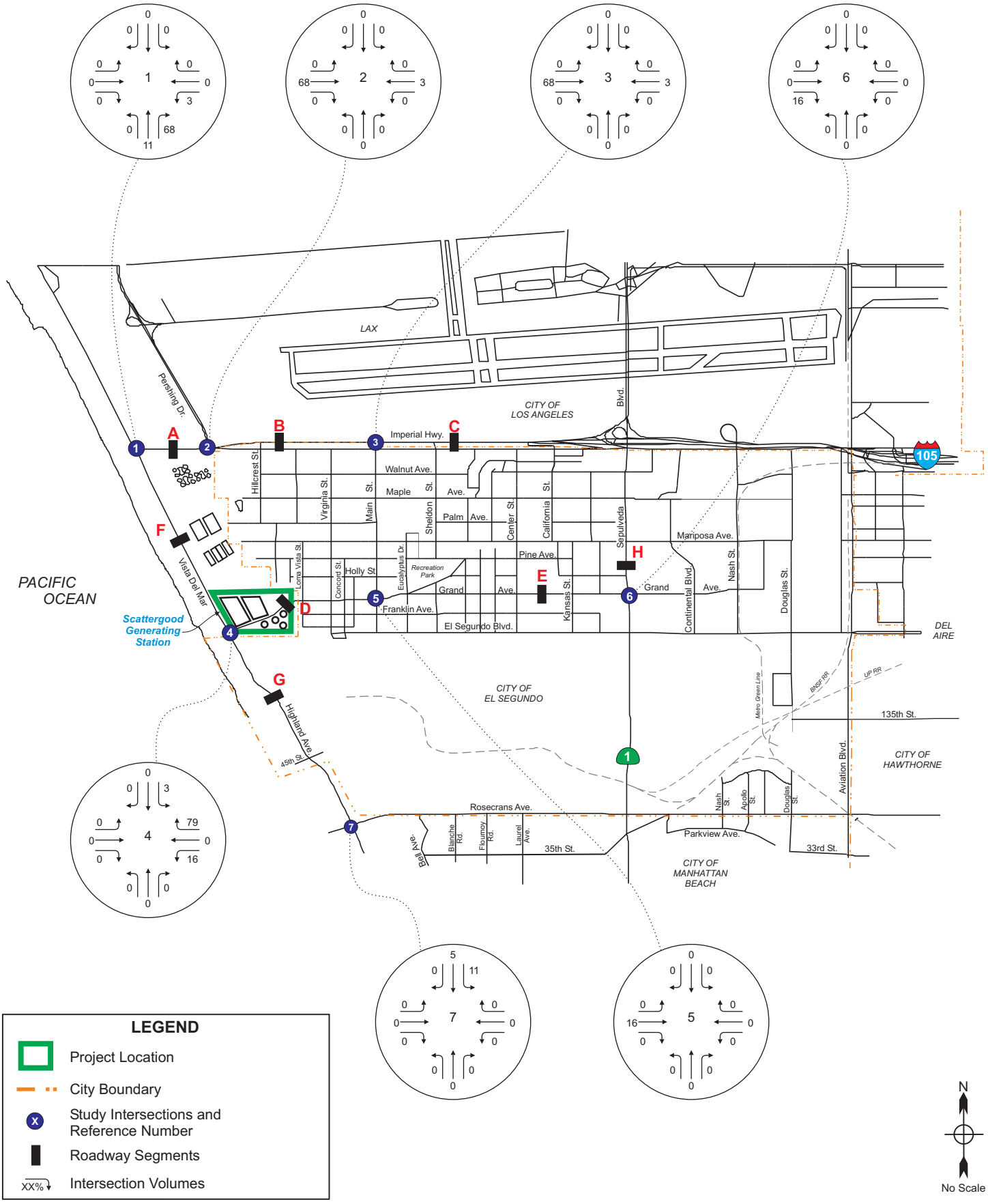


KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project

Figure 12

Project Construction Peak-Hour Trip (Vehicles + Trucks) Distribution - AM Peak-Hour Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 13

Project Construction Peak-Hour Trip (Vehicles + Trucks) Distribution - PM Peak-Hour Volumes

5. Future Year-2015 with-Project Construction Conditions

This section documents the future traffic conditions with Project construction activities within the study area. The traffic volumes for this scenario were derived by adding the project trips to the Future Year-2015 No-Project condition traffic volumes defined within Section 3 of this report.

A. Study Intersection Operations Analysis

A level of service analysis was conducted for the study intersections, in order to document peak-hour operations for this scenario. Table 8 provides the results of this analysis.

Table 8 – Study Intersection Levels of Service – Future with-Project Construction Conditions

Study Intersections	Weekday AM Peak		Weekday PM Peak	
	V/C	LOS	V/C	LOS
1. Imperial Hwy & Vista Del Mar	0.541	A	0.486	A
2. Imperial Hwy & Pershing Dr	0.795	C	0.493	A
3. Imperial Hwy & Main St	0.732	C	0.560	A
4. Grand Ave & Vista Del Mar	0.689	B	0.496	A
5. Grand Ave & Main St	0.341	A	0.363	A
6. Grand Ave & Sepulveda Blvd	0.961	E	1.040	F
7. Rosecrans Ave & Highland Ave	0.895	D	0.890	D

Under this scenario, the study intersection of Grand Avenue / Sepulveda Boulevard would operate at LOS E in the a.m. peak hour and at LOS F in the p.m. peak hour.

The future Year-2015 with-Project calculation worksheets for the study intersections analyzed with CMA methodology are provided in Appendix C of this report. The study intersections analyzed with ICU methodology area provided in Appendix D of this report. The analyzed peak-hour traffic volumes at the study intersections for this scenario are provided in Figure 14 (a.m. peak) and Figure 15 (p.m. peak).

B. Study Roadway Segment Operations Analysis

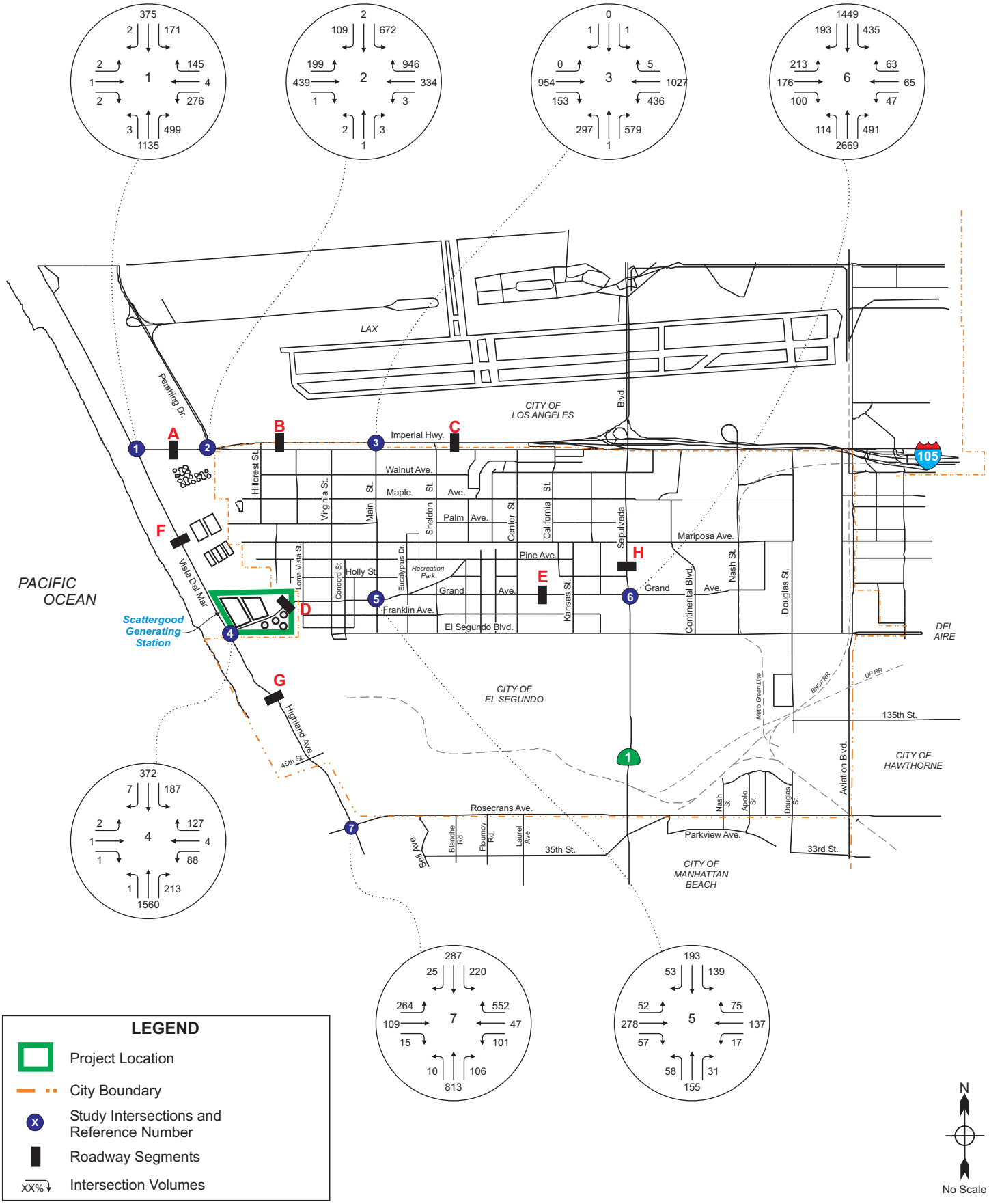
A level of service analysis was conducted for the study roadway segments, in order to document daily volumes and peak-hour operations for this scenario. Table 9 provides the results of this analysis.

Table 9 – Study Roadway Segment Levels of Service – Future with-Project Construction Conditions

	Street Segments	Future With Project (2015) Daily Traffic	Future With Project Peak Hour Traffic	# Lanes	Peak Hour Capacity Per Lane	Peak Hour Roadway Capacity	Peak Hour V/C	Peak Hour LOS
A	Imperial Highway – between Vista del Mar & Pershing Drive	14,828	1,211	4	1,600	6,400	0.189	A
B	Imperial Highway – between Pershing Drive & Main Street	31,992	2,343	4	1,600	6,400	0.366	A
C	Imperial Highway – between Main Street & Sepulveda Boulevard	39,693	2,807	4	1,600	6,400	0.439	A
D	Grand Avenue – between Vista del Mar & Main Street	23,020	2,182	4	1,600	6,400	0.341	A
E	Grand Avenue – between Main Street & Sepulveda Boulevard	23,396	2,188	4	1,600	6,400	0.342	A
F	Vista del Mar – between Imperial Highway & Grand Avenue	8,526	819	4	1,600	6,400	0.128	A
G	Vista del Mar – between Grand Avenue & Rosecrans Avenue	11,837	1,009	4	1,600	6,400	0.158	A
H	Sepulveda Boulevard – between Imperial Highway & Grand Avenue	76,116	5,746	8	1,600	12,800	0.449	A

Based on the data within Table 9, all of the analyzed study roadway segments would continue to operate at a good LOS value of A.

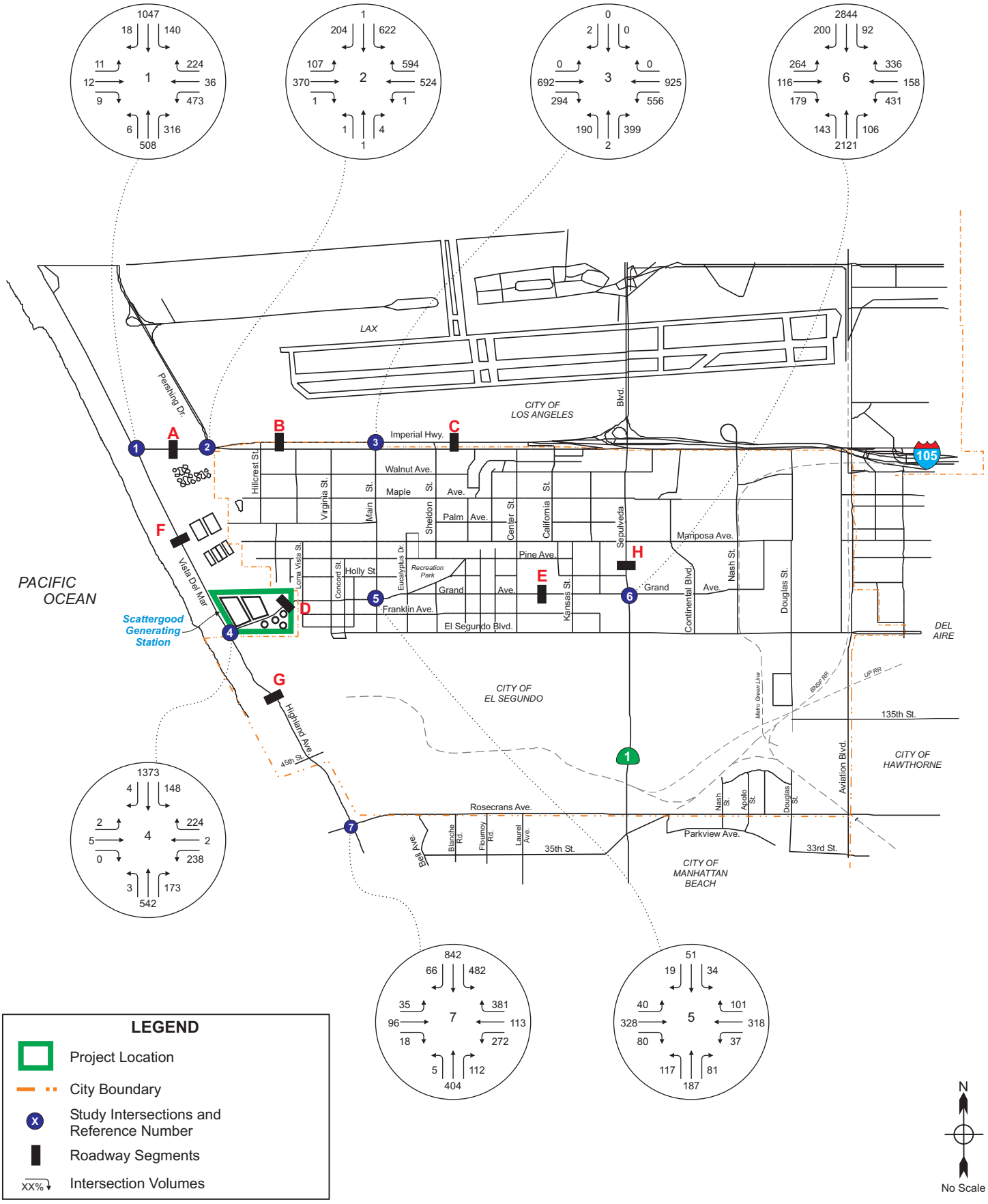
Figure 16 illustrates weekday daily volumes at the study roadway segments for this scenario.



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 14

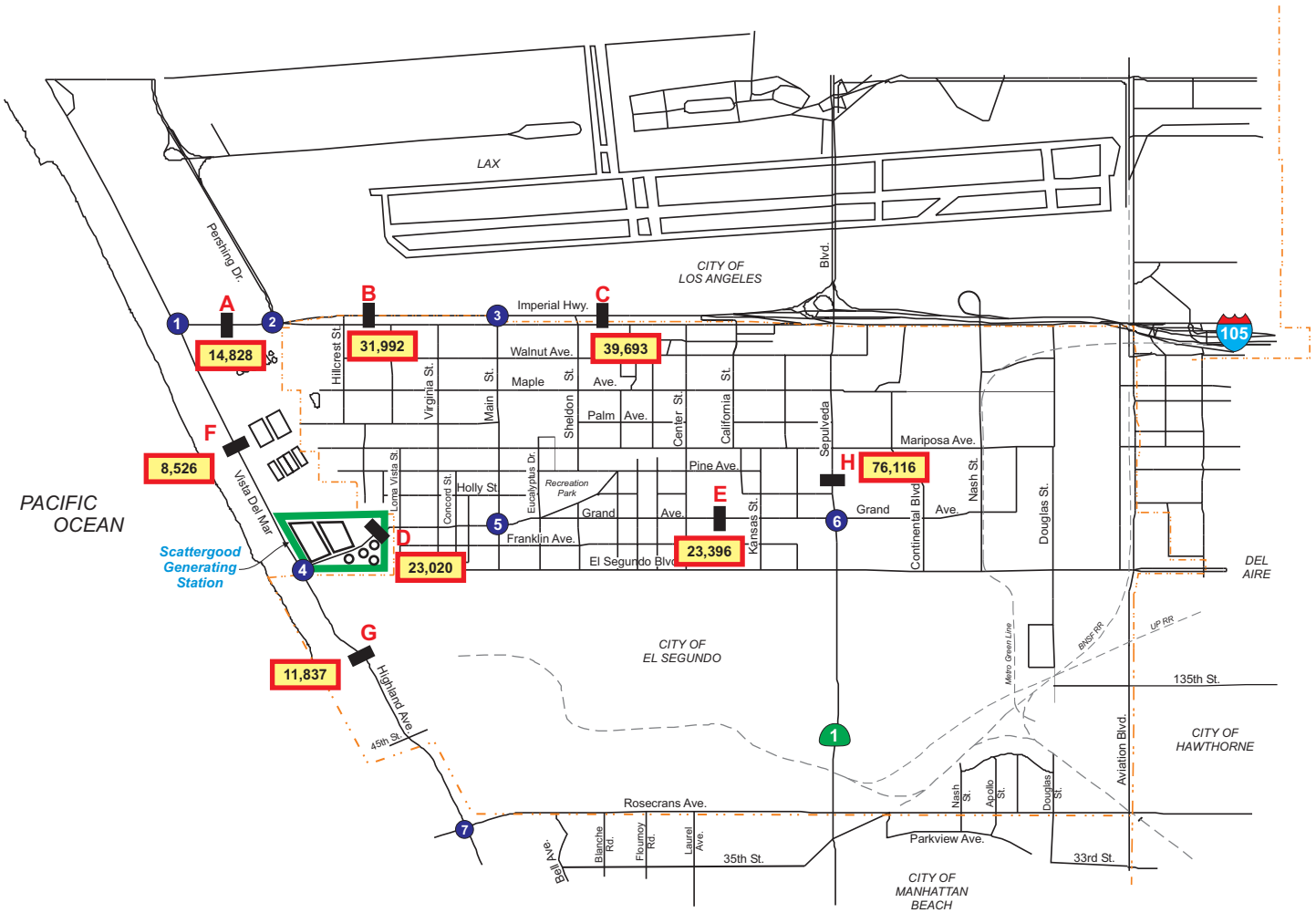
Future Year-2015 With-Project - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 15

Future Year-2015 With-Project - PM Peak Hour Intersection Volumes



LEGEND

- Project Location
- City Boundary
- Study Intersections and Reference Number
- Roadway Segments
- Segment Daily Volumes

N

No Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure 16

Future Year-2015 With-Project Construction Daily Weekday Roadway Segment Volumes

6. Project Construction Impacts and Mitigation

A. Significant Impact Guidelines

Traffic impacts are identified if the proposed Project will result in a significant change in traffic conditions at a study intersection. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection is already operating below acceptable level of service and project traffic will cause a further decline below a threshold.

