



LOS ALAMITOS **GENERAL PLAN**

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME II: APPENDICES

State Clearinghouse No. 2013121055

August 2014 | City of Los Alamitos

**DRAFT ENVIRONMENTAL IMPACT REPORT
VOLUME II: APPENDICES**

**CITY OF LOS ALAMITOS
GENERAL PLAN UPDATE**

State Clearinghouse No. 2013121055
August 2014 | City of Los Alamitos

Prepared for:

City of Los Alamitos

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Appendices

Appendix A Initial Study/Notice of Preparation

Appendices

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CITY OF LOS ALAMITOS



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Warren Kusumoto

Mayor Pro Tem:
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Council Members:
Troy D. Edgar
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POSTED

DEC 18 2013

ORANGE COUNTY CLERK-RECORDER DEPARTMENT

BY:  DEPUTY

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California Environmental Quality Act – Notice of Preparation

Date: December 18, 2013
To: Responsible Agencies and Interested Parties
Subject: Notice of Preparation of an Environmental Impact Report and Public Scoping Meeting for the City of Los Alamitos General Plan Update

NOTICE IS HEREBY GIVEN that the City of Los Alamitos has prepared an Initial Study for the City of Los Alamitos General Plan Update and has determined that an Environmental Impact Report (EIR) is necessary. Pursuant to Public Resources Code Section 21165 and the California Environmental Quality Act Guidelines (CEQA Guidelines) Section 15050, the City of Los Alamitos is the Lead Agency for the project. The purpose of this notice is (1) to serve as a Notice of Preparation (NOP) of an EIR pursuant to the CEQA Guidelines Section 15082, (2) to advise and solicit comments and suggestions regarding the scope and content of the EIR to be prepared for the proposed project, and (3) to notice the public scoping meeting. Copies of the Initial Study are available for review at the following locations:

City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720

Los Alamitos/Rossmoor Library
12700 Montecito
Seal Beach, CA 90740

The document can also be accessed online at:
<http://losalgeneralplan.org/documents>

Notice of Availability: Pursuant to Public Resources Code Section 21080.4 and CEQA Guidelines Section 15082, the Initial Study will be available for a 30-day public review from Wednesday December 18, 2013, through Friday, January 17, 2014. The City, as Lead Agency, requests that responsible and trustee agencies respond in a manner consistent with Section 15082(b) of the CEQA Guidelines. All comments and responses to this Notice of Preparation should be submitted in writing to Steven Mendoza at the City address above by **Friday, January 17, 2014**.

Scoping Meeting: The City will conduct a public scoping meeting in conjunction with this NOP in order to present the project and the EIR process and to receive public comments and suggestions regarding the scope and content of the EIR. The meeting will be held:

Monday, January 6, 2014, at 5:00 p.m.

City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720

Project Title: City of Los Alamitos General Plan Update

Project Location: The City of Los Alamitos is on the northwestern boundary of Orange County and approximately 23 miles (driving distance) south of downtown Los Angeles. The City is surrounded by highly urbanized areas of Orange County and is near the cities of Long Beach, Seal Beach, Hawaiian Gardens, Cypress, and Garden Grove. Interstate 605 (I-605) runs north-south along the City's western boundary. No other interstate or state route crosses the City. However, I-405 travels northwest to southeast around the City's southern boundary, and State Route 22 (SR-22) travels east to west approximately 0.4 miles south of the City, providing regional access to Los Alamitos. The City's sphere of influence (SOI) encompasses the unincorporated community of Rossmoor on the southwest side of the City.

Project Description: The proposed project is an update to the City of Los Alamitos General Plan. The Los Alamitos General Plan Update is intended to shape development in the City and the unincorporated community of Rossmoor over the next 20-plus years. The Los Alamitos General Plan Update involves reorganization of the current General Plan into the following six required and two optional elements: land use element, circulation and transportation element, open space and recreation element, conservation element, safety element, noise element, economic development element, and growth management element. The Los Alamitos Joint Forces Training Base (JFTB) is within the City of Los Alamitos. The proposed Los Alamitos General Plan Update identifies the JFTB as Community & Institutional/JFTB. However, the City of Los Alamitos has no jurisdiction or land use authority over this U.S. military installation. The General Plan Update would result in a total of 8,735 residential units, a population of 23,003 people, 8,881,442 square feet of nonresidential development, and 18,430 jobs in the City and unincorporated community of Rossmoor.

Environmental Issues: Based on the Initial Study prepared for the proposed project, the City anticipates several potential impacts that will need to be addressed in the EIR:

- Aesthetics
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards & Hazardous Material
- Land Use & Planning
- Noise
- Population & Housing
- Public Services
- Recreation
- Transportation & Traffic
- Utilities & Service Systems

The Draft EIR will address the short- and long-term effects of the General Plan Update on the environment. Mitigation measures will be proposed for impacts that are determined to be significant.

Project Sponsor: City of Los Alamitos

Consulting Firm: The Planning Center|DC&E

Date: December 18, 2013

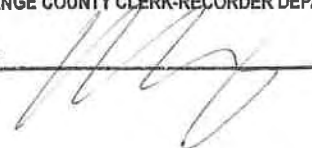
Signature:


Steven Mendoza
Community Development Director

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DEC 18 2013

ORANGE COUNTY CLERK-RECORDER DEPARTMENT

BY:  DEPUTY

**INITIAL STUDY
FOR:**

LOS ALAMITOS

GENERAL PLAN

UPDATE

prepared for:

**CITY OF LOS
ALAMITOS**

*Contact:
Steven Mendoza
Community Development
Director*

prepared by:

**THE PLANNING
CENTER|DC&E**

*Contact:
Nicole Vermilion
Associate Principal*

DECEMBER 2013

**INITIAL STUDY
FOR:**

LOS ALAMITOS

GENERAL PLAN

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ALAMITOS**

*3191 Katella Avenue
Los Alamitos, CA 90720
Tel: 562.431.3538*

*Contact:
Steven Mendoza
Community Development
Director*

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Nicole Vermilion
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CLA-01.0L

DECEMBER 2013

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Abbreviations and Acronyms

AAF	Army airfield
AAQS	ambient air quality standards
AB	Assembly Bill
AELUP	airport environs land use plan
AQMP	air quality management plan
BMP	best management practices
BPP	basin production percentage
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CBC	California Building Code
CCC	California Coastal Conservancy
CEQA	California Environmental Quality Act
CGS	California Geologic Survey
CMP	circulation management program
DAMP	drainage area management plan
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EMA	emergency management agency
EPA	Environmental Protection Agency (US)
GCP	general construction permit
GHG	greenhouse gases
GSWC	Golden State Water Company
IS	initial study
JFTB	Joint Forces Training Base
LID	low impact development
LIP	local implementation plan
MEP	maximum extent practicable
MRZ	mineral recovery zone
MWDOC	Municipal Water District of Orange County
NOP	Notice of Preparation (of an EIR)
NPDES	National Pollutant Discharge Elimination System
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District

Abbreviations and Acronyms

OCPW	Orange County Public Works
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OES	California Office of Emergency Services
RMC	Rivers and Mountains Conservancy
RWQCB	regional water quality control board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SoCAB	South Coast Air Basin
SOI	sphere of influence
SWPPP	stormwater pollution prevention plan
UWMP	urban water management plan
WQMP	water quality management plan

1. Introduction

The City of Los Alamitos is circulating for public review and comment this Notice of Preparation (NOP) and Initial Study (IS) for the City of Los Alamitos General Plan Update (proposed project). This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA), as amended, to determine if approval of the discretionary actions requested and subsequent development would have a significant impact on the environment.

As defined by Section 15063 of the CEQA Guidelines, an initial study is prepared primarily to provide the lead agency with information to use as the basis for determining whether a negative declaration, mitigated negative declaration, or environmental impact report (EIR) would be appropriate for providing the necessary environmental documentation and clearance for the proposed project.