The City of Los Angeles Department of Transportation has established specific thresholds for project related increases in the volume-to-capacity ratio (V/C) of signalized study intersections. The following increases in peak-hour V/C ratios are considered significant impacts:

Level of Service	Final V/C*	Project Related v/c increase
C	< 0.70 – 0.80	Equal to or greater than 0.040
D	< 0.80 – 0.90	Equal to or greater than 0.020
E and F	0.90 or more	Equal to or greater than 0.010

Note: Final V/C is the V/C ratio at an intersection, considering impacts from the project, ambient and related project growth, and without proposed traffic impact mitigations.

The City of El Segundo and the City of Manhattan Beach, two other jurisdictions within the project study area, use a modified version of the impact standards defined in the County of Los Angeles Congestion Management Program. The modified impact standards are based on a change in V/C or Intersection Capacity Utilization methodology values of 0.02 or more, causing or worsening LOS E or F.

B. Project Construction Impact Calculations

The data within Table 10 provides a comparison of all analyzed scenarios for the study intersections. Traffic impacts created by the project were calculated by subtracting the volume-to-capacity (v/c) totals under the "Future No-Project Construction Conditions (Year 2015)" heading from the totals under the "Future with-Project Construction Conditions (Year 2015)" heading.

The overall traffic impacts created by the construction project traffic and determination of significant impacts are provided in the right two columns of the table.

Table 10 – Project Construction Impact Calculations

Study Intersections		Peak Periods	Existing Conditions (Year 2011)		Future No Project Construction Conditions (Year 2015)		Future With-Project Construction Conditions (Year 2015)		Diff.	Signif?
			V/C	LOS	V/C	LOS	V/C	LOS		
1.	Imperial Hwy & Vista Del Mar	AM	0.440	A	0.516	A	0.541	A	0.025	No
		PM	0.456	A	0.485	A	0.486	A	0.001	No
2.	Imperial Hwy & Pershing Dr	AM	0.772	C	0.795	C	0.795	C	0.000	No
		PM	0.449	A	0.493	A	0.493	A	0.000	No
3.	Imperial Hwy & Main St	AM	0.634	B	0.707	C	0.732	C	0.025	No
		PM	0.453	A	0.533	A	0.560	A	0.027	No
4.	Grand Ave & Vista Del Mar	AM	0.599	A	0.645	B	0.689	B	0.044	No
		PM	0.416	A	0.469	A	0.496	A	0.027	No
5.	Grand Ave & Main St	AM	0.320	A	0.341	A	0.341	A	0.000	No
		PM	0.340	A	0.362	A	0.363	A	0.001	No
6.	Grand Ave & Sepulveda Blvd	AM	0.855	D	0.961	E	0.961	E	0.000	No
		PM	0.937	E	1.040	F	1.040	F	0.000	No
7.	Rosecrans Ave & Highland Ave	AM	0.825	D	0.886	D	0.895	D	0.009	No
		PM	0.764	C	0.886	D	0.890	D	0.004	No

As indicated by the right-most column of Table 10, the proposed Project would not create significant impacts at any of the seven study intersections under the future with Project construction scenario.

As the study roadway segments would all operate at LOS A during the analyzed project construction period, significant impacts would not occur at these locations and further analysis of the roadway segments is not necessary.

C. Supplemental Existing+Project Analysis

A supplemental analysis was included in this document to comply with court rulings in the recent Sunnyvale case regarding California Environmental Quality Act (CEQA) baseline analysis. Significant impacts for the proposed project were compared to existing conditions for the determination of impacts, and not project-year or buildout-year conditions.

Table 11 summarizes the results of the level of service analysis for this scenario.

Table 11 – Existing+Project Construction Impacts Determination

Study Intersections		Peak Periods	Existing Conditions (Year 2011)		Existing With-Project Construction Conditions (Year 2011)		Diff.	Signif ?
			V/C	LOS	V/C	LOS		
1.	Imperial Hwy & Vista Del Mar	AM	0.440	A	0.464	A	0.024	No
		PM	0.456	A	0.458	A	0.002	No
2.	Imperial Hwy & Pershing Dr	AM	0.772	C	0.772	C	0.000	No
		PM	0.449	A	0.449	A	0.000	No
3.	Imperial Hwy & Main St	AM	0.634	B	0.660	B	0.026	No
		PM	0.453	A	0.479	A	0.026	No
4.	Grand Ave & Vista Del Mar	AM	0.599	A	0.638	B	0.039	No
		PM	0.416	A	0.459	A	0.043	No
5.	Grand Ave & Main St	AM	0.320	A	0.320	A	0.000	No
		PM	0.340	A	0.345	A	0.005	No
6.	Grand Ave & Sepulveda Blvd	AM	0.855	D	0.855	D	0.000	No
		PM	0.937	E	0.937	E	0.000	No
7.	Rosecrans Ave & Highland Ave	AM	0.825	D	0.834	D	0.009	No
		PM	0.764	C	0.768	C	0.004	No

The proposed Project would not create significant impacts at any of the seven study intersections under the existing with Project construction scenario.

The existing Year-2011 with-Project calculation worksheets for the study intersections analyzed in CMA methodology are provided in Appendix C of this report. The study intersections analyzed in ICU methodology area provided in Appendix D of this report. The analyzed peak-hour traffic volumes at the study intersections for this scenario are illustrated in Figure E-1 (a.m. peak) and Figure E-2 (p.m. peak) of Appendix E.

D. Site Access Driveway Issues

As part of the traffic analysis for the project, the analyzed peak-period trip generation totals of the project site were analyzed to determine the general operating conditions that would exist at the site access points on Grand Avenue during construction. Construction access at the SGS site would take place via an existing set of site driveways, with one on the north side of Grand Avenue (with access to the northern parcel of the site) and one on the south side of Grand Avenue (with access to the southern parcel of the site).

An analysis was conducted to estimate how the intersection of the project driveways with Grand Avenue would operate during construction. The analysis considered planned improvements that would take place prior to the start of construction, including the provision of left-turn pockets for inbound movements and widening of the driveway approaches with turning radii that would support truck movements to and from the site.

With all construction employees parking within the allocated areas of the existing SGS parcels, a.m. peak operations of the driveway intersection with Grand Avenue are estimated to be at LOS A. The outbound movement of employee vehicles, with vehicles needing to cross one or both directions of traffic to proceed to outbound routes, would cause operations to worsen to LOS C. This lower value, representing good operations, would mainly be caused by exiting vehicles. There is adequate room for queuing of existing vehicles within the SGS site.

8. Congestion Management Plan Conformance

This section briefly demonstrates the ways in which this traffic study was prepared to be in conformance with the procedures mandated by the Congestion Management Program of the County of Los Angeles.

The Congestion Management Program (CMP) was created statewide because of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed.

The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. Approximately 160 intersections are identified for monitoring on the system. This section describes the project-related analysis of the CMP system. The analysis has been conducted according to the guidelines set forth in the 1997 CMP for Los Angeles County. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on- or off-ramps, where the proposed project will add 50 or more trips during either AM or PM weekday peak hours.

- At CMP mainline freeway-monitoring locations, where the project will add 150 or more trips, in either direction, during the either the AM or PM weekday peak hours.

CMP thresholds would not be exceeded at nearby CMP monitoring locations:

- I-105 freeway, east of Sepulveda Boulevard – Would not exceed the threshold of 150 trips.
- I-405 freeway, north of La Tijera Boulevard – Would not exceed the threshold of 150 trips
- Sepulveda Boulevard & El Segundo Boulevard intersection – Would not exceed the threshold of 50 trips
- Sepulveda Boulevard and Rosecrans Avenue intersection – Would not exceed the threshold of 50 trips

9. Conclusions

Project Background

The Los Angeles Department of Water and Power (LADWP) has proposed to remove the existing Scattergood Generating Station (SGS) electrical Generation Unit 3 from operation and replace its generating capacity with modern high-efficiency generation units, to be constructed within the SGS property boundaries.

The Project site is located to the southwest of the Los Angeles International Airport (LAX) and immediately west of the City of El Segundo. The SGS site is primarily located on the north side of Grand Avenue, with some ancillary uses such as former storage tanks and adjacent functions located on the south side of Grand Avenue.

The goal of the proposed project is to improve the LADWP generation system efficiency, reliability, and flexibility.

Construction Period Trip Generation

The trip generation totals were determined based on the most intense period of construction activity for the project. Project trip generation calculations included construction truck trip estimates and construction employee vehicle trips.

The maximum number of employees on site per day during the peak construction month (February 2015) would be 524 employees, and the average truck trip activity during this period would be two round-trip truck loads per day. There are other periods in the project construction schedule where more daily truck trips would be needed (up to 32 daily trips during months 2 and 3, in November and December of 2012), but the total trips analyzed represents the highest combined trips generated by both construction employees and trucks.

Significant Impacts

Based on the City of Los Angeles significant traffic impact criteria, project construction would not create significant traffic impacts at any of the seven study intersections:

With all construction employees parking within allocated areas of the existing SGS property, a.m. peak operations of the driveway intersection with Grand Avenue is estimated to be LOS A. This analysis was conducted with the inclusion of planned improvements to this intersection. The outbound movement of employee vehicles, with vehicles needing to cross one or both directions of traffic to proceed to outbound routes, would cause operations to worsen to LOS C. This lower value, representing good operations, would mainly be caused by queuing of exiting vehicles, which can be controlled within the SGS site. Significant impacts would not occur to the uncontrolled Grand Avenue approaches to this driveway intersection.

As all the study roadway segments all operate at LOS A during the analyzed project construction period, significant impacts would not occur at these locations, and further analysis of the roadway segments was not undertaken.

Post-Construction Operations

The project would not generate increases in vehicle trips once project construction is completed. The project would not have long-term traffic impacts during the operations period. The number of personnel on site (120 currently) will not change for project operations.

APPENDIX A
Level-of-Service Definitions

CMA METHODLOGY FOR SIGNALIZED INTERSECTIONS

The City of Los Angeles Department of Transportation (LADOT) specifies that the Transportation Research Board Critical Movement Analysis (CMA), Circular 212 Method, be used to analyze traffic operating conditions at signalized intersections. The CMA analysis method for evaluating signalized intersections involves the computation of volume-to-capacity (V/C) ratios for each critical movement. Capacity, or saturation flow rate, is defined as the maximum rate of flow that can pass through a given intersection approach under prevailing traffic and roadway conditions. The sum of all critical movements on a critical lane basis is used to determine the total intersection volume to capacity ratio (V/C) and corresponding Level-of-Service A facility is "at capacity" (v/c of 1.00 or greater) when extreme congestion occurs. This volume/capacity ratio value is based upon volumes by lane, signal phases, and approach lane configuration

ICU METHODLOGY FOR SIGNALIZED INTERSECTIONS

For analysis of Level of Service (LOS) at signalized intersections, the City of El Segundo has designated the Intersection Capacity Utilization (ICU) methodology as the desired tool. The concept of roadway level of service under the ICU methodology is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility. A 10% adjustment to the clearance and loss time factor based on the critical phases of the signalized control were included in the traffic analysis. A facility is "at capacity" (ICU value of 1.00 or greater) when extreme congestion occurs. This value is a function of hourly volumes, signal phasing, and approach lane configuration on each leg of the intersection.

Level of service (LOS) values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. The upper range of LOS E is typically defined as the operating "capacity" of a roadway.

The following describes the general roadway operations for each LOS value, as defined within the *Highway Capacity Manual* (published by the Transportation Research Board).

APPENDIX A
Level-of-Service Definitions (continued)

DEFINITIONS OF LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one Red light and no approach phase is fully used.
B	0.601 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.900 – 1.00	POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than 1.000	FAILURE. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

APPENDIX B
Traffic Count Data

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_001 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Vista Del Mar			Vista Del Mar			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	1	1	1.5	.5	1	
7:00 AM	1	179	78	14	42	0	0	2	1	44	1	23	385
7:15 AM	1	242	87	13	53	0	0	1	3	37	3	30	470
7:30 AM	1	251	96	12	67	0	2	2	0	64	1	34	530
7:45 AM	0	272	123	23	72	0	1	1	1	50	0	33	576
8:00 AM	0	282	124	23	58	0	1	0	0	46	2	29	565
8:15 AM	1	308	117	22	71	0	0	0	0	51	0	26	596
8:30 AM	2	241	122	18	88	2	0	0	1	53	2	30	559
8:45 AM	0	259	120	23	82	1	0	1	2	52	3	19	562
9:00 AM	1	182	94	20	69	2	1	1	3	42	2	28	445
9:15 AM	1	184	77	22	51	1	2	2	1	41	3	27	412
9:30 AM	0	147	73	15	54	4	3	3	4	38	1	26	368
9:45 AM	0	129	59	13	46	2	3	3	0	39	10	12	316
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	2676	1170	218	753	12	13	16	16	557	28	317	5784
APPROACH %'s :	0.21%	69.43%	30.36%	22.18%	76.60%	1.22%	28.89%	35.56%	35.56%	61.75%	3.10%	35.14%	

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	3	1103	486	86	289	2	2	1	2	200	4	118	2296
PEAK HR FACTOR :		0.934			0.873			0.417			0.947		0.963

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_001 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Vista Del Mar			Vista Del Mar			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	1	1	1.5	.5	1	
3:00 PM	5	81	69	27	122	1	3	5	4	73	4	18	412
3:15 PM	5	75	95	17	131	3	2	5	3	65	6	27	434
3:30 PM	2	83	93	21	120	8	3	3	0	66	5	20	424
3:45 PM	2	71	99	26	163	2	1	2	2	60	3	27	458
4:00 PM	1	72	99	37	197	2	3	22	3	73	1	29	539
4:15 PM	3	75	74	25	183	1	2	10	1	93	9	23	499
4:30 PM	3	71	72	25	175	2	0	4	1	97	5	31	486
4:45 PM	3	89	59	40	200	2	0	4	3	102	1	22	525
5:00 PM	0	89	69	28	197	3	5	1	0	115	9	30	546
5:15 PM	0	103	69	37	258	6	4	2	2	102	4	30	617
5:30 PM	4	106	54	21	284	5	1	6	5	111	12	37	646
5:45 PM	2	94	45	20	244	4	1	3	2	128	11	38	592
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	30	1009	897	324	2274	39	25	67	26	1085	70	332	6178
APPROACH %'s :	1.55%	52.12%	46.33%	12.29%	86.23%	1.48%	21.19%	56.78%	22.03%	72.97%	4.71%	22.33%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	6	392	237	106	983	18	11	12	9	456	36	135	2401
PEAK HR FACTOR :		0.923			0.893			0.667			0.886		0.929

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_002 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Pershing Dr			Pershing Dr			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	2	0	1	2	2	0	1	2	1	
7:00 AM	0	0	0	149	2	14	21	75	1	2	59	210	533
7:15 AM	0	0	0	145	0	22	33	72	0	4	62	229	567
7:30 AM	1	0	1	198	1	29	47	61	1	0	61	272	672
7:45 AM	0	0	0	145	1	38	43	105	0	1	54	263	650
8:00 AM	0	1	1	148	0	17	45	92	0	0	60	187	551
8:15 AM	1	0	1	136	0	24	62	85	0	2	58	205	574
8:30 AM	0	0	1	128	0	31	58	77	2	0	58	146	501
8:45 AM	1	0	0	121	0	33	54	100	0	0	43	147	499
9:00 AM	1	1	0	117	1	19	28	97	0	0	55	184	503
9:15 AM	0	0	0	100	0	17	36	67	1	1	60	194	476
9:30 AM	0	1	0	90	0	16	27	64	4	0	50	149	401
9:45 AM	0	0	0	85	0	19	25	54	0	0	52	151	386
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	3	4	1562	5	279	479	949	9	10	672	2337	6313
APPROACH %'s :	36.36%	27.27%	36.36%	84.62%	0.27%	15.11%	33.33%	66.04%	0.63%	0.33%	22.26%	77.41%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	1	3	627	2	108	197	343	1	3	233	927	2447
PEAK HR FACTOR :	0.750			0.808			0.914			0.873			0.910

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_002 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Pershing Dr			Pershing Dr			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	2	0	1	2	2	0	1	2	1	
3:00 PM	1	0	0	162	0	28	28	77	1	0	64	137	498
3:15 PM	0	0	1	157	0	36	19	103	0	0	65	128	509
3:30 PM	2	0	1	165	0	35	27	101	1	0	55	136	523
3:45 PM	3	0	4	144	0	35	28	93	0	0	54	108	469
4:00 PM	0	1	3	194	0	37	37	134	1	0	68	115	590
4:15 PM	1	1	0	177	0	40	19	77	0	1	76	97	489
4:30 PM	0	2	2	152	0	44	21	85	0	0	89	121	516
4:45 PM	0	0	0	106	0	40	26	78	0	0	99	125	474
5:00 PM	1	0	1	156	1	50	26	72	0	0	100	125	532
5:15 PM	0	1	1	143	0	46	30	81	0	0	93	152	547
5:30 PM	0	0	2	126	0	45	26	58	0	1	110	139	507
5:45 PM	0	0	0	171	0	61	24	46	1	0	117	125	545
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	5	15	1853	1	497	311	1005	4	2	990	1508	6199
APPROACH %'s :	28.57%	17.86%	53.57%	78.82%	0.04%	21.14%	23.56%	76.14%	0.30%	0.08%	39.60%	60.32%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	1	4	596	1	202	106	257	1	1	420	541	2131
PEAK HR FACTOR :		0.750			0.861			0.820			0.962		0.974