1.1 PROJECT LOCATION

The City of Los Alamitos is located along the northwestern boundary of Orange County and approximately 23 miles (driving distance) south of downtown Los Angeles. As shown in Figure 1, *Regional Location*, the City is surrounded by highly urbanized areas of Orange and Los Angeles County and is near the cities of Long Beach, Seal Beach, Hawaiian Gardens, Cypress, and Garden Grove. Interstate 605 (I-605) runs north–south along the City’s western boundary. No other interstate or state route crosses the City’s boundaries. However, Interstate 405 (I-405) travels northwest to southeast around the City’s southern boundary, and State Route 22 (SR-22) travels east to west approximately 0.4 miles south of the City, providing regional access to Los Alamitos. The City’s sphere of influence (SOI) encompasses the unincorporated community of Rossmoor on the southwest side of the City (see Figure 2, *Citywide Aerial*).

1.2 ENVIRONMENTAL SETTING

1.2.1 Existing Land Use

The City of Los Alamitos encompasses 2,619 acres and its SOI extends to the 982-acre unincorporated community of Rossmoor. Approximately 50 percent of the City’s total land area is occupied by the Los Alamitos Joint Forces Training Base (JFTB), and the remaining area is developed for urban uses. As shown in Figure 3, *Existing Land Use*, these urban uses throughout the City include Single Family Residential, Multi-Family Residential, Mobile Home Residential, General Office, Business Park, Medical Office, Commercial, Industrial, Public/Quasi Public Facility, Parks, Water, as well as rights-of-way and easements. Part of the Coyote Creek and Carbon Creek channels, approximately 45 acres, flow through the City and into the San Gabriel River farther south along the City’s western boundary. The City has only three acres of vacant land.

1. Introduction

Generally, Los Alamitos is considered nearly built out and urbanized aside from the Los Alamitos JFTB. The JFTB is designated Public/Quasi-Public Facility. The JFTB includes a 200-foot and a 150-foot private runways oriented northeast–southwest and associated taxiways, ramp space, and hangars that are part of the Los Alamitos Army Airfield (AAF). North of the two runways is the Operations and Administration for the JFTB, which includes: the California Army National Guard and the U.S. Army Reserve headquarters buildings; operational and training facilities; general administration and installation support; and common-use classrooms, assembly areas, and dining facilities.

Table 1 shows various statistics for the existing land uses in Los Alamitos and Rossmoor.

1. Introduction

Table 1 Existing Land Use Summary

Category	Acres	Residential Units	Population	Nonresidential Square Feet	Employment
Los Alamitos	2,619	4,421	11,374	7,569,720	14,265
Business Park	96		-	1,631,766	3,264
Commercial	67		-	1,013,431	2,896
General Office	19		-	447,115	1,788
Industrial	95		-	1,505,204	2,150
Medical Office	31		-	749,440	3,065
Multi-Family Residential	122	2,629	6,764	-	-
Other Residential	12	112	288	-	-
Parks	17		-	-	-
Community & Institutional	172		-	951,862	680
Single Family Residential	275	1,680	4,322	-	-
Vacant	3		-	-	-
Water	45		-	-	-
ROW	305		-	-	-
Easement	44		-	-	-
Community & Institutional – JFTB	1,283		-	1,174,400	323
Parks – JFTB	22		-	8,972	-
General Office – JFTB	12		-	87,530	100
Rossmoor	982	3,779	10,234	408,257	395
Commercial	6		-	87,129	249
Medical Office	1		-	-	-
Multi-Family Residential	18	334	905		-
Parks	19		-	20,882	-
Public / Quasi-Public Facility	45		-	300,246	146
Single Family Residential	642	3,445	9,330		-

1. Introduction

Table 1 Existing Land Use Summary

Category	Acres	Residential Units	Population	Nonresidential Square Feet	Employment
Water	17		-	-	-
ROW	233				
Grand Total	3,601	8,200	21,608	7,977,977	14,660

Sources and assumptions:

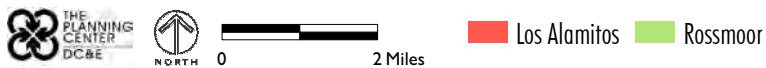
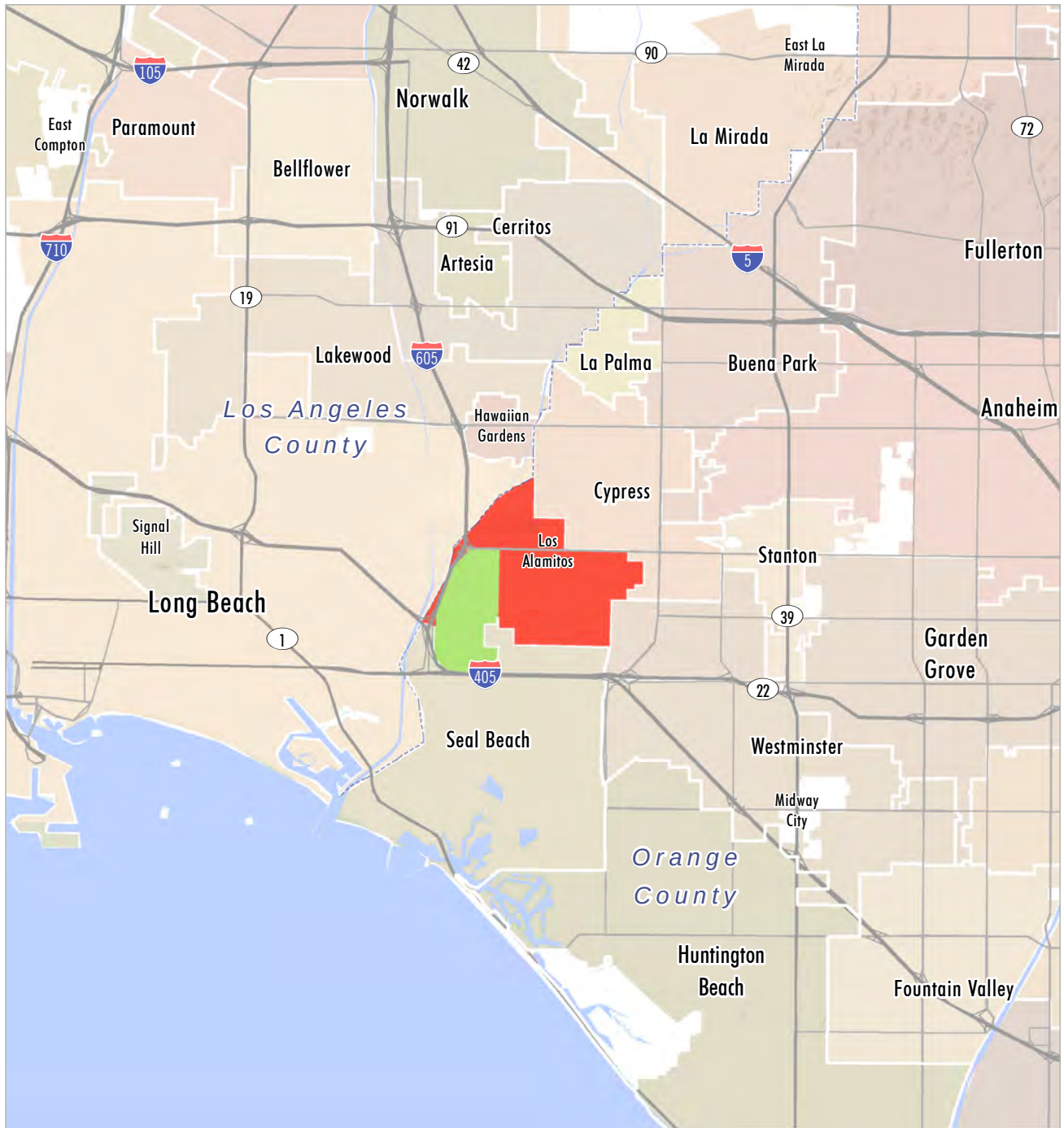
Units: Los Alamitos General Plan Update.

Population: U.S. Census, American Community Survey 2007–2011. 2.66 persons per household in the City of Los Alamitos (a); 2.75 persons per household in Rossmoor (b).

Nonresidential Square Footage: Field survey and GIS analysis by The Planning Center|DC&E, 2011–12.

Employment: U.S. Census, OnTheMap Application, Longitudinal-Employer Household Dynamics Program, 2012. Employment figures sorted to match existing land use categories by The Planning Center|DC&E.