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_003 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Main St			Main St			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	.5	1	0	1	0	0	2	1	2	2	0	
7:00 AM	55	0	105	1		0		193	26	84	214	1	679
7:15 AM	62	0	128	0		0		176	28	104	239	0	737
7:30 AM	77	1	158	0		1		232	48	136	250	2	905
7:45 AM	82	0	135	0		0		220	30	76	237	0	780
8:00 AM	80	0	148	1		0		180	52	93	173	3	730
8:15 AM	78	0	120	0		1		184	49	82	193	0	707
8:30 AM	55	0	140	0		0		174	28	75	160	0	632
8:45 AM	47	0	122	0		0		176	49	99	139	0	632
9:00 AM	52	0	123	0		0		185	33	65	181	0	639
9:15 AM	47	0	94	0		0		141	23	76	199	1	581
9:30 AM	44	0	102	1		0		123	29	63	167	0	529
9:45 AM	43	0	80	1		0		123	22	76	148	0	493
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	722	1	1455	4	0	2	0	2107	417	1029	2300	7	8044
APPROACH %'s :	33.15%	0.05%	66.80%	66.67%	0.00%	33.33%	0.00%	83.48%	16.52%	30.85%	68.94%	0.21%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	301	1	569	1	0	1	0	808	158	409	899	5	3152
PEAK HR FACTOR :		0.923			0.500			0.863			0.846		0.871

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_003 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Main St			Main St			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	.5	1	0	1	0	0	2	1	2	2	0	
3:00 PM	45	0	107	0		0		185	53	82	161	0	633
3:15 PM	32	0	67	0		0		219	41	91	154	0	604
3:30 PM	43	0	84	0		0		222	48	88	148	0	633
3:45 PM	37	0	78	0		0		187	47	85	125	2	561
4:00 PM	31	0	111	2		0		269	67	123	163	0	766
4:15 PM	30	0	87	1		0		202	62	103	134	1	620
4:30 PM	39	0	97	2		0		190	60	122	170	0	680
4:45 PM	38	0	87	0		0		142	51	112	171	0	601
5:00 PM	55	0	113	0		0		142	62	139	175	0	686
5:15 PM	45	0	79	0		0		167	77	105	193	0	666
5:30 PM	45	0	89	0		1		119	69	148	203	0	674
5:45 PM	41	2	73	0		1		127	83	149	202	0	678
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	481	2	1072	5	0	2	0	2171	720	1347	1999	3	7802
APPROACH %'s :	30.93%	0.13%	68.94%	71.43%	0.00%	28.57%	0.00%	75.10%	24.90%	40.22%	59.69%	0.09%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	186	2	354	0	0	2	0	555	291	541	773	0	2704
PEAK HR FACTOR :	0.807			0.500			0.867			0.936			0.985

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_004 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Sepulveda Blvd			Sepulveda Blvd			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	1	2	4	0	2	3	1	2	3	1	
7:00 AM	18	310	146	64	360	1	42	40	19	27	36	70	1133
7:15 AM	21	403	182	68	521	5	42	52	28	44	52	80	1498
7:30 AM	26	367	167	71	485	4	62	59	45	44	62	86	1478
7:45 AM	19	372	170	95	648	5	56	95	38	35	41	97	1671
8:00 AM	20	391	166	72	615	4	46	63	36	46	43	78	1580
8:15 AM	20	420	149	89	610	9	64	64	34	40	60	67	1626
8:30 AM	18	429	157	92	648	5	48	52	42	33	47	76	1647
8:45 AM	17	384	130	99	628	1	69	58	50	44	46	76	1602
9:00 AM	15	342	158	82	596	6	56	46	32	27	30	60	1450
9:15 AM	17	341	143	71	498	9	45	49	37	33	46	62	1351
9:30 AM	24	282	163	72	506	7	41	44	24	29	32	63	1287
9:45 AM	18	276	125	63	492	7	31	27	45	34	40	62	1220
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	233	4317	1856	938	6607	63	602	649	430	436	535	877	17543
APPROACH %'s :	3.64%	67.39%	28.97%	12.33%	86.84%	0.83%	35.81%	38.61%	25.58%	23.59%	28.95%	47.46%	

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	77	1612	642	348	2521	23	214	274	150	154	191	318	6524
PEAK HR FACTOR :		0.965			0.967			0.844			0.958		0.976

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_004 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Sepulveda Blvd			Sepulveda Blvd			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	1	2	4	0	2	3	1	2	3	1	
3:00 PM	22	292	193	86	449	8	46	68	26	38	58	90	1376
3:15 PM	30	371	226	48	513	5	27	47	32	32	34	67	1432
3:30 PM	28	322	212	75	447	7	45	84	35	39	51	67	1412
3:45 PM	29	368	227	94	587	12	37	42	30	35	48	73	1582
4:00 PM	36	363	241	81	497	9	48	65	44	31	51	81	1547
4:15 PM	28	329	239	103	543	9	32	66	29	40	52	102	1572
4:30 PM	40	389	247	101	541	8	52	88	49	43	64	97	1719
4:45 PM	26	405	229	105	625	8	41	77	38	42	49	97	1742
5:00 PM	39	429	267	103	570	9	40	68	37	39	61	103	1765
5:15 PM	42	444	232	93	549	7	31	82	32	58	68	130	1768
5:30 PM	49	459	253	114	669	6	45	66	29	35	44	111	1880
5:45 PM	33	412	200	96	595	9	33	66	39	45	61	109	1698
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	402	4583	2766	1099	6585	97	477	819	420	477	641	1127	19493
APPROACH %'s :	5.19%	59.13%	35.69%	14.12%	84.63%	1.25%	27.80%	47.73%	24.48%	21.25%	28.55%	50.20%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	156	1737	981	415	2413	30	157	293	136	174	222	441	7155
PEAK HR FACTOR :		0.944			0.906			0.939			0.817		0.951

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_005 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Vista Del Mar			Vista Del Mar			Grand Ave			Grand Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	1.5	.5	1	
7:00 AM	0	232	23	12	54	1	0	0	0	14	0	26	362
7:15 AM	0	303	25	18	75	1	0	0	0	11	1	34	468
7:30 AM	1	321	26	21	79	2	1	1	1	22	2	40	517
7:45 AM	0	355	35	33	97	1	0	0	0	19	1	36	577
8:00 AM	0	393	30	20	72	2	0	0	1	12	3	32	565
8:15 AM	1	399	43	23	89	3	2	1	0	21	0	26	608
8:30 AM	0	349	33	26	89	1	0	0	0	22	0	28	548
8:45 AM	0	351	40	23	98	3	4	8	0	20	2	16	565
9:00 AM	1	247	30	21	92	0	1	2	0	18	1	19	432
9:15 AM	0	241	36	22	67	0	2	0	0	23	0	24	415
9:30 AM	0	203	25	18	75	0	1	1	1	20	2	17	363
9:45 AM	0	174	34	8	66	0	2	2	0	18	4	16	324
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	3568	380	245	953	14	13	15	3	220	16	314	5744
APPROACH %'s :	0.08%	90.31%	9.62%	20.21%	78.63%	1.16%	41.94%	48.39%	9.68%	40.00%	2.91%	57.09%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	1496	141	102	347	7	2	1	1	74	4	122	2298
PEAK HR FACTOR :		0.924			0.870			0.333			0.893		0.945

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_005 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Vista Del Mar			Vista Del Mar			Grand Ave			Grand Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	1.5	.5	1	
3:00 PM	1	108	32	17	171	1	3	2	0	22	3	15	375
3:15 PM	1	122	37	23	166	1	2	2	0	15	0	27	396
3:30 PM	1	122	16	31	159	1	1	1	0	21	0	26	379
3:45 PM	0	121	39	28	201	2	0	2	1	23	2	27	446
4:00 PM	0	111	31	31	229	0	1	1	0	36	0	15	455
4:15 PM	0	101	42	35	241	0	1	1	1	35	1	26	484
4:30 PM	0	111	29	33	247	0	2	1	0	27	2	20	472
4:45 PM	1	114	31	28	284	0	0	0	2	39	2	24	525
5:00 PM	0	108	42	29	269	0	0	0	0	41	1	35	525
5:15 PM	0	150	34	30	314	1	0	1	0	41	1	26	598
5:30 PM	1	123	33	50	343	2	1	3	0	32	0	41	629
5:45 PM	2	107	39	29	359	1	1	1	0	43	0	31	613
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	1398	405	364	2983	9	12	15	4	375	12	313	5897
APPROACH %'s :	0.39%	77.24%	22.38%	10.85%	88.89%	0.27%	38.71%	48.39%	12.90%	53.57%	1.71%	44.71%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	3	488	148	138	1285	4	2	5	0	157	2	133	2365
PEAK HR FACTOR :		0.868			0.903			0.438			0.948		0.940

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_006 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Main St			Main St			Grand Ave			Grand Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	2	0	0	2	0	
7:00 AM	7	22	4	21	29	12	7	22	12	4	22	14	176
7:15 AM	5	34	7	14	45	3	9	41	5	3	18	13	197
7:30 AM	14	45	6	23	37	14	8	49	8	2	21	21	248
7:45 AM	12	31	4	43	39	13	12	54	9	7	27	33	284
8:00 AM	10	32	6	34	36	12	13	57	12	8	29	47	296
8:15 AM	11	40	9	39	45	9	14	54	16	3	29	16	285
8:30 AM	11	42	3	20	41	15	10	60	10	6	27	18	263
8:45 AM	10	33	7	41	60	11	13	66	5	4	27	19	296
9:00 AM	24	38	12	38	45	18	15	42	18	4	23	21	298
9:15 AM	8	44	9	31	29	16	13	48	16	3	34	27	278
9:30 AM	5	34	12	32	32	12	9	34	10	6	22	24	232
9:45 AM	11	30	11	24	31	19	11	41	12	2	41	22	255
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	128	425	90	360	469	154	134	568	133	52	320	275	3108
APPROACH %'s :	19.91%	66.10%	14.00%	36.62%	47.71%	15.67%	16.05%	68.02%	15.93%	8.04%	49.46%	42.50%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	56	153	31	138	191	53	52	222	49	17	106	74	1142
PEAK HR FACTOR :		0.811			0.853			0.961			0.966		0.958

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_006 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Main St			Main St			Grand Ave			Grand Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	2	0	0	2	0	
3:00 PM	18	20	27	6	9	3	13	66	14	9	43	24	252
3:15 PM	21	28	14	7	10	3	12	52	13	9	40	24	233
3:30 PM	21	19	16	5	8	6	12	47	9	5	35	26	209
3:45 PM	25	31	16	10	8	8	13	58	16	13	46	21	265
4:00 PM	18	24	26	10	13	2	13	60	18	14	46	18	262
4:15 PM	22	35	20	11	11	3	13	63	11	10	41	15	255
4:30 PM	11	31	16	11	9	2	13	50	18	15	50	17	243
4:45 PM	29	30	17	7	5	3	13	39	10	8	53	21	235
5:00 PM	25	52	35	12	16	7	9	71	19	8	62	36	352
5:15 PM	22	56	22	7	15	5	5	72	20	14	63	22	323
5:30 PM	32	42	10	5	7	3	10	94	20	7	64	25	319
5:45 PM	24	35	13	10	12	4	16	46	17	8	64	17	266
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	268	403	232	101	123	49	142	718	185	120	607	266	3214
APPROACH %'s :	29.68%	44.63%	25.69%	37.00%	45.05%	17.95%	13.59%	68.71%	17.70%	12.08%	61.13%	26.79%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	103	185	80	34	50	19	40	283	76	37	253	100	1260
PEAK HR FACTOR :		0.821			0.736			0.804			0.920		0.895

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_007 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Sepulveda Blvd			Sepulveda Blvd			Grand Ave			Grand Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	4	1	1	4	0	1.5	1.5	0	2	2	1	
7:00 AM	22	569	65	33	227	19	14	11	14	7	11	12	1004
7:15 AM	27	507	61	68	260	32	38	28	12	9	12	13	1067
7:30 AM	29	598	77	74	313	45	36	33	19	5	12	12	1253
7:45 AM	26	567	120	78	279	57	48	43	17	7	17	13	1272
8:00 AM	18	546	109	108	317	68	51	51	24	9	15	13	1329
8:15 AM	33	648	115	99	310	40	38	32	26	13	16	11	1381
8:30 AM	24	539	105	107	348	42	40	35	25	7	15	17	1304
8:45 AM	21	570	123	101	339	49	37	48	23	9	17	10	1347
9:00 AM	19	473	98	82	280	32	40	52	19	8	15	12	1130
9:15 AM	12	473	71	83	319	48	27	30	18	14	11	13	1119
9:30 AM	26	402	48	49	321	33	37	33	26	5	17	16	1013
9:45 AM	21	336	42	60	348	33	26	21	22	15	13	17	954
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	278	6228	1034	942	3661	498	432	417	245	108	171	159	14173
APPROACH %'s :	3.69%	82.60%	13.71%	18.47%	71.77%	9.76%	39.49%	38.12%	22.39%	24.66%	39.04%	36.30%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	96	2303	452	415	1314	199	166	166	98	38	63	51	5361
PEAK HR FACTOR :		0.895			0.970			0.853			0.950		0.970

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_007 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Sepulveda Blvd			Sepulveda Blvd			Grand Ave			Grand Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	4	1	1	4	0	1.5	1.5	0	2	2	1	
3:00 PM	36	437	27	15	455	43	62	28	41	30	17	32	1223
3:15 PM	28	441	31	16	413	37	54	26	47	39	23	39	1194
3:30 PM	35	401	44	28	500	38	70	27	39	23	24	46	1275
3:45 PM	35	407	32	25	490	31	56	28	39	28	24	42	1237
4:00 PM	32	403	29	21	495	29	62	28	50	47	27	49	1272
4:15 PM	30	448	46	18	530	26	40	26	34	44	26	50	1318
4:30 PM	37	410	23	16	533	36	101	24	36	60	36	59	1371
4:45 PM	31	443	22	24	600	52	66	23	40	75	31	55	1462
5:00 PM	34	484	17	18	540	37	76	34	39	125	35	90	1529
5:15 PM	37	469	30	18	633	30	62	29	41	91	38	88	1566
5:30 PM	35	455	28	16	584	33	50	28	36	109	45	87	1506
5:45 PM	26	392	23	19	585	38	44	30	33	75	44	81	1390
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	396	5190	352	234	6358	430	743	331	475	746	370	718	16343
APPROACH %'s :	6.67%	87.40%	5.93%	3.33%	90.54%	6.12%	47.97%	21.37%	30.66%	40.68%	20.17%	39.15%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	137	1851	97	76	2357	152	254	114	156	400	149	320	6063
PEAK HR FACTOR :		0.972			0.949			0.879			0.869		0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_008 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

AM

NS/EW Streets:	Highland Ave			Highland Ave			Rosecrans Ave			Rosecrans Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	1	1	1	
7:00 AM	1	155	21	25	39	7	24	10	0	16	5	81	384
7:15 AM	0	191	13	32	47	1	14	18	1	14	5	99	435
7:30 AM	1	184	18	46	57	2	29	17	4	15	4	120	497
7:45 AM	0	189	13	63	57	2	25	34	0	15	6	141	545
8:00 AM	4	178	14	49	59	6	59	29	5	19	16	151	589
8:15 AM	3	166	13	45	61	5	92	28	3	25	10	138	589
8:30 AM	2	179	17	58	59	6	69	23	2	26	13	111	565
8:45 AM	1	178	20	62	75	8	41	28	5	18	8	132	576
9:00 AM	0	131	17	52	70	3	24	34	2	26	14	123	496
9:15 AM	0	140	20	45	61	5	21	22	5	16	5	94	434
9:30 AM	4	134	14	38	52	3	18	24	3	22	18	69	399
9:45 AM	0	99	28	30	57	1	13	18	2	39	11	76	374
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	16	1924	208	545	694	49	429	285	32	251	115	1335	5883
APPROACH %'s :	0.74%	89.57%	9.68%	42.31%	53.88%	3.80%	57.51%	38.20%	4.29%	14.76%	6.76%	78.48%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	10	701	64	214	254	25	261	108	15	88	47	532	2319
PEAK HR FACTOR :		0.974			0.850			0.780			0.897		0.984

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5212_008 **Day:** THURSDAY

City: City of Los Angeles **Date:** 6/9/2011

PM

NS/EW Streets:	Highland Ave			Highland Ave			Rosecrans Ave			Rosecrans Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	1	1	1	
3:00 PM	3	93	33	58	115	12	13	18	3	30	14	52	444
3:15 PM	3	82	25	73	123	4	8	14	7	39	18	63	459
3:30 PM	2	75	25	74	100	8	9	18	1	25	18	53	408
3:45 PM	0	82	25	76	134	12	8	26	3	33	17	66	482
4:00 PM	0	73	34	95	152	6	8	16	4	31	18	62	499
4:15 PM	4	74	26	96	162	9	5	21	2	37	11	55	502
4:30 PM	3	69	22	104	180	9	11	16	5	41	18	56	534
4:45 PM	3	81	17	98	199	13	12	18	5	33	18	69	566
5:00 PM	0	77	16	84	179	13	9	27	4	50	24	85	568
5:15 PM	2	89	26	122	182	15	11	18	3	59	23	99	649
5:30 PM	2	89	22	122	173	19	13	19	2	60	30	91	642
5:45 PM	1	92	29	119	177	18	2	31	9	56	35	82	651
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	23	976	300	1121	1876	138	109	242	48	494	244	833	6404
APPROACH %'s :	1.77%	75.13%	23.09%	35.76%	59.84%	4.40%	27.32%	60.65%	12.03%	31.44%	15.53%	53.02%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	5	347	93	447	711	65	35	95	18	225	112	357	2510
PEAK HR FACTOR :		0.912			0.958			0.881			0.959		0.964