Figure 1 Regional Location



1. Introduction

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Figure 2
Citywide Aerial

-  City Boundary
-  Sphere of Influence
-  Community & Institutional/JFTB

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1. Introduction

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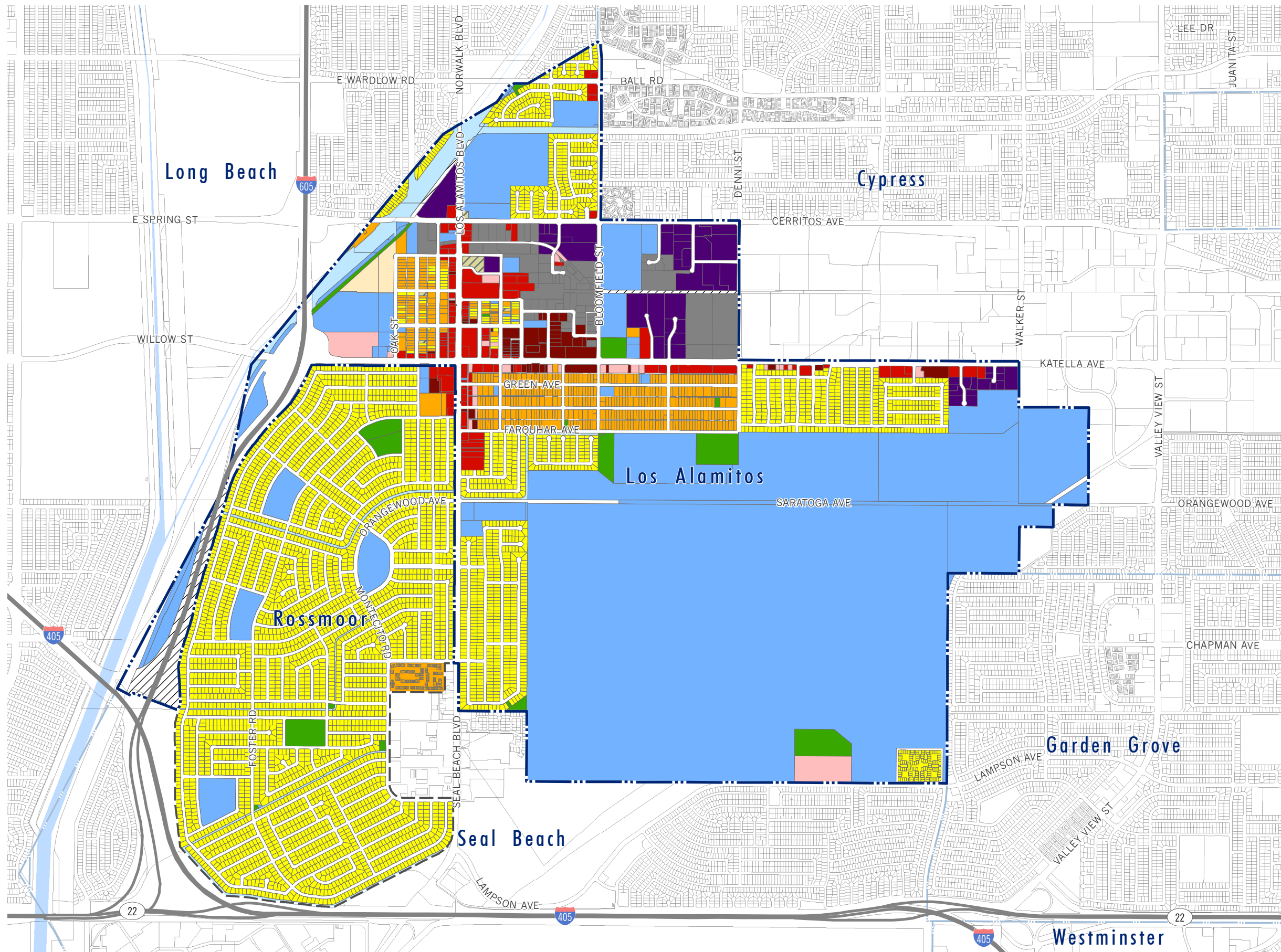