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-001
N/S Street: Vista Del Mar
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	4
NOON	0
PM	6

1	AM
0	NOON
2	PM

AM	NOON	PM
0	0	3

NORTH LEG

AM	NOON	PM
2	0	4

WEST LEG

EAST LEG

1	0	0
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	3

1	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-001
N/S Street: Vista Del Mar
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	7
NOON	0
PM	8

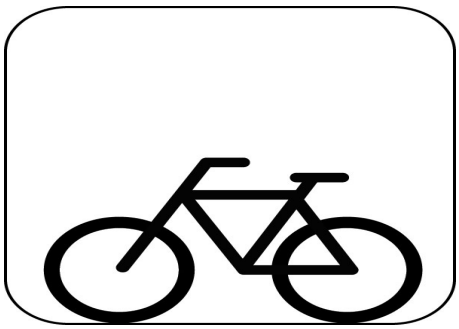
60	AM
0	NOON
48	PM

AM	NOON	PM
53	0	2

NORTH LEG

AM	NOON	PM
4	0	4

WEST LEG



EAST LEG

4	0	0
AM	NOON	PM

SOUTH LEG

0	0	5
AM	NOON	PM

AM	20
NOON	0
PM	6

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-002
N/S Street: Pershing Dr
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	1
NOON	0
PM	3

1	AM
0	NOON
0	PM

AM	NOON	PM
3	0	2

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG

EAST LEG

0	0	1
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	5
NOON	0
PM	15

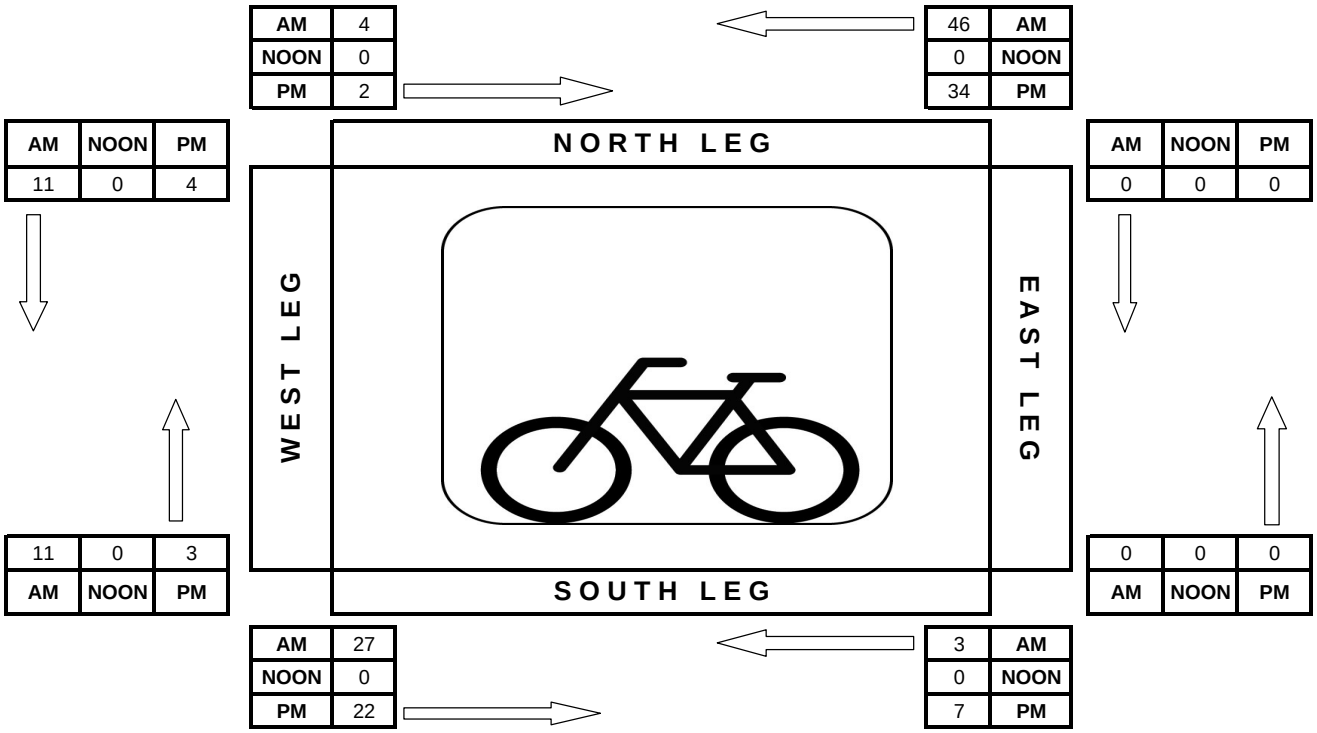
8	AM
0	NOON
4	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-002
N/S Street: Pershing Dr
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-003
N/S Street: Main St
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	3
NOON	0
PM	5

0	AM
0	NOON
0	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
7	0	11

WEST LEG

EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

6	0	2
AM	NOON	PM

AM	2
NOON	0
PM	1

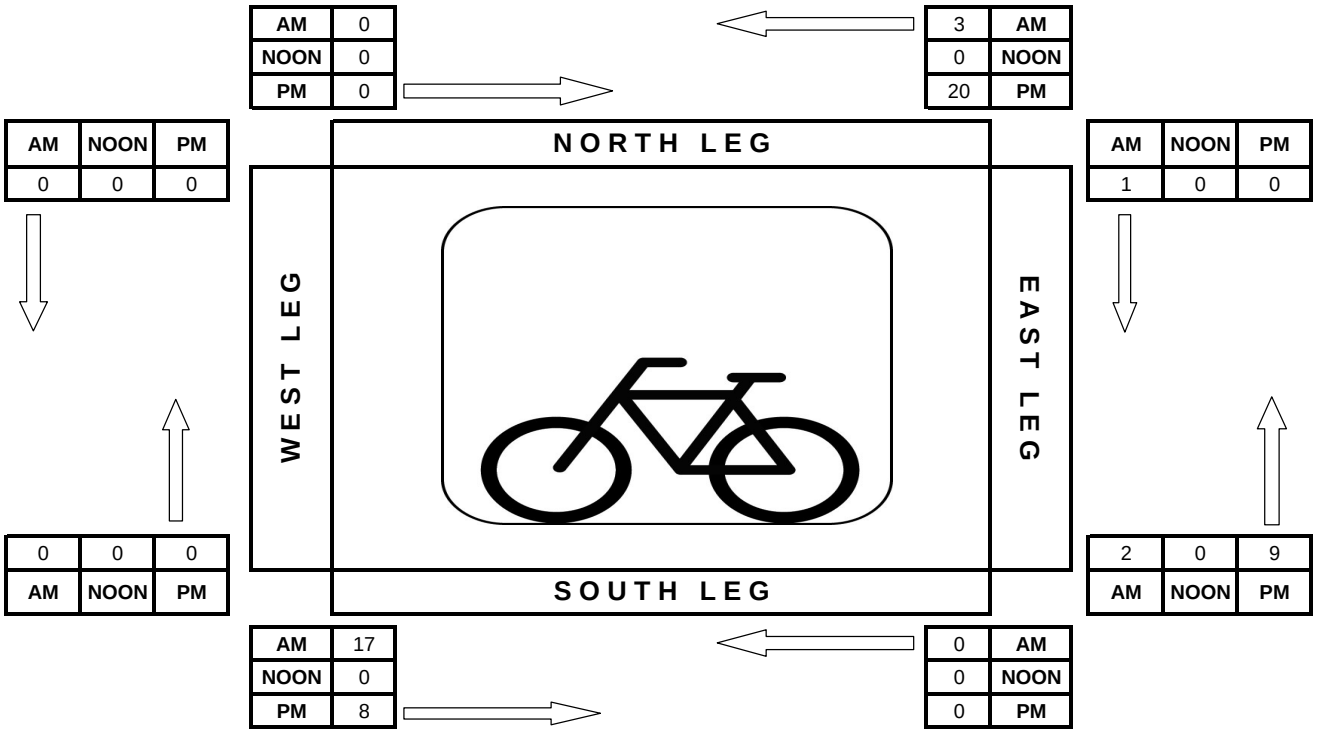
4	AM
0	NOON
4	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-003
N/S Street: Main St
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-004
N/S Street: Sepulveda Blvd
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

AM	NOON	PM
19	0	0

NORTH LEG

AM	NOON	PM
2	0	3

WEST LEG

EAST LEG

2	0	1
AM	NOON	PM

0	0	4
AM	NOON	PM

SOUTH LEG

AM	14
NOON	0
PM	25

16	AM
0	NOON
12	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-004
N/S Street: Sepulveda Blvd
E/W Street: Imperial Hwy
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	0
NOON	0
PM	0

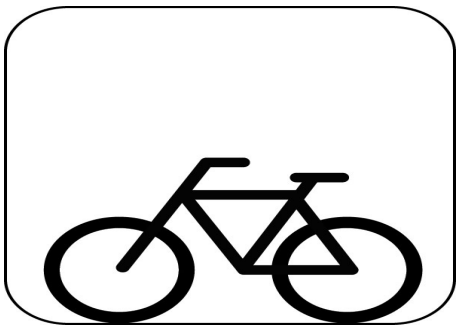
0	AM
0	NOON
0	PM

AM	NOON	PM
2	0	5

NORTH LEG

AM	NOON	PM
2	0	6

WEST LEG



EAST LEG

2	0	1
AM	NOON	PM

SOUTH LEG

1	0	0
AM	NOON	PM

AM	20
NOON	0
PM	11

3	AM
0	NOON
5	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-005
N/S Street: Vista Del Mar
E/W Street: Grand Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	38
NOON	0
PM	51

29	0	38
AM	NOON	PM

AM	NOON	PM
11	0	0

NORTH LEG

AM	NOON	PM
2	0	11

WEST LEG

EAST LEG

10	0	0
AM	NOON	PM

1	0	4
AM	NOON	PM

SOUTH LEG

AM	1
NOON	0
PM	0

2	0	0
AM	NOON	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-005
N/S Street: Vista Del Mar
E/W Street: Grand Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	14
NOON	0
PM	5

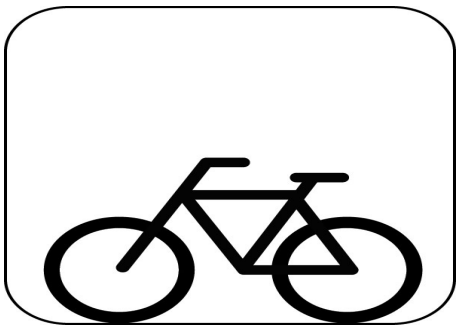
7	AM
0	NOON
13	PM

AM	NOON	PM
4	0	1

NORTH LEG

AM	NOON	PM
1	0	0

WEST LEG



EAST LEG

10	0	1
AM	NOON	PM

SOUTH LEG

5	0	0
AM	NOON	PM

AM	27
NOON	0
PM	12

9	AM
0	NOON
25	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-006
N/S Street: Main St
E/W Street: Grand Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	31
NOON	0
PM	46

24	AM
0	NOON
46	PM

AM	NOON	PM
17	0	69

NORTH LEG

AM	NOON	PM
15	0	51

WEST LEG

EAST LEG

18	0	61
AM	NOON	PM

SOUTH LEG

21	0	64
AM	NOON	PM

AM	24
NOON	0
PM	34

15	AM
0	NOON
35	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-006
N/S Street: Main St
E/W Street: Grand Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	0
NOON	0
PM	5

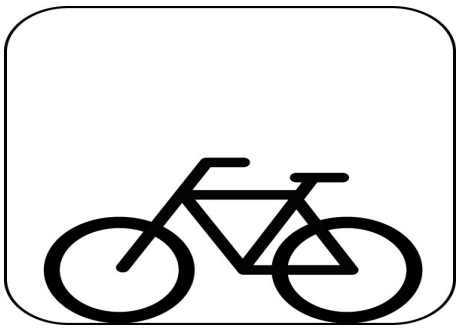
7	AM
0	NOON
12	PM

AM	NOON	PM
1	0	0

NORTH LEG

AM	NOON	PM
0	0	1

WEST LEG



EAST LEG

1	0	1
AM	NOON	PM

SOUTH LEG

3	0	6
AM	NOON	PM

AM	28
NOON	0
PM	16

2	AM
0	NOON
2	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-007
N/S Street: Sepulveda Blvd
E/W Street: Grand Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	54
NOON	0
PM	97

90	AM
0	NOON
88	PM

AM	NOON	PM
19	0	10

NORTH LEG

AM	NOON	PM
43	0	115

WEST LEG

EAST LEG

20	0	21
AM	NOON	PM

SOUTH LEG

143	0	66
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-007
N/S Street: Sepulveda Blvd
E/W Street: Grand Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	8
NOON	0
PM	8

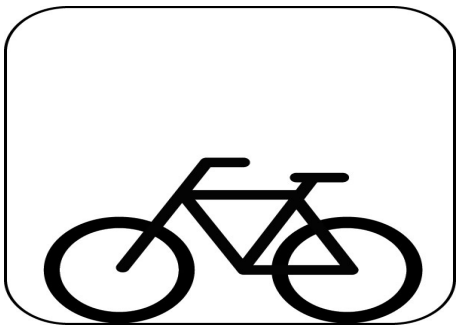
2	AM
0	NOON
1	PM

AM	NOON	PM
1	0	0

NORTH LEG

AM	NOON	PM
1	0	3

WEST LEG



EAST LEG

2	0	1
AM	NOON	PM

SOUTH LEG

1	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-008
N/S Street: Highland Ave
E/W Street: Rosecrans Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	21
NOON	0
PM	33

23	AM
0	NOON
37	PM

AM	NOON	PM
15	0	41

NORTH LEG

AM	NOON	PM
36	0	101

WEST LEG

EAST LEG

15	0	27
AM	NOON	PM

SOUTH LEG

28	0	31
AM	NOON	PM

AM	28
NOON	0
PM	33

25	AM
0	NOON
50	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5212-008
N/S Street: Highland Ave
E/W Street: Rosecrans Ave
DATE: 6/9/2011 DAY: Thursday
CITY: Los Angeles

AM	1
NOON	0
PM	0

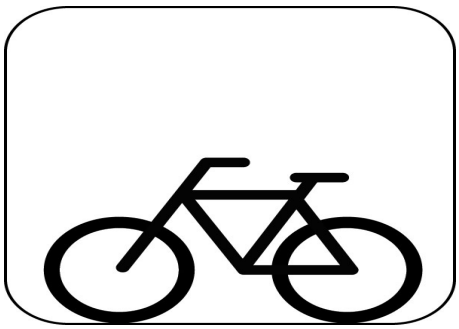
2	AM
0	NOON
1	PM

AM	NOON	PM
27	0	2

NORTH LEG

AM	NOON	PM
1	0	1

WEST LEG



EAST LEG

0	0	4
AM	NOON	PM

SOUTH LEG

4	0	3
AM	NOON	PM

AM	18
NOON	0
PM	5

1	AM
0	NOON
6	PM

Prepared by NDS/ATD

VOLUME

Imperial Hwy btwn Vista Del Mar & Pershing Dr

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,343	6,542	12,885

AM Period	NB	SB	EB		WB		TOTAL	
00:00			18		20		38	
00:15			15		14		29	
00:30			13		16		29	
00:45			16	62	15	65	31	127
01:00			5		12		17	
01:15			9		5		14	
01:30			7		5		12	
01:45			7	28	2	24	9	52
02:00			7		6		13	
02:15			4		6		10	
02:30			5		3		8	
02:45			1	17	7	22	8	39
03:00			14		6		20	
03:15			9		6		15	
03:30			4		2		6	
03:45			7	34	5	19	12	53
04:00			9		4		13	
04:15			11		8		19	
04:30			14		13		27	
04:45			14	48	19	44	33	92
05:00			24		16		40	
05:15			22		38		60	
05:30			38		55		93	
05:45			37	121	70	179	107	300
06:00			54		110		164	
06:15			65		122		187	
06:30			61		88		149	
06:45			77	257	103	423	180	680
07:00			90		69		159	
07:15			102		73		175	
07:30			107		93		200	
07:45			146	445	87	322	233	767
08:00			135		71		206	
08:15			155		80		235	
08:30			132		83		215	
08:45			149	571	72	306	221	877
09:00			114		74		188	
09:15			105		72		177	
09:30			96		70		166	
09:45			76	391	62	278	138	669
10:00			72		62		134	
10:15			84		60		144	
10:30			84		66		150	
10:45			61	301	85	273	146	574
11:00			73		79		152	
11:15			85		63		148	
11:30			83		82		165	
11:45			77	318	97	321	174	639
TOTALS				2593		2276		**4869**
SPLIT %				53.3%		46.7%		**37.8%**

PM Period	NB	SB	EB		WB		TOTAL	
12:00			78		92		170	
12:15			77		92		169	
12:30			75		75		150	
12:45			81	311	87	346	168	657
13:00			78		101		179	
13:15			101		96		197	
13:30			85		89		174	
13:45			94	358	82	368	176	726
14:00			89		66		155	
14:15			104		83		187	
14:30			75		90		165	
14:45			72	340	93	332	165	672
15:00			104		89		193	
15:15			121		97		218	
15:30			120		87		207	
15:45			114	459	93	366	207	825
16:00			183		103		286	
16:15			94		123		217	
16:30			100		131		231	
16:45			94	471	127	484	221	955
17:00			96		166		262	
17:15			107		136		243	
17:30			80		164		244	
17:45			68	351	174	640	242	991
18:00			66		134		200	
18:15			81		114		195	
18:30			82		147		229	
18:45			67	296	111	506	178	802
19:00			70		119		189	
19:15			67		91		158	
19:30			73		108		181	
19:45			79	289	86	404	165	693
20:00			66		78		144	
20:15			72		65		137	
20:30			67		58		125	
20:45			67	272	62	263	129	535
21:00			72		53		125	
21:15			48		64		112	
21:30			60		72		132	
21:45			81	261	52	241	133	502
22:00			79		83		162	
22:15			55		43		98	
22:30			58		40		98	
22:45			31	223	34	200	65	423
23:00			36		35		71	
23:15			26		24		50	
23:30			26		27		53	
23:45			31	119	30	116	61	235
TOTALS				3750		4266		**8016**
SPLIT %				46.8%		53.2%		**62.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,343	6,542	12,885

AM Peak Hour			08:00	06:00	**07:45**	**PM Peak Hour**			15:15	17:00	**17:00**
AM Pk Volume			571	423	**889**	**PM Pk Volume**			538	640	**991**
Pk Hr Factor			0.921	0.867	**0.946**	**Pk Hr Factor**			0.735	0.920	**0.946**
7 - 9 Volume	0	0	1016	628	**1644**	**4 - 6 Volume**	0	0	822	1124	**1946**
7 - 9 Peak Hour			08:00	07:30	**07:45**	**4 - 6 Peak Hour**			16:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	571	331	**889**	**4 - 6 Pk Volume**	0	0	471	640	**991**
Pk Hr Factor	0.000	0.000	0.921	0.890	**0.946**	**Pk Hr Factor**	0.000	0.000	0.643	0.920	**0.946**

Prepared by NDS/ATD

VOLUME

Imperial Hwy btwn Pershing Dr & Main St

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	13,845	15,459	29,304

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			52		20		72		12:00			171		170		341	
00:15			49		32		81		12:15			183		185		368	
00:30			67		31		98		12:30			171		183		354	
00:45			48	216	23	106	71	322	12:45			204	729	245	783	449	1512
01:00			56		21		77		13:00			195		226		421	
01:15			34		19		53		13:15			202		243		445	
01:30			34		12		46		13:30			265		198		463	
01:45			18	142	11	63	29	205	13:45			247	909	191	858	438	1767
02:00			39		14		53		14:00			306		148		454	
02:15			17		24		41		14:15			263		170		433	
02:30			17		10		27		14:30			256		177		433	
02:45			16	89	20	68	36	157	14:45			254	1079	209	704	463	1783
03:00			25		17		42		15:00			232		186		418	
03:15			17		38		55		15:15			271		185		456	
03:30			14		48		62		15:30			267		176		443	
03:45			25	81	50	153	75	234	15:45			222	992	168	715	390	1707
04:00			11		50		61		16:00			338		194		532	
04:15			16		74		90		16:15			277		183		460	
04:30			29		113		142		16:30			240		202		442	
04:45			30	86	134	371	164	457	16:45			195	1050	217	796	412	1846
05:00			50		169		219		17:00			224		226		450	
05:15			48		203		251		17:15			223		254		477	
05:30			64		193		257		17:30			192		259		451	
05:45			73	235	239	804	312	1039	17:45			219	858	238	977	457	1835
06:00			115		233		348		18:00			195		232		427	
06:15			136		271		407		18:15			192		227		419	
06:30			144		254		398		18:30			169		224		393	
06:45			153	548	272	1030	425	1578	18:45			150	706	191	874	341	1580
07:00			215		247		462		19:00			135		218		353	
07:15			202		294		496		19:15			130		179		309	
07:30			251		309		560		19:30			140		169		309	
07:45			252	920	307	1157	559	2077	19:45			127	532	176	742	303	1274
08:00			223		240		463		20:00			99		164		263	
08:15			231		266		497		20:15			110		137		247	
08:30			201		210		411		20:30			113		153		266	
08:45			228	883	184	900	412	1783	20:45			115	437	152	606	267	1043
09:00			218		243		461		21:00			110		136		246	
09:15			176		278		454		21:15			102		176		278	
09:30			170		207		377		21:30			113		171		284	
09:45			150	714	224	952	374	1666	21:45			125	450	131	614	256	1064
10:00			194		174		368		22:00			200		122		322	
10:15			166		195		361		22:15			99		98		197	
10:30			175		196		371		22:30			116		84		200	
10:45			169	704	186	751	355	1455	22:45			96	511	74	378	170	889
11:00			160		192		352		23:00			81		62		143	
11:15			168		209		377		23:15			56		47		103	
11:30			210		227		437		23:30			74		67		141	
11:45			171	709	212	840	383	1549	23:45			54	265	41	217	95	482
TOTALS				5327		7195		12522	TOTALS				8518		8264		16782
SPLIT %				42.5%		57.5%		42.7%	SPLIT %				50.8%		49.2%		57.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	13,845	15,459	29,304

AM Peak Hour			07:30	07:00	07:30	PM Peak Hour			15:30	17:15	16:00
AM Pk Volume			957	1157	2079	PM Pk Volume			1104	983	1846
Pk Hr Factor			0.949	0.936	0.928	Pk Hr Factor			0.817	0.949	0.867
7 - 9 Volume	0	0	1803	2057	3860	4 - 6 Volume	0	0	1908	1773	3681
7 - 9 Peak Hour			07:30	07:00	07:30	4 - 6 Peak Hour			16:00	17:00	16:00
7 - 9 Pk Volume	0	0	957	1157	2079	4 - 6 Pk Volume	0	0	1050	977	1846
Pk Hr Factor	0.000	0.000	0.949	0.936	0.928	Pk Hr Factor	0.000	0.000	0.777	0.943	0.867

Prepared by NDS/ATD

VOLUME

Imperial Hwy btwn Main St & California St

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,585	19,214	36,799

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			66		43		109		12:00			219		258		477	
00:15			69		58		127		12:15			238		230		468	
00:30			94		46		140		12:30			212		258		470	
00:45			63	292	47	194	110	486	12:45			261	930	299	1045	560	1975
01:00			62		28		90		13:00			236		287		523	
01:15			46		30		76		13:15			251		293		544	
01:30			36		19		55		13:30			314		250		564	
01:45			32	176	22	99	54	275	13:45			348	1149	245	1075	593	2224
02:00			47		26		73		14:00			372		216		588	
02:15			27		29		56		14:15			302		236		538	
02:30			25		17		42		14:30			300		267		567	
02:45			24	123	19	91	43	214	14:45			322	1296	269	988	591	2284
03:00			24		27		51		15:00			275		253		528	
03:15			27		45		72		15:15			300		255		555	
03:30			26		53		79		15:30			338		209		547	
03:45			37	114	68	193	105	307	15:45			242	1155	229	946	471	2101
04:00			17		62		79		16:00			391		255		646	
04:15			23		91		114		16:15			300		271		571	
04:30			47		140		187		16:30			318		287		605	
04:45			53	140	190	483	243	623	16:45			243	1252	272	1085	515	2337
05:00			99		184		283		17:00			297		296		593	
05:15			72		244		316		17:15			230		299		529	
05:30			107		278		385		17:30			214		318		532	
05:45			133	411	340	1046	473	1457	17:45			209	950	309	1222	518	2172
06:00			164		278		442		18:00			245		279		524	
06:15			209		311		520		18:15			180		275		455	
06:30			208		322		530		18:30			178		271		449	
06:45			240	821	302	1213	542	2034	18:45			146	749	252	1077	398	1826
07:00			270		287		557		19:00			165		255		420	
07:15			295		347		642		19:15			158		235		393	
07:30			336		398		734		19:30			181		200		381	
07:45			365	1266	320	1352	685	2618	19:45			167	671	202	892	369	1563
08:00			313		267		580		20:00			141		183		324	
08:15			295		283		578		20:15			134		178		312	
08:30			311		250		561		20:30			141		182		323	
08:45			297	1216	244	1044	541	2260	20:45			149	565	171	714	320	1279
09:00			300		294		594		21:00			145		164		309	
09:15			228		302		530		21:15			154		218		372	
09:30			242		251		493		21:30			136		226		362	
09:45			225	995	233	1080	458	2075	21:45			156	591	167	775	323	1366
10:00			243		188		431		22:00			225		163		388	
10:15			210		209		419		22:15			122		118		240	
10:30			243		214		457		22:30			142		113		255	
10:45			198	894	233	844	431	1738	22:45			114	603	100	494	214	1097
11:00			209		213		422		23:00			93		87		180	
11:15			217		221		438		23:15			76		64		140	
11:30			254		248		502		23:30			87		93		180	
11:45			230	910	280	962	510	1872	23:45			60	316	56	300	116	616
TOTALS				7358		8601		**15959**	**TOTALS**				10227		10613		**20840**
SPLIT %				46.1%		53.9%		**43.4%**	**SPLIT %**				49.1%		50.9%		**56.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,585	19,214	36,799

AM Peak Hour			07:15	07:00	**07:15**	**PM Peak Hour**			13:30	17:00	**16:00**
AM Pk Volume			1309	1352	**2641**	**PM Pk Volume**			1336	1222	**2337**
Pk Hr Factor			0.897	0.849	**0.900**	**Pk Hr Factor**			0.898	0.961	**0.904**
7 - 9 Volume	0	0	2482	2396	**4878**	**4 - 6 Volume**	0	0	2202	2307	**4509**
7 - 9 Peak Hour			07:15	07:00	**07:15**	**4 - 6 Peak Hour**			16:00	17:00	**16:00**
7 - 9 Pk Volume	0	0	1309	1352	**2641**	**4 - 6 Pk Volume**	0	0	1252	1222	**2337**
Pk Hr Factor	0.000	0.000	0.897	0.849	**0.900**	**Pk Hr Factor**	0.000	0.000	0.801	0.961	**0.904**

Prepared by NDS/ATD

VOLUME

Vista Del Mar btwn Imperial Hwy & Grand Ave

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_004

DAILY TOTALS	NB	SB	EB	WB	Total
	11,086	10,771	0	0	21,857

AM Period	NB		SB		EB		WB		TOTAL	
00:00	23		25						48	
00:15	20		32						52	
00:30	12		22						34	
00:45	10	65	19	98					29	163
01:00	11		7						18	
01:15	11		7						18	
01:30	9		8						17	
01:45	4	35	5	27					9	62
02:00	5		7						12	
02:15	4		4						8	
02:30	6		3						9	
02:45	1	16	6	20					7	36
03:00	17		7						24	
03:15	10		3						13	
03:30	2		2						4	
03:45	2	31	3	15					5	46
04:00	8		1						9	
04:15	13		4						17	
04:30	21		11						32	
04:45	19	61	13	29					32	90
05:00	30		18						48	
05:15	36		28						64	
05:30	68		40						108	
05:45	77	211	45	131					122	342
06:00	108		49						157	
06:15	154		71						225	
06:30	165		58						223	
06:45	199	626	82	260					281	886
07:00	255		71						326	
07:15	325		91						416	
07:30	349		107						456	
07:45	384	1313	129	398					513	1711
08:00	417		95						512	
08:15	406		118						524	
08:30	356		129						485	
08:45	358	1537	132	474					490	2011
09:00	274		118						392	
09:15	256		90						346	
09:30	214		97						311	
09:45	191	935	78	383					269	1318
10:00	174		86						260	
10:15	149		76						225	
10:30	160		87						247	
10:45	118	601	90	339					208	940
11:00	115		108						223	
11:15	141		110						251	
11:30	133		110						243	
11:45	133	522	141	469					274	991
TOTALS		5953		2643						8596
SPLIT %		69.3%		30.7%						39.3%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	130		131						261	
12:15	133		117						250	
12:30	138		108						246	
12:45	110	511	115	471					225	982
13:00	135		107						242	
13:15	141		118						259	
13:30	135		135						270	
13:45	123	534	109	469					232	1003
14:00	131		111						242	
14:15	131		145						276	
14:30	123		139						262	
14:45	125	510	186	581					311	1091
15:00	141		185						326	
15:15	161		182						343	
15:30	167		181						348	
15:45	123	592	229	777					352	1369
16:00	118		260						378	
16:15	127		272						399	
16:30	133		275						408	
16:45	128	506	312	1119					440	1625
17:00	148		304						452	
17:15	173		349						522	
17:30	157		397						554	
17:45	131	609	382	1432					513	2041
18:00	155		358						513	
18:15	158		311						469	
18:30	147		269						416	
18:45	130	590	256	1194					386	1784
19:00	96		265						361	
19:15	116		219						335	
19:30	104		192						296	
19:45	117	433	172	848					289	1281
20:00	88		134						222	
20:15	65		104						169	
20:30	75		90						165	
20:45	82	310	91	419					173	729
21:00	69		102						171	
21:15	66		95						161	
21:30	58		94						152	
21:45	58	251	69	360					127	611
22:00	51		100						151	
22:15	36		81						117	
22:30	33		71						104	
22:45	35	155	57	309					92	464
23:00	34		47						81	
23:15	31		33						64	
23:30	34		37						71	
23:45	33	132	32	149					65	281
TOTALS		5133		8128						13261
SPLIT %		38.7%		61.3%						60.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	11,086	10,771	0	0	21,857

AM Peak Hour	07:45	11:30			07:45	PM Peak Hour	17:15	17:15			17:15
AM Pk Volume	1563	499			2034	PM Pk Volume	616	1486			2102
Pk Hr Factor	0.937	0.885			0.970	Pk Hr Factor	0.890	0.936			0.949
7 - 9 Volume	2850	872	0	0	3722	4 - 6 Volume	1115	2551	0	0	3666
7 - 9 Peak Hour	07:45	08:00			07:45	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	1563	474	0	0	2034	4 - 6 Pk Volume	609	1432	0	0	2041
Pk Hr Factor	0.937	0.898	0.000	0.000	0.970	Pk Hr Factor	0.880	0.902	0.000	0.000	0.921

Prepared by NDS/ATD

VOLUME

Vista Del Mar s/o Grand Ave

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_005

DAILY TOTALS	NB	SB	EB	WB	Total
	11,436	10,881	0	0	22,317

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	22		27						49		12:00	135		136						271	
00:15	18		22						40		12:15	140		116						256	
00:30	23		14						37		12:30	143		109						252	
00:45	11	74	16	79					27	153	12:45	122	540	121	482					243	1022
01:00	13		8						21		13:00	143		101						244	
01:15	10		8						18		13:15	152		127						279	
01:30	10		11						21		13:30	143		131						274	
01:45	6	39	7	34					13	73	13:45	125	563	126	485					251	1048
02:00	5		10						15		14:00	139		114						253	
02:15	5		3						8		14:15	134		157						291	
02:30	5		4						9		14:30	128		151						279	
02:45	1	16	6	23					7	39	14:45	124	525	189	611					313	1136
03:00	4		7						11		15:00	140		184						324	
03:15	3		3						6		15:15	138		186						324	
03:30	3		1						4		15:30	138		182						320	
03:45	2	12	2	13					4	25	15:45	144	560	223	775					367	1335
04:00	8		1						9		16:00	139		266						405	
04:15	12		2						14		16:15	130		269						399	
04:30	22		7						29		16:30	141		285						426	
04:45	18	60	6	16					24	76	16:45	140	550	308	1128					448	1678
05:00	27		12						39		17:00	149		310						459	
05:15	33		24						57		17:15	189		338						527	
05:30	65		25						90		17:30	151		388						539	
05:45	78	203	25	86					103	289	17:45	144	633	398	1434					542	2067
06:00	99		42						141		18:00	142		375						517	
06:15	147		71						218		18:15	159		347						506	
06:30	159		58						217		18:30	152		314						466	
06:45	208	613	83	254					291	867	18:45	130	583	275	1311					405	1894
07:00	252		75						327		19:00	105		278						383	
07:15	319		82						401		19:15	109		206						315	
07:30	362		104						466		19:30	98		202						300	
07:45	374	1307	135	396					509	1703	19:45	120	432	166	852					286	1284
08:00	433		89						522		20:00	94		140						234	
08:15	444		104						548		20:15	69		107						176	
08:30	366		107						473		20:30	80		94						174	
08:45	397	1640	122	422					519	2062	20:45	83	326	98	439					181	765
09:00	291		113						404		21:00	84		104						188	
09:15	277		92						369		21:15	68		90						158	
09:30	223		87						310		21:30	61		95						156	
09:45	200	991	88	380					288	1371	21:45	55	268	70	359					125	627
10:00	176		99						275		22:00	57		106						163	
10:15	168		80						248		22:15	38		68						106	
10:30	163		92						255		22:30	43		81						124	
10:45	133	640	82	353					215	993	22:45	36	174	58	313					94	487
11:00	125		116						241		23:00	35		42						77	
11:15	147		108						255		23:15	33		37						70	
11:30	148		111						259		23:30	37		45						82	
11:45	125	545	142	477					267	1022	23:45	37	142	35	159					72	301
TOTALS		6140		2533						**8673**	**TOTALS**		5296		8348						**13644**
SPLIT %		70.8%		29.2%						**38.9%**	**SPLIT %**		38.8%		61.2%						**61.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	11,436	10,881	0	0	22,317

AM Peak Hour	08:00	11:30			**08:00**	**PM Peak Hour**	17:00	17:30			**17:15**
AM Pk Volume	1640	505			**2062**	**PM Pk Volume**	633	1508			**2125**
Pk Hr Factor	0.923	0.889			**0.941**	**Pk Hr Factor**	0.837	0.947			**0.980**
7 - 9 Volume	2947	818	0	0	**3765**	**4 - 6 Volume**	1183	2562	0	0	**3745**
7 - 9 Peak Hour	08:00	07:45			**08:00**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	1640	435	0	0	**2062**	**4 - 6 Pk Volume**	633	1434	0	0	**2067**
Pk Hr Factor	0.923	0.806	0.000	0.000	**0.941**	**Pk Hr Factor**	0.837	0.901	0.000	0.000	**0.953**

Prepared by NDS/ATD

VOLUME

Grand Ave w/o Loma Vista St

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,321	3,046	6,367

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			5		5		10		12:00			38		44		82	
00:15			10		5		15		12:15			50		60		110	
00:30			8		1		9		12:30			66		45		111	
00:45			1	24	4	15	5	39	12:45			38	192	43	192	81	384
01:00			2		2		4		13:00			50		48		98	
01:15			4		3		7		13:15			55		50		105	
01:30			8		2		10		13:30			53		47		100	
01:45			6	20	3	10	9	30	13:45			36	194	43	188	79	382
02:00			5		2		7		14:00			44		39		83	
02:15			3		2		5		14:15			49		52		101	
02:30			3		0		3		14:30			42		40		82	
02:45			1	12	2	6	3	18	14:45			51	186	55	186	106	372
03:00			2		2		4		15:00			54		40		94	
03:15			1		1		2		15:15			66		44		110	
03:30			0		0		0		15:30			51		46		97	
03:45			2	5	0	3	2	8	15:45			70	241	53	183	123	424
04:00			2		0		2		16:00			61		57		118	
04:15			0		0		0		16:15			79		63		142	
04:30			4		2		6		16:30			63		50		113	
04:45			3	9	1	3	4	12	16:45			61	264	65	235	126	499
05:00			2		3		5		17:00			72		82		154	
05:15			4		7		11		17:15			65		72		137	
05:30			8		12		20		17:30			88		75		163	
05:45			13	27	23	45	36	72	17:45			73	298	81	310	154	608
06:00			8		18		26		18:00			58		93		151	
06:15			10		26		36		18:15			69		74		143	
06:30			15		35		50		18:30			65		56		121	
06:45			25	58	27	106	52	164	18:45			64	256	59	282	123	538
07:00			34		43		77		19:00			59		40		99	
07:15			49		48		97		19:15			54		38		92	
07:30			50		61		111		19:30			46		43		89	
07:45			72	205	59	211	131	416	19:45			44	203	38	159	82	362
08:00			56		48		104		20:00			43		31		74	
08:15			70		48		118		20:15			24		20		44	
08:30			60		52		112		20:30			26		25		51	
08:45			79	265	45	193	124	458	20:45			22	115	18	94	40	209
09:00			58		40		98		21:00			24		22		46	
09:15			59		50		109		21:15			28		18		46	
09:30			44		38		82		21:30			14		11		25	
09:45			46	207	40	168	86	375	21:45			14	80	12	63	26	143
10:00			38		41		79		22:00			13		13		26	
10:15			43		35		78		22:15			22		12		34	
10:30			39		28		67		22:30			18		10		28	
10:45			42	162	29	133	71	295	22:45			10	63	6	41	16	104
11:00			58		43		101		23:00			12		8		20	
11:15			35		40		75		23:15			9		7		16	
11:30			57		42		99		23:30			7		11		18	
11:45			51	201	62	187	113	388	23:45			6	34	7	33	13	67
TOTALS				1195		1080		2275	TOTALS				2126		1966		4092
SPLIT %				52.5%		47.5%		35.7%	SPLIT %				52.0%		48.0%		64.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,321	3,046	6,367

AM Peak Hour			08:15	07:15	07:45	PM Peak Hour			17:00	17:30	17:30
AM Pk Volume			267	216	465	PM Pk Volume			298	323	611
Pk Hr Factor			0.845	0.885	0.887	Pk Hr Factor			0.847	0.868	0.937
7 - 9 Volume	0	0	470	404	874	4 - 6 Volume	0	0	562	545	1107
7 - 9 Peak Hour			08:00	07:15	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	265	216	465	4 - 6 Pk Volume	0	0	298	310	608
Pk Hr Factor	0.000	0.000	0.839	0.885	0.887	Pk Hr Factor	0.000	0.000	0.847	0.945	0.933

Prepared by NDS/ATD

VOLUME

Grand Ave E/o Main St

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,462	4,322	9,784

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			6		11		17		12:00			99		106		205	
00:15			3		5		8		12:15			99		96		195	
00:30			8		14		22		12:30			90		86		176	
00:45			4	21	5	35	9	56	12:45			122	410	95	383	217	793
01:00			8		6		14		13:00			110		84		194	
01:15			3		2		5		13:15			101		81		182	
01:30			3		4		7		13:30			123		59		182	
01:45			6	20	2	14	8	34	13:45			105	439	70	294	175	733
02:00			2		0		2		14:00			90		71		161	
02:15			2		0		2		14:15			92		73		165	
02:30			0		2		2		14:30			96		67		163	
02:45			1	5	0	2	1	7	14:45			86	364	64	275	150	639
03:00			1		2		3		15:00			106		74		180	
03:15			1		1		2		15:15			81		68		149	
03:30			1		3		4		15:30			72		61		133	
03:45			1	4	1	7	2	11	15:45			92	351	76	279	168	630
04:00			7		1		8		16:00			101		72		173	
04:15			3		1		4		16:15			91		61		152	
04:30			7		2		9		16:30			90		70		160	
04:45			4	21	3	7	7	28	16:45			77	359	86	289	163	648
05:00			12		4		16		17:00			122		106		228	
05:15			14		10		24		17:15			97		94		191	
05:30			15		12		27		17:30			98		85		183	
05:45			27	68	21	47	48	115	17:45			73	390	99	384	172	774
06:00			22		30		52		18:00			81		115		196	
06:15			24		26		50		18:15			77		83		160	
06:30			28		28		56		18:30			86		82		168	
06:45			44	118	43	127	87	245	18:45			90	334	73	353	163	687
07:00			54		39		93		19:00			88		62		150	
07:15			63		33		96		19:15			77		54		131	
07:30			88		49		137		19:30			68		80		148	
07:45			106	311	64	185	170	496	19:45			59	292	40	236	99	528
08:00			98		87		185		20:00			59		36		95	
08:15			91		49		140		20:15			58		44		102	
08:30			81		49		130		20:30			46		43		89	
08:45			112	382	55	240	167	622	20:45			56	219	51	174	107	393
09:00			102		46		148		21:00			46		29		75	
09:15			89		66		155		21:15			42		24		66	
09:30			92		55		147		21:30			36		34		70	
09:45			72	355	63	230	135	585	21:45			39	163	30	117	69	280
10:00			88		55		143		22:00			27		32		59	
10:15			61		47		108		22:15			21		15		36	
10:30			82		46		128		22:30			16		12		28	
10:45			78	309	55	203	133	512	22:45			13	77	8	67	21	144
11:00			75		74		149		23:00			19		14		33	
11:15			81		71		152		23:15			19		19		38	
11:30			107		76		183		23:30			23		7		30	
11:45			111	374	105	326	216	700	23:45			15	76	8	48	23	124
TOTALS				1988		1423		**3411**	**TOTALS**				3474		2899		**6373**
SPLIT %				58.3%		41.7%		**34.9%**	**SPLIT %**				54.5%		45.5%		**65.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,462	4,322	9,784

AM Peak Hour				11:30	11:45	**11:30**	**PM Peak Hour**				12:45	17:15	**12:00**
AM Pk Volume				416	393	**799**	**PM Pk Volume**				456	393	**793**
Pk Hr Factor				0.937	0.927	**0.925**	**Pk Hr Factor**				0.927	0.854	**0.914**
7 - 9 Volume	0	0		693	425	**1118**	**4 - 6 Volume**	0	0		749	673	**1422**
7 - 9 Peak Hour				07:30	07:30	**07:30**	**4 - 6 Peak Hour**				16:45	17:00	**17:00**
7 - 9 Pk Volume	0	0		383	249	**632**	**4 - 6 Pk Volume**	0	0		394	384	**774**
Pk Hr Factor	0.000	0.000		0.903	0.716	**0.854**	**Pk Hr Factor**	0.000	0.000		0.807	0.906	**0.849**

Prepared by NDS/ATD

VOLUME

Sepulveda Blvd btwn Grand Ave & Mariposa Ave

Day: Thursday
Date: 6/9/2011

City: Los Angeles
Project #: CA11_5213_008

DAILY TOTALS	NB	SB	EB	WB	Total
	34,657	32,039	0	0	66,696

AM Period	NB		SB		EB		WB		TOTAL	
00:00	88		109						197	
00:15	74		83						157	
00:30	64		82						146	
00:45	63	289	53	327					116	616
01:00	39		46						85	
01:15	41		52						93	
01:30	46		53						99	
01:45	39	165	24	175					63	340
02:00	37		35						72	
02:15	39		24						63	
02:30	40		57						97	
02:45	25	141	24	140					49	281
03:00	23		29						52	
03:15	22		27						49	
03:30	15		36						51	
03:45	35	95	51	143					86	238
04:00	37		31						68	
04:15	61		45						106	
04:30	96		56						152	
04:45	120	314	107	239					227	553
05:00	113		117						230	
05:15	138		109						247	
05:30	184		181						365	
05:45	224	659	190	597					414	1256
06:00	245		166						411	
06:15	311		201						512	
06:30	397		237						634	
06:45	504	1457	292	896					796	2353
07:00	528		299						827	
07:15	615		391						1006	
07:30	577		417						994	
07:45	647	2367	447	1554					1094	3921
08:00	588		489						1077	
08:15	663		471						1134	
08:30	637		421						1058	
08:45	589	2477	531	1912					1120	4389
09:00	569		414						983	
09:15	462		422						884	
09:30	432		413						845	
09:45	418	1881	450	1699					868	3580
10:00	397		368						765	
10:15	417		385						802	
10:30	426		416						842	
10:45	431	1671	384	1553					815	3224
11:00	484		399						883	
11:15	513		450						963	
11:30	486		511						997	
11:45	521	2004	538	1898					1059	3902
TOTALS		13520		11133						**24653**
SPLIT %		54.8%		45.2%						**37.0%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	508		552						1060	
12:15	529		519						1048	
12:30	531		531						1062	
12:45	539	2107	502	2104					1041	4211
13:00	587		523						1110	
13:15	474		471						945	
13:30	575		469						1044	
13:45	546	2182	488	1951					1034	4133
14:00	558		475						1033	
14:15	527		479						1006	
14:30	488		450						938	
14:45	469	2042	521	1925					990	3967
15:00	513		486						999	
15:15	565		460						1025	
15:30	506		519						1025	
15:45	508	2092	553	2018					1061	4110
16:00	531		530						1061	
16:15	512		589						1101	
16:30	598		585						1183	
16:45	515	2156	636	2340					1151	4496
17:00	696		652						1348	
17:15	587		628						1215	
17:30	579		656						1235	
17:45	565	2427	677	2613					1242	5040
18:00	575		651						1226	
18:15	531		656						1187	
18:30	533		621						1154	
18:45	464	2103	561	2489					1025	4592
19:00	435		541						976	
19:15	463		454						917	
19:30	401		387						788	
19:45	467	1766	377	1759					844	3525
20:00	387		332						719	
20:15	396		296						692	
20:30	370		285						655	
20:45	354	1507	267	1180					621	2687
21:00	427		260						687	
21:15	381		279						660	
21:30	327		313						640	
21:45	309	1444	223	1075					532	2519
22:00	259		281						540	
22:15	200		264						464	
22:30	205		182						387	
22:45	143	807	175	902					318	1709
23:00	171		139						310	
23:15	141		139						280	
23:30	104		148						252	
23:45	88	504	124	550					212	1054
TOTALS		21137		20906						**42043**
SPLIT %		50.3%		49.7%						**63.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	34,657	32,039	0	0	66,696

AM Peak Hour	07:45	11:45			**08:00**	**PM Peak Hour**	17:00	17:30			**17:00**
AM Pk Volume	2535	2140			**4389**	**PM Pk Volume**	2427	2640			**5040**
Pk Hr Factor	0.956	0.969			**0.968**	**Pk Hr Factor**	0.872	0.975			**0.935**
7 - 9 Volume	4844	3466	0	0	**8310**	**4 - 6 Volume**	4583	4953	0	0	**9536**
7 - 9 Peak Hour	07:45	08:00			**08:00**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	2535	1912	0	0	**4389**	**4 - 6 Pk Volume**	2427	2613	0	0	**5040**
Pk Hr Factor	0.956	0.900	0.000	0.000	**0.968**	**Pk Hr Factor**	0.872	0.965	0.000	0.000	**0.935**

APPENDIX C
Intersection Level-of-Service Worksheets
CMA Methodology – All Scenarios

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Vista De I Mar	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
1	East-West Street:	Imperial Highway	Projection Year:	2015	Peak Hour:	AM	Reviewed by:	IDH	Project:	Scattergood Gen Station

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			4			4			4				4					4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2				2					2
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3 SB--		0	NB-- 3 SB--		0	NB-- 3 SB--		0		NB-- 3 SB--		0		NB-- 3 SB--		0	
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2					2
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	3	1	3	0	3	3	0	3	1	3	0	3	1	3	0	3	1	3
	Left-Through		0							0				0				0	
	Through	1103	2	**552**	0	1103	**552**	20	1135	2	**568**	0	1135	2	**568**	0	1135	2	**568**
	Through-Right		0							0				0				0	
	Right	486	1	384	3	489	353	5	496	1	390	3	499	1	359	0	499	1	359
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	86	1	**86**	0	86	**86**	84	171	1	**171**	0	171	1	**171**	0	171	1	**171**
	Left-Through		0							0				0				0	
	Through	289	1	146	11	300	151	72	364	1	183	11	375	1	189	0	375	1	189
	Through-Right		1							1				1				1	
	Right	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	2	1	**2**	0	2	**2**	0	2	1	**2**	0	2	1	**2**	0	2	1	**2**
	Left-Through		0							0				0				0	
	Through	1	1	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1
	Through-Right		0							0				0				0	
	Right	2	1	1	0	2	1	0	2	1	1	0	2	1	1	0	2	1	1
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	200	1	**102**	68	268	**136**	6	208	1	**106**	68	276	1	**140**	0	276	1	**140**
	Left-Through		1							1				1				1	
	Through	4	0	102	0	4	136	0	4	0	106	0	4	0	140	0	4	0	140
	Through-Right		0							0				0				0	
	Right	118	1	75	0	118	75	26	145	1	60	0	145	1	60	0	145	1	60
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		638	*North-South:*		638	*North-South:*			739	*North-South:*			739	*North-South:*			739
		East-West:		104	*East-West:*		138	*East-West:*			108	*East-West:*			142	*East-West:*			142
		SUM:		742	*SUM:*		776	*SUM:*			847	*SUM:*			881	*SUM:*			881
	VOLUME/CAPACITY *(V/C)* RATIO:			0.540			0.564				0.616				0.641				0.641
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.440**			**0.464**				**0.516**				**0.541**				**0.541**
	LEVEL OF SERVICE (LOS):			**A**			**A**				**A**				**A**				**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.025	Δ*v/c* after mitigation:	0.025
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Vista De I Mar	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
1	East-West Street:	Imperial Highway	Projection Year:	2015	Peak Hour:	PM	Reviewed by:	IDH	Project:	Scattergood Gen Station

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	6	1	**6**	0	6	**6**	0	6	1	**6**	0	6	1	**6**	0	6	1	**6**
Left-Through		0							0				0				0	
Through	392	2	196	11	403	202	101	497	2	249	11	508	2	254	0	508	2	254
Through-Right		0							0				0				0	
Right	237	1	0	68	305	57	9	248	1	0	68	316	1	61	0	316	1	61
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	106	1	106	0	106	106	33	140	1	140	0	140	1	140	0	140	1	140
Left-Through		0							0				0				0	
Through	983	1	**501**	0	983	**501**	54	1047	1	**533**	0	1047	1	**533**	0	1047	1	**533**
Through-Right		1							1				1				1	
Right	18	0	18	0	18	18	0	18	0	18	0	18	0	18	0	18	0	18
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	11	1	11	0	11	11	0	11	1	11	0	11	1	11	0	11	1	11
Left-Through		0							0				0				0	
Through	12	1	**12**	0	12	**12**	0	12	1	**12**	0	12	1	**12**	0	12	1	**12**
Through-Right		0							0				0				0	
Right	9	1	6	0	9	6	0	9	1	6	0	9	1	6	0	9	1	6
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	456	1	**246**	3	459	**248**	9	470	1	**253**	3	473	1	**255**	0	473	1	**255**
Left-Through		1							1				1				1	
Through	36	0	246	0	36	248	0	36	0	253	0	36	0	255	0	36	0	255
Through-Right		0							0				0				0	
Right	135	1	82	0	135	82	88	224	1	154	0	224	1	154	0	224	1	154
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		507	*North-South:*		507	*North-South:*			539	*North-South:*			539	*North-South:*			539
	East-West:		258	*East-West:*		260	*East-West:*			265	*East-West:*			267	*East-West:*			267
	SUM:		765	*SUM:*		767	*SUM:*			804	*SUM:*			806	*SUM:*			806
VOLUME/CAPACITY *(V/C)* RATIO:			0.556			0.558				0.585				0.586				0.586
V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.456**			**0.458**				**0.485**				**0.486**				**0.486**
LEVEL OF SERVICE (LOS):			**A**			**A**				**A**				**A**				**A**

	NB--		SB--		EB--		WB--	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	3		0		0		0	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	2							
No. of Phases	4							
ATSAC-1 or ATSAC+ATCS-2?	2							
Override Capacity	0							

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.001	Δ*v/c* after mitigation:	0.001
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Pershing Drive	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
2	East-West Street:	Imperial Highway	Projection Year:	2015	Peak Hour:	AM	Reviewed by:	IDH	Project:	Scattergood Gen Station

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4			4				4				4	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1			1				1				1	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3	NB-- 0	SB--	3		NB-- 0	SB--	3		NB-- 0	SB--	3	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2
	Left-Through		0							0				0				0	
	Through	1	0	**6**	0	1	**6**	0	1	0	**6**	0	1	0	**6**	0	1	0	**6**
	Through-Right		0							0				0				0	
	Right	3	0	0	0	3	0	0	3	0	0	0	3	0	0	0	3	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	627	1	**315**	0	627	**315**	38	672	1	**337**	0	672	1	**337**	0	672	1	**337**
	Left-Through		1							1				1				1	
	Through	2	0	315	0	2	315	0	2	0	337	0	2	0	337	0	2	0	337
	Through-Right		0							0				0				0	
	Right	108	1	0	0	108	0	0	109	1	0	0	109	1	0	0	109	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	197	2	**108**	0	197	**108**	0	199	2	**109**	0	199	2	**109**	0	199	2	**109**
	Left-Through		0							0				0				0	
	Through	343	1	172	3	346	174	89	436	1	219	3	439	1	220	0	439	1	220
	Through-Right		1							1				1				1	
	Right	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	3	1	3	0	3	3	0	3	1	3	0	3	1	3	0	3	1	3
	Left-Through		0							0				0				0	
	Through	233	2	117	68	301	151	31	266	2	133	68	334	2	167	0	334	2	167
	Through-Right		0							0				0				0	
	Right	927	1	**770**	0	927	**770**	9	946	1	**778**	0	946	1	**778**	0	946	1	**778**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		321	North-South:		321	North-South:			343	North-South:			343	North-South:			343
		East-West:		878	East-West:		878	East-West:			887	East-West:			887	East-West:			887
		SUM:		1199	SUM:		1199	SUM:			1230	SUM:			1230	SUM:			1230
VOLUME/CAPACITY (V/C) RATIO:				0.872			0.872				0.895				0.895				0.895
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.772**			**0.772**				**0.795**				**0.795**				**0.795**
LEVEL OF SERVICE (LOS):				C			C				C				C				C

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Pershing Drive	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
2	East-West Street:	Imperial Highway	Projection Year:	2015	Peak Hour:	PM	Reviewed by:	IDH	Project:	Scattergood Gen Station

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4			4				4				4	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1			1				1				1	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3	NB-- 0	SB--	3		NB-- 0	SB--	3		NB-- 0	SB--	3	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1
	Left-Through		0							0				0				0	
	Through	1	0	**6**	0	1	**6**	0	1	0	**6**	0	1	0	**6**	0	1	0	**6**
	Through-Right		0							0				0				0	
	Right	4	0	0	0	4	0	0	4	0	0	0	4	0	0	0	4	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	596	1	**299**	0	596	**299**	20	622	1	**312**	0	622	1	**312**	0	622	1	**312**
	Left-Through		1							1				1				1	
	Through	1	0	299	0	1	299	0	1	0	312	0	1	0	312	0	1	0	312
	Through-Right		0							0				0				0	
	Right	202	1	144	0	202	144	0	204	1	145	0	204	1	145	0	204	1	145
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	106	2	**58**	0	106	**58**	0	107	2	**59**	0	107	2	**59**	0	107	2	**59**
	Left-Through		0							0				0				0	
	Through	257	1	129	68	325	163	42	302	1	152	68	370	1	186	0	370	1	186
	Through-Right		1							1				1				1	
	Right	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	1	1	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1
	Left-Through		0							0				0				0	
	Through	420	2	210	3	423	212	97	521	2	261	3	524	2	262	0	524	2	262
	Through-Right		0							0				0				0	
	Right	541	1	**392**	0	541	**392**	47	594	1	**438**	0	594	1	**438**	0	594	1	**438**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		305	North-South:		305	North-South:			318	North-South:			318	North-South:			318
		East-West:		450	East-West:		450	East-West:			497	East-West:			497	East-West:			497
		SUM:		755	SUM:		755	SUM:			815	SUM:			815	SUM:			815
VOLUME/CAPACITY (V/C) RATIO:				0.549			0.549				0.593				0.593				0.593
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.449			0.449				0.493				0.493				0.493
LEVEL OF SERVICE (LOS):				A			A				A				A				A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Main Street	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
3	East-West Street:	Imperial Highway	Projection Year:	2015	Peak Hour:	AM	Reviewed by:	IDH	Project:	Scattergood Gen Station

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4			4				4				4	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			3			3			3				3				3	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--	0	NB-- 1	SB--	0	NB-- 1	SB--	0		NB-- 1	SB--	0		NB-- 1	SB--	0	
	EB-- 1	WB--	0	EB-- 1	WB--	0	EB-- 1	WB--	0		EB-- 1	WB--	0		EB-- 1	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
Override Capacity			0			0			0				0				0	

MOVEMENT		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	301	1	**151**	0	301	**151**	-7	297	1	**149**	0	297	1	**149**	0	297	1	**149**
	Left-Through		1							1				1				1	
	Through	1	0	151	0	1	151	0	1	0	149	0	1	0	149	0	1	0	149
	Through-Right		0							0				0				0	
	Right	569	1	0	0	569	0	4	579	1	0	0	579	1	0	0	579	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1
	Left-Through		0							0				0				0	
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through-Right		0							0				0				0	
	Right	1	0	**2**	0	1	**2**	0	1	0	**2**	0	1	0	**2**	0	1	0	**2**
	Left-Through-Right		0							0				0				0	
	Left-Right		1							1				1				1	
EASTBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		1							1				1				1	
	Through	808	1	**404**	3	811	**406**	135	951	1	**476**	3	954	1	**477**	0	954	1	**477**
	Through-Right		0							0				0				0	
	Right	158	1	0	0	158	0	-7	153	1	0	0	153	1	0	0	153	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	409	2	225	0	409	225	23	436	2	240	0	436	2	240	0	436	2	240
	Left-Through		0							0				0				0	
	Through	899	1	**452**	68	967	**486**	51	959	1	**482**	68	1027	1	**516**	0	1027	1	**516**
	Through-Right		1							1				1				1	
	Right	5	0	5	0	5	5	0	5	0	5	0	5	0	5	0	5	0	5
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		153	*North-South:*		153	*North-South:*			151	*North-South:*			151	*North-South:*			151
		East-West:		856	*East-West:*		892	*East-West:*			958	*East-West:*			993	*East-West:*			993
		SUM:		1009	*SUM:*		1045	*SUM:*			1109	*SUM:*			1144	*SUM:*			1144
VOLUME/CAPACITY *(V/C)* RATIO:				0.734			0.760				0.807				0.832				0.832
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.634**			**0.660**				**0.707**				**0.732**				**0.732**
LEVEL OF SERVICE (LOS):				**B**			**B**				**C**				**C**				**C**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.025	Δ*v/c* after mitigation:	0.025
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Main Street	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
3	East-West Street:	Imperial Highway	Projection Year:	2015	Peak Hour:	PM	Reviewed by:	IDH	Project:	Scattergood Gen Station

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			4			4			4				4				4	
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			3			3			3				3				3	
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1 SB--		0	NB-- 1 SB--		0	NB-- 1 SB--		0		NB-- 1 SB--		0		NB-- 1 SB--		0	
		EB-- 1 WB--		0	EB-- 1 WB--		0	EB-- 1 WB--		0		EB-- 1 WB--		0		EB-- 1 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
	Override Capacity			0			0			0				0				0	
NORTHBOUND	Left	186	1	**94**	0	186	**94**	2	190	1	**96**	0	190	1	**96**	0	190	1	**96**
	Left-Through		1							1				1				1	
	Through	2	0	94	0	2	94	0	2	0	96	0	2	0	96	0	2	0	96
	Through-Right		0							0				0				0	
	Right	354	1	0	0	354	0	41	399	1	0	0	399	1	0	0	399	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		0							0				0				0	
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through-Right		0							0				0				0	
	Right	2	0	**2**	0	2	**2**	0	2	0	**2**	0	2	0	**2**	0	2	0	**2**
	Left-Through-Right		0							0				0				0	
	Left-Right		1							1				1				1	
EASTBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		1							1				1				1	
	Through	555	1	**278**	68	623	**312**	63	624	1	**312**	68	692	1	**346**	0	692	1	**346**
	Through-Right		0							0				0				0	
	Right	291	1	0	0	291	0	0	294	1	0	0	294	1	0	0	294	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	541	2	298	0	541	298	9	556	2	306	0	556	2	306	0	556	2	306
	Left-Through		0							0				0				0	
	Through	773	1	**387**	3	776	**388**	141	922	1	**461**	3	925	1	**463**	0	925	1	**463**
	Through-Right		1							1				1				1	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES		*North-South:*	96		*North-South:*	96		*North-South:*	98			*North-South:*	98			*North-South:*	98	
			East-West:	665		*East-West:*	700		*East-West:*	773			*East-West:*	809			*East-West:*	809	
			SUM:	761		*SUM:*	796		*SUM:*	871			*SUM:*	907			*SUM:*	907	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.553			0.579			0.633				0.660				0.660	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.453**			**0.479**			**0.533**				**0.560**				**0.560**	
	LEVEL OF SERVICE (LOS):			**A**			**A**			**A**				**A**				**A**	

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.027 — Δ*v/c* after mitigation: 0.027

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Vista De I Mar	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
4	East-West Street:	Grand Avenue	Projection Year:	2015	Peak Hour:	AM	Reviewed by:	IDH	Project:	Scattergood Gen Station

No. of Phases			3			3			3			3			3			3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2			2			2			2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	1	1	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1
Left-Through		0							0				0				0	
Through	1496	1	**819**	0	1496	**827**	48	1560	1	**879**	0	1560	1	**887**	0	1560	1	**887**
Through-Right		1							1				1				1	
Right	141	0	141	16	157	157	55	197	0	197	16	213	0	213	0	213	0	213
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	102	1	**102**	79	181	**181**	5	108	1	**108**	79	187	1	**187**	0	187	1	**187**
Left-Through		0							0				0				0	
Through	347	1	177	0	347	177	21	372	1	190	0	372	1	190	0	372	1	190
Through-Right		1							1				1				1	
Right	7	0	7	0	7	7	0	7	0	7	0	7	0	7	0	7	0	7
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2
Left-Through		0							0				0				0	
Through	1	0	**4**	0	1	**4**	0	1	0	**4**	0	1	0	**4**	0	1	0	**4**
Through-Right		0							0				0				0	
Right	1	0	0	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	74	1	39	0	74	**39**	13	88	1	46	0	88	1	**46**	0	88	1	**46**
Left-Through		1							1				1				1	
Through	4	0	39	0	4	39	0	4	0	46	0	4	0	46	0	4	0	46
Through-Right		0							0				0				0	
Right	122	1	**71**	3	125	35	1	124	1	**70**	3	127	1	34	0	127	1	34
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		921	*North-South:*		1008	*North-South:*			987	*North-South:*			1074	*North-South:*			1074
	East-West:		75	*East-West:*		43	*East-West:*			74	*East-West:*			50	*East-West:*			50
	SUM:		996	*SUM:*		1051	*SUM:*			1061	*SUM:*			1124	*SUM:*			1124
VOLUME/CAPACITY *(V/C)* RATIO:			0.699			0.738				0.745				0.789				0.789
V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.599**			**0.638**				**0.645**				**0.689**				**0.689**
LEVEL OF SERVICE (LOS):			**A**			**B**				**B**				**B**				**B**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.044	Δ*v/c* after mitigation:	0.044
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Vista De I Mar	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
4	East-West Street:	Grand Avenue	Projection Year:	2015	Peak Hour:	PM	Reviewed by:	IDH	Project:	Scattergood Gen Station

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3			3				3				3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	3	1	**3**	0	3	**3**	0	3	1	**3**	0	3	1	**3**	0	3	1	**3**
	Left-Through		0							0				0				0	
	Through	488	1	318	0	488	318	49	542	1	358	0	542	1	358	0	542	1	358
	Through-Right		1							1				1				1	
	Right	148	0	148	0	148	148	23	173	0	173	0	173	0	173	0	173	0	173
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	138	1	138	3	141	141	6	145	1	145	3	148	1	148	0	148	1	148
	Left-Through		0							0				0				0	
	Through	1285	1	**645**	0	1285	**645**	75	1373	1	**689**	0	1373	1	**689**	0	1373	1	**689**
	Through-Right		1							1				1				1	
	Right	4	0	4	0	4	4	0	4	0	4	0	4	0	4	0	4	0	4
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2
	Left-Through		0							0				0				0	
	Through	5	0	**7**	0	5	**7**	0	5	0	**7**	0	5	0	**7**	0	5	0	**7**
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	157	1	**80**	16	173	88	63	222	1	**112**	16	238	1	120	0	238	1	120
	Left-Through		1							1				1				1	
	Through	2	0	80	0	2	88	0	2	0	112	0	2	0	120	0	2	0	120
	Through-Right		0							0				0				0	
	Right	133	1	64	79	212	**142**	11	145	1	73	79	224	1	**150**	0	224	1	**150**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		648	North-South:		648	North-South:			692	North-South:			692	North-South:			692
		East-West:		87	East-West:		149	East-West:			119	East-West:			157	East-West:			157
		SUM:		735	SUM:		797	SUM:			811	SUM:			849	SUM:			849
VOLUME/CAPACITY (V/C) RATIO:				0.516			0.559				0.569				0.596				0.596
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.416			0.459				0.469				0.496				0.496
LEVEL OF SERVICE (LOS):				A			A				A				A				A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.027 — Δ*v/c* after mitigation: 0.027

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Highland Avenue	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
7	East-West Street:	Rosecrans Avenue	Projection Year:	2015	Peak Hour:	AM	Reviewed by:	IDH	Project:	Scattergood Gen Station

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			3			3			3				3					3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 0 WB--		3	EB-- 0 WB--		3	EB-- 0 WB--		3		EB-- 0 WB--		3		EB-- 0 WB--		3	
	ATSAC-1 or ATSAC+ATCS-2?			0			0			0				0					0
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	10	1	10	0	10	10	0	10	1	10	0	10	1	10	0	10	1	10
	Left-Through		0							0				0				0	
	Through	701	1	**383**	5	706	**385**	100	808	1	**457**	5	813	1	**460**	0	813	1	**460**
	Through-Right		1							1				1				1	
	Right	64	0	64	0	64	64	41	106	0	106	0	106	0	106	0	106	0	106
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	214	1	**214**	0	214	**214**	4	220	1	**220**	0	220	1	**220**	0	220	1	**220**
	Left-Through		0							0				0				0	
	Through	254	1	254	0	254	254	30	287	1	287	0	287	1	287	0	287	1	287
	Through-Right		0							0				0				0	
	Right	25	1	25	0	25	25	0	25	1	25	0	25	1	25	0	25	1	25
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	261	0	**261**	0	261	**261**	0	264	0	**264**	0	264	0	**264**	0	264	0	**264**
	Left-Through		0							0				0				0	
	Through	108	0	384	0	108	384	0	109	0	388	0	109	0	388	0	109	0	388
	Through-Right		0							0				0				0	
	Right	15	0	0	0	15	0	0	15	0	0	0	15	0	0	0	15	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	88	1	88	0	88	88	12	101	1	101	0	101	1	101	0	101	1	101
	Left-Through		0							0				0				0	
	Through	47	1	47	0	47	47	0	47	1	47	0	47	1	47	0	47	1	47
	Through-Right		0							0				0				0	
	Right	532	1	**318**	11	543	**329**	3	541	1	**321**	11	552	1	**332**	0	552	1	**332**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		597	*North-South:*		599	*North-South:*			677	*North-South:*			680	*North-South:*			680
		East-West:		579	*East-West:*		590	*East-West:*			585	*East-West:*			596	*East-West:*			596
		SUM:		1176	*SUM:*		1189	*SUM:*			1262	*SUM:*			1276	*SUM:*			1276
	VOLUME/CAPACITY *(V/C)* RATIO:			0.825			0.834				0.886				0.895				0.895
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.825			0.834				0.886				0.895				0.895
	LEVEL OF SERVICE (LOS):			D			D				D				D				D

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.009 — Δ*v/c* after mitigation: 0.009

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Highland Avenue	Year of Count:	2011	Ambient Growth: (%):	0.26	Conducted by:	KOA Corp	Date:	3/21/2012
7	East-West Street:	Rosecrans Avenue	Projection Year:	2015	Peak Hour:	PM	Reviewed by:	IDH	Project:	Scattergood Gen Station

No. of Phases			3			3			3			3			3			3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 3	
	EB--	0	WB-- 3	EB--	0	WB-- 3	EB--	0	WB-- 3	EB--	0	WB-- 3	EB--	0	WB-- 3	EB--	0	WB-- 3	
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0			0	
Override Capacity			0			0			0			0			0			0	

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	1	**5**	0	5	**5**	0	5	1	**5**	0	5	1	**5**	0	5	1	**5**
	Left-Through		0							0				0				0	
	Through	347	1	220	0	347	220	53	404	1	258	0	404	1	258	0	404	1	258
	Through-Right		1							1				1				1	
	Right	93	0	93	0	93	93	18	112	0	112	0	112	0	112	0	112	0	112
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	447	1	447	11	458	458	19	471	1	471	11	482	1	482	0	482	1	482
	Left-Through		0							0				0				0	
	Through	711	1	**711**	5	716	**716**	119	837	1	**837**	5	842	1	**842**	0	842	1	**842**
	Through-Right		0							0				0				0	
	Right	65	1	65	0	65	65	0	66	1	66	0	66	1	66	0	66	1	66
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	35	0	35	0	35	35	0	35	0	35	0	35	0	35	0	35	0	35
	Left-Through		0							0				0				0	
	Through	95	0	**148**	0	95	**148**	0	96	0	**149**	0	96	0	**149**	0	96	0	**149**
	Through-Right		0							0				0				0	
	Right	18	0	0	0	18	0	0	18	0	0	0	18	0	0	0	18	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	225	1	**225**	0	225	**225**	45	272	1	**272**	0	272	1	**272**	0	272	1	**272**
	Left-Through		0							0				0				0	
	Through	112	1	112	0	112	112	0	113	1	113	0	113	1	113	0	113	1	113
	Through-Right		0							0				0				0	
	Right	357	1	0	0	357	0	20	381	1	0	0	381	1	0	0	381	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		716	North-South:		721	North-South:			842	North-South:			847	North-South:			847
		East-West:		373	East-West:		373	East-West:			421	East-West:			421	East-West:			421
		SUM:		1089	SUM:		1094	SUM:			1263	SUM:			1268	SUM:			1268
VOLUME/CAPACITY (V/C) RATIO:				0.764			0.768				0.886				0.890				0.890
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.764			0.768				0.886				0.890				0.890
LEVEL OF SERVICE (LOS):				C			C				D				D				D

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.004	Δ*v/c* after mitigation:	0.004
Significant impacted?	NO	Fully mitigated?	N/A

APPENDIX D
Intersection Level-of-Service Worksheets
ICU Methodology – All Scenarios

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

APPENDIX D
KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: EXISTING (2011)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	17	106	74
EASTBOUND	52	222	49
NORTHBOUND	56	153	31
SOUTHBOUND	138	191	53

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.062	0.000
EASTBOUND	0.000	0.101	0.000
NORTHBOUND	0.000	0.075	0.000
SOUTHBOUND	0.000	0.119	0.000

EAST-WEST CRITICAL V/C RATIO 0.101
NORTH-SOUTH CRITICAL V/C RATIO 0.119
CLEARANCE INTERVAL 0.100

ICU VALUE 0.320

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 7
3/21/2012 12:26:36 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: EXISTING (2011)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	38	63	51
EASTBOUND	166	166	98
NORTHBOUND	96	2303	452
SOUTHBOUND	415	1314	199

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.013	0.020	0.032
EASTBOUND	0.104	0.083	0.000
NORTHBOUND	0.060	0.360	0.282
SOUTHBOUND	0.259	0.236	0.000

EAST-WEST CRITICAL V/C RATIO 0.136
NORTH-SOUTH CRITICAL V/C RATIO 0.619
CLEARANCE INTERVAL 0.100

ICU VALUE 0.855

LEVEL OF SERVICE ..... D

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 8
3/21/2012 12:26:36 PM

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: EXISTING (2011)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	37	253	100
EASTBOUND	40	283	76
NORTHBOUND	103	185	80
SOUTHBOUND	34	50	19

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.122	0.000
EASTBOUND	0.000	0.125	0.000
NORTHBOUND	0.000	0.115	0.000
SOUTHBOUND	0.000	0.032	0.000

EAST-WEST CRITICAL V/C RATIO 0.125
NORTH-SOUTH CRITICAL V/C RATIO 0.115
CLEARANCE INTERVAL 0.100

ICU VALUE 0.340

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 15
3/21/2012 12:26:36 PM

KOA CORPORATION
PLANNING & ENGINEERING

ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: EXISTING (2011)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	400	149	320
EASTBOUND	254	114	156
NORTHBOUND	137	1851	97
SOUTHBOUND	76	2357	152

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.139	0.047	0.200
EASTBOUND	0.159	0.084	0.000
NORTHBOUND	0.086	0.289	0.061
SOUTHBOUND	0.047	0.392	0.000

EAST-WEST CRITICAL V/C RATIO 0.359
NORTH-SOUTH CRITICAL V/C RATIO 0.478
CLEARANCE INTERVAL 0.100

ICU VALUE 0.937

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 16
3/21/2012 12:26:36 PM

KOA CORPORATION
PLANNING & ENGINEERING

ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: EXISTING (2011) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	17	122	74
EASTBOUND	52	222	49
NORTHBOUND	56	153	31
SOUTHBOUND	138	191	53

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.067	0.000
EASTBOUND	0.000	0.101	0.000
NORTHBOUND	0.000	0.075	0.000
SOUTHBOUND	0.000	0.119	0.000

EAST-WEST CRITICAL V/C RATIO 0.101
NORTH-SOUTH CRITICAL V/C RATIO 0.119
CLEARANCE INTERVAL 0.100

ICU VALUE 0.320

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 23
3/21/2012 12:26:36 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: EXISTING (2011) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	38	63	51
EASTBOUND	166	166	98
NORTHBOUND	112	2303	452
SOUTHBOUND	415	1314	199

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.013	0.020	0.032
EASTBOUND	0.104	0.083	0.000
NORTHBOUND	0.070	0.360	0.283
SOUTHBOUND	0.259	0.236	0.000

EAST-WEST CRITICAL V/C RATIO 0.136
NORTH-SOUTH CRITICAL V/C RATIO 0.619
CLEARANCE INTERVAL 0.100

ICU VALUE 0.855

LEVEL OF SERVICE ..... D

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 24
3/21/2012 12:26:36 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: EXISTING (2011) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	37	253	100
EASTBOUND	40	299	76
NORTHBOUND	103	185	80
SOUTHBOUND	34	50	19

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.122	0.000
EASTBOUND	0.000	0.130	0.000
NORTHBOUND	0.000	0.115	0.000
SOUTHBOUND	0.000	0.032	0.000

EAST-WEST CRITICAL V/C RATIO 0.130
NORTH-SOUTH CRITICAL V/C RATIO 0.115
CLEARANCE INTERVAL 0.100

ICU VALUE 0.345

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 31
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: EXISTING (2011) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	400	149	320
EASTBOUND	254	114	172
NORTHBOUND	137	1851	97
SOUTHBOUND	76	2357	152

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.139	0.047	0.200
EASTBOUND	0.159	0.089	0.000
NORTHBOUND	0.086	0.289	0.061
SOUTHBOUND	0.048	0.392	0.000

EAST-WEST CRITICAL V/C RATIO 0.359
NORTH-SOUTH CRITICAL V/C RATIO 0.478
CLEARANCE INTERVAL 0.100

ICU VALUE 0.937

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 32
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: FUTURE (2015) NO PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	17	121	75
EASTBOUND	52	278	57
NORTHBOUND	58	155	31
SOUTHBOUND	139	193	53

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.067	0.000
EASTBOUND	0.000	0.121	0.000
NORTHBOUND	0.000	0.076	0.000
SOUTHBOUND	0.000	0.120	0.000

EAST-WEST CRITICAL V/C RATIO 0.121
NORTH-SOUTH CRITICAL V/C RATIO 0.120
CLEARANCE INTERVAL 0.100

ICU VALUE 0.341

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 39
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: FUTURE (2015) NO PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	47	65	63
EASTBOUND	213	176	100
NORTHBOUND	98	2669	491
SOUTHBOUND	435	1449	193

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.016	0.020	0.039
EASTBOUND	0.133	0.086	0.000
NORTHBOUND	0.061	0.417	0.307
SOUTHBOUND	0.272	0.257	0.000

EAST-WEST CRITICAL V/C RATIO 0.172
NORTH-SOUTH CRITICAL V/C RATIO 0.689
CLEARANCE INTERVAL 0.100

ICU VALUE 0.961

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 40
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: FUTURE (2015) NO PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	37	318	101
EASTBOUND	40	312	80
NORTHBOUND	117	187	81
SOUTHBOUND	34	51	19

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.142	0.000
EASTBOUND	0.000	0.135	0.000
NORTHBOUND	0.000	0.120	0.000
SOUTHBOUND	0.000	0.032	0.000

EAST-WEST CRITICAL V/C RATIO 0.142
NORTH-SOUTH CRITICAL V/C RATIO 0.120
CLEARANCE INTERVAL 0.100

ICU VALUE 0.362

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 47
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: FUTURE (2015) NO PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	431	158	336
EASTBOUND	264	116	163
NORTHBOUND	143	2121	106
SOUTHBOUND	92	2844	200

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.150	0.049	0.210
EASTBOUND	0.165	0.087	0.000
NORTHBOUND	0.089	0.331	0.066
SOUTHBOUND	0.058	0.476	0.000

EAST-WEST CRITICAL V/C RATIO 0.375
NORTH-SOUTH CRITICAL V/C RATIO 0.565
CLEARANCE INTERVAL 0.100

ICU VALUE 1.040

LEVEL OF SERVICE ..... F

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 48
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: FUTURE (2015) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	17	137	75
EASTBOUND	52	278	57
NORTHBOUND	58	155	31
SOUTHBOUND	139	193	53

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.072	0.000
EASTBOUND	0.000	0.121	0.000
NORTHBOUND	0.000	0.076	0.000
SOUTHBOUND	0.000	0.120	0.000

EAST-WEST CRITICAL V/C RATIO 0.121
NORTH-SOUTH CRITICAL V/C RATIO 0.120
CLEARANCE INTERVAL 0.100

ICU VALUE 0.341

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 55
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: AM PEAK HOUR

CASE: FUTURE (2015) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	47	65	63
EASTBOUND	213	176	100
NORTHBOUND	114	2669	491
SOUTHBOUND	435	1449	193

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.016	0.020	0.039
EASTBOUND	0.133	0.086	0.000
NORTHBOUND	0.071	0.417	0.307
SOUTHBOUND	0.272	0.257	0.000

EAST-WEST CRITICAL V/C RATIO 0.172
NORTH-SOUTH CRITICAL V/C RATIO 0.689
CLEARANCE INTERVAL 0.100

ICU VALUE 0.961

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 56
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:5, GRAND AVENUE & MAIN STREET
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: FUTURE (2015) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	37	318	101
EASTBOUND	40	328	80
NORTHBOUND	117	187	81
SOUTHBOUND	34	51	19

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	2	0
EASTBOUND	0	2	0
NORTHBOUND	0	2	0
SOUTHBOUND	0	2	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0	3200	0
EASTBOUND	0	3200	0
NORTHBOUND	0	3200	0
SOUTHBOUND	0	3200	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.000	0.143	0.000
EASTBOUND	0.000	0.140	0.000
NORTHBOUND	0.000	0.120	0.000
SOUTHBOUND	0.000	0.033	0.000

EAST-WEST CRITICAL V/C RATIO 0.143
NORTH-SOUTH CRITICAL V/C RATIO 0.120
CLEARANCE INTERVAL 0.100

ICU VALUE 0.363

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 63
3/21/2012 12:26:37 PM

KOA CORPORATION
PLANNING & ENGINEERING

KOA CORPORATOION
ICU CALCULATIONS

INTERSECTION:6, GRAND AVENUE & SEPULVEDA BOULEVARD
DATE: 3/21/2012 INITIALS: IDH PERIOD: PM PEAK HOUR

CASE: FUTURE (2015) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	431	158	336
EASTBOUND	264	116	179
NORTHBOUND	143	2121	106
SOUTHBOUND	92	2844	200

** NUMBER OF LANES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2	2	1
EASTBOUND	1	2	0
NORTHBOUND	1	4	1
SOUTHBOUND	1	4	0

** MOVEMENT CAPACITIES **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	2880	3200	1600
EASTBOUND	1600	3200	0
NORTHBOUND	1600	6400	1600
SOUTHBOUND	1600	6400	0

** VOLUME TO CAPACITY RATIOS **

APPROACH	LEFT	THROUGH	RIGHT
WESTBOUND	0.150	0.049	0.210
EASTBOUND	0.165	0.092	0.000
NORTHBOUND	0.089	0.331	0.066
SOUTHBOUND	0.058	0.476	0.000

EAST-WEST CRITICAL V/C RATIO 0.375
NORTH-SOUTH CRITICAL V/C RATIO 0.565
CLEARANCE INTERVAL 0.100

ICU VALUE 1.040

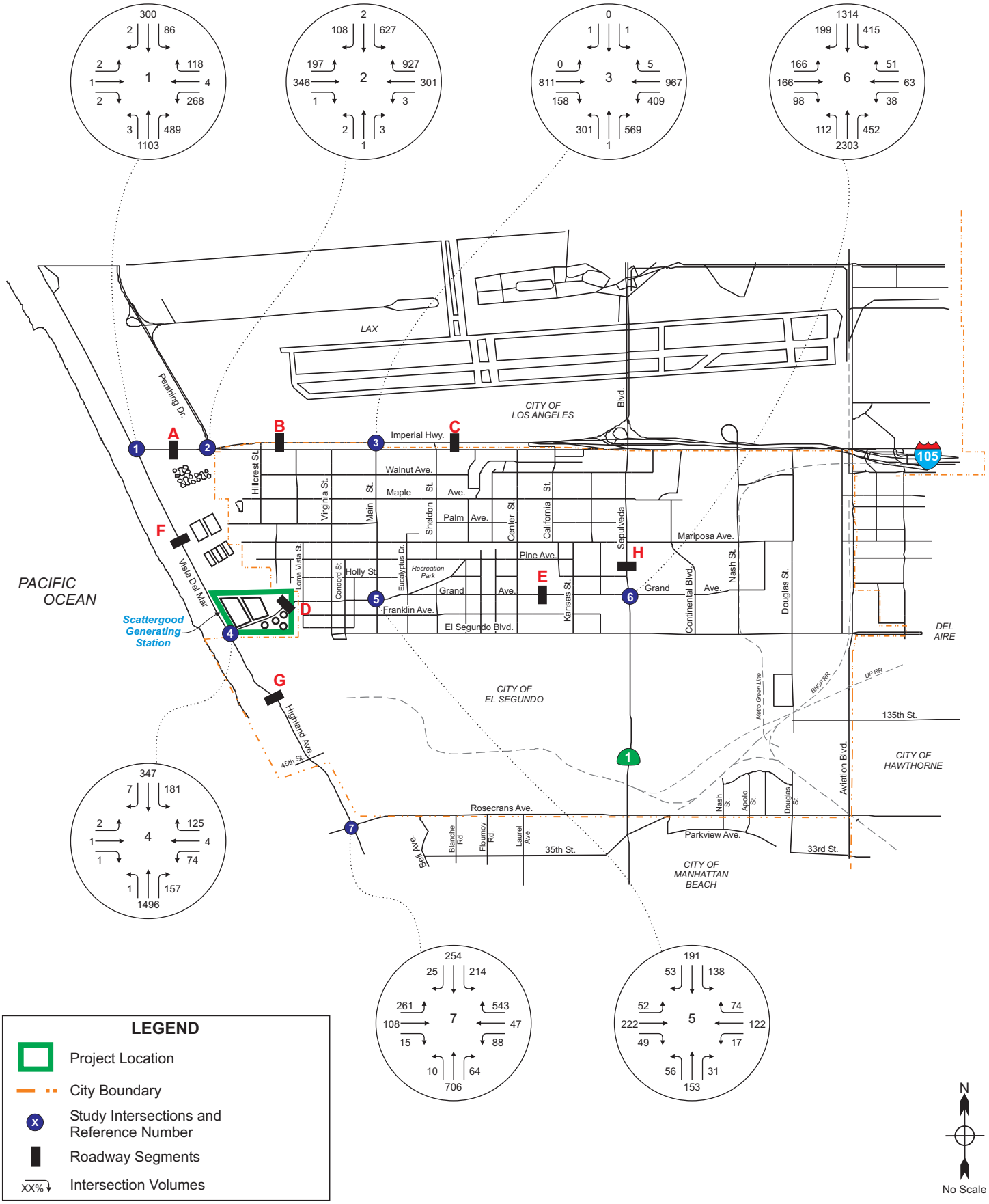
LEVEL OF SERVICE ..... F

Capacity used for through lanes, first RT and LT lanes = 1600.
Capacity used for additional LT lane(s) = 1280.

Eastbound and Westbound approaches have opposed signal phases.

File: I:\KOA Projects\Active Projects\Scattergood Gen Station\Data\ICAP7\Scattergood Total 9-2011.xls, Worksheet: Formula Total, Row: 64
3/21/2012 12:26:37 PM

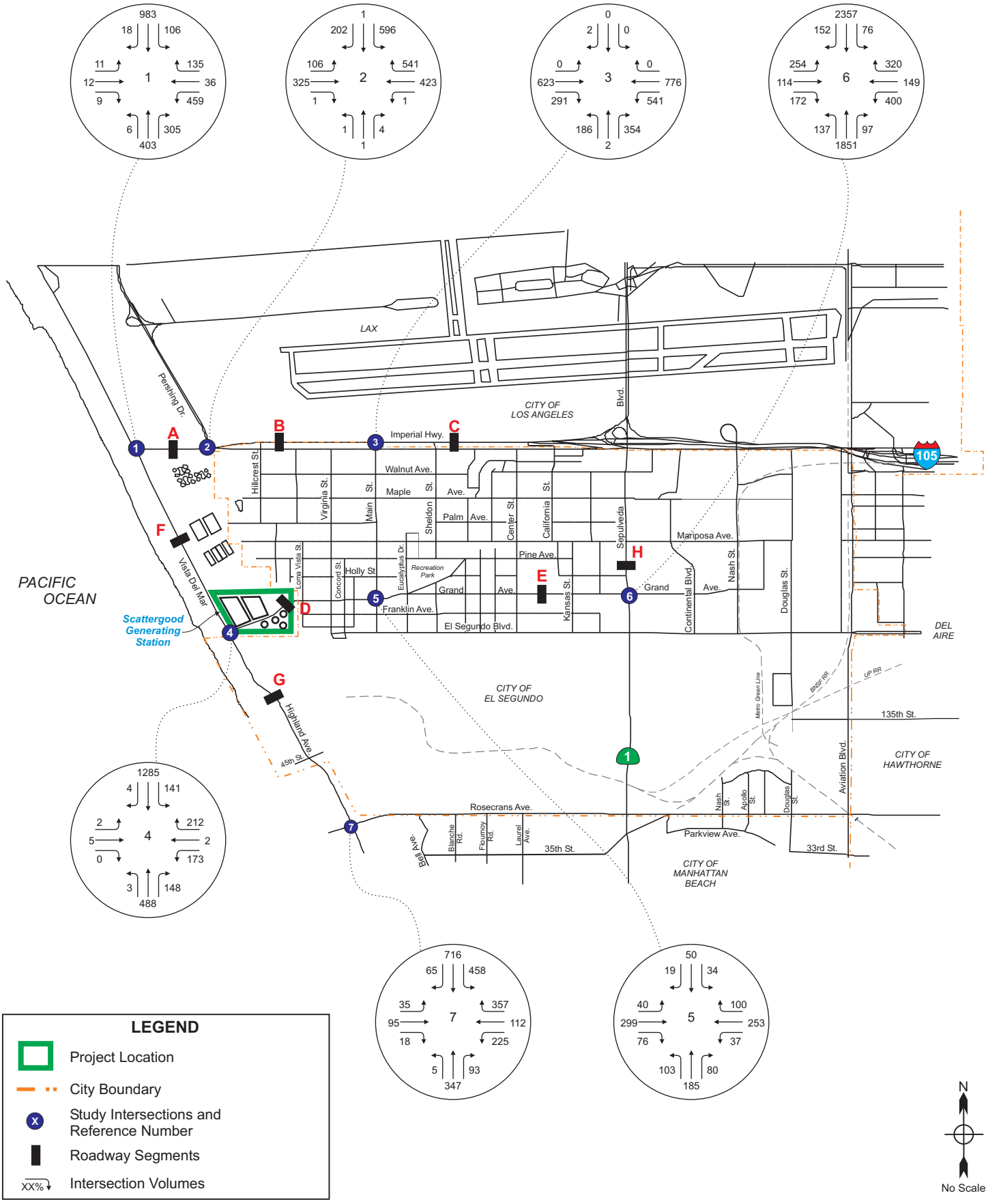
APPENDIX E
Supplemental Existing + Project Analysis Figures



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure E-1

Existing Year-2011 With-Project - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Scattergood Generating Station Repowering Project — Figure E-2

Existing Year-2011 With-Project - PM Peak Hour Intersection Volumes