Figure 3
Existing Land Use

-  City Boundary
-  Sphere of Influence
-  Single Family Residential
-  Multi-Family Residential
-  Mobile Home Residential
-  General Office
-  Business Park
-  Medical Office
-  Commercial
-  Industrial
-  Public/Quasi Public Facility
-  Parks
-  Water
-  Vacant
-  Other/Easement

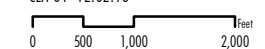
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1. Introduction

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1. Introduction

1.2.2 Surrounding Land Use

The City of Los Alamitos is largely surrounded by developed and urbanized communities of Orange and Los Angeles County. As shown in Figure 2, *Citywide Aerial*, the City is bordered by Old Ranch Country Club and Golf Course directly south of the Los Alamitos JFTB; a mixture of developed residential areas to the south and southeast in Garden Grove; business park and residential uses to the north and northeast in Cypress and Hawaiian Gardens; El Dorado Regional Park and Golf Course to the northwest in Long Beach; and California State University, Long Beach, to the west. South of the unincorporated area of Rossmoor is the retirement community of Leisure World Seal Beach.

Neighboring freeways include I-605 to the west that runs north–south through Los Angeles and Orange counties; I-405 to the south that runs northwest–southeast through the two counties; and SR-22 to the south, also known as the Garden Grove Freeway, that runs east–west, mainly through Orange County.

1.2.3 Current General Plan

The current Los Alamitos 2010 General Plan was adopted in May 1990, with multiple amendments since then, including a major amendment in 2000. The current general plan has nine elements:

- Land Use
- Conservation
- Safety
- Open Space and Recreation
- Circulation and Transportation
- Noise
- Economic Development
- Housing
- Growth Management

Table 2 outlines the current land use designations in the Los Alamitos 2010 General Plan. As shown in the table and in Figure 4, *Current General Plan Land Use*, 15 land use designations currently regulate development in the City and its SOI. The largest land area is designated for the JFTB, and the next largest in the City are designated for residential (single- and multifamily) and planned industrial uses. A smaller percentage of the City's land area is designated for office and retail business uses.

1. Introduction

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1. Introduction

Table 2 Current General Plan Land Use

Category	Acres	Residential Units	Population	Nonresidential Square Feet	Employment
Los Alamitos	2,619	5,439	14,204	8,562,942	16,235
Community & Institutional	150	-	-	976,513	658
Community & Institutional/JFTB	1,279	-	-	1,394,985	675
Easement	4	-	-		-
Limited Multi-Family Residential	18	189	494		-
Multi-Family Residential	174	3,689	9,633		-
Open Area	82	-	-		-
Planned Industrial	206	-	-	3,632,341	6,317
Professional Office	40	12	31	978,913	3,916
Retail Business	55	-	-	997,367	3,325
Single Family Residential	258	1,549	4,046		-
Specific Plan	17			582,824	1,345
Suburban Residential	0				-
ROW	336	-	-		-
Rossmoor	982	3,963	10,540	426,112	408
Suburban Residential	749	3,963	10,540	426,112	408
ROW	233				
Grand Total	3,601	9,402	24,744	8,989,054	16,643

Sources and assumptions:

Units: The Planning Center|DC&E, 2012. The following density assumptions were used unless adjusted by a specific project or to reflect the current buildout of an existing neighborhood.

Single Family Residential: 6 units per acre

Limited Multi-Family Residential: 12 units per acre

Multi-Family Residential: 22 units per acre

Suburban Residential: 5.65 units per acre Population: The Planning Center|DC&E, 2012. 2.70 persons per household in the City of Los Alamitos; 2.75 persons per household in Rossmoor.

Nonresidential Square Footage: The Planning Center|DC&E, 2011–12. Projections assumed an increase of approximately 10 percent above existing building square footage.

Employment: The Planning Center|DC&E, 2012. The following employment generation factors were used.

Retail Business: 300 square feet per employee

Professional Office: 250 square feet per employee

Planned Industrial: 575 square feet per employee

Limited Industrial: 575 square feet per employee

Mixed Use: 275 square feet per employee

Community & Institutional/JFTB: 1,000 square feet per employee

Community & Institutional: 1,000 square feet per employee

Specific Plan: per assumptions in Los Alamitos Medical Center Specific Plan EIR

1. Introduction

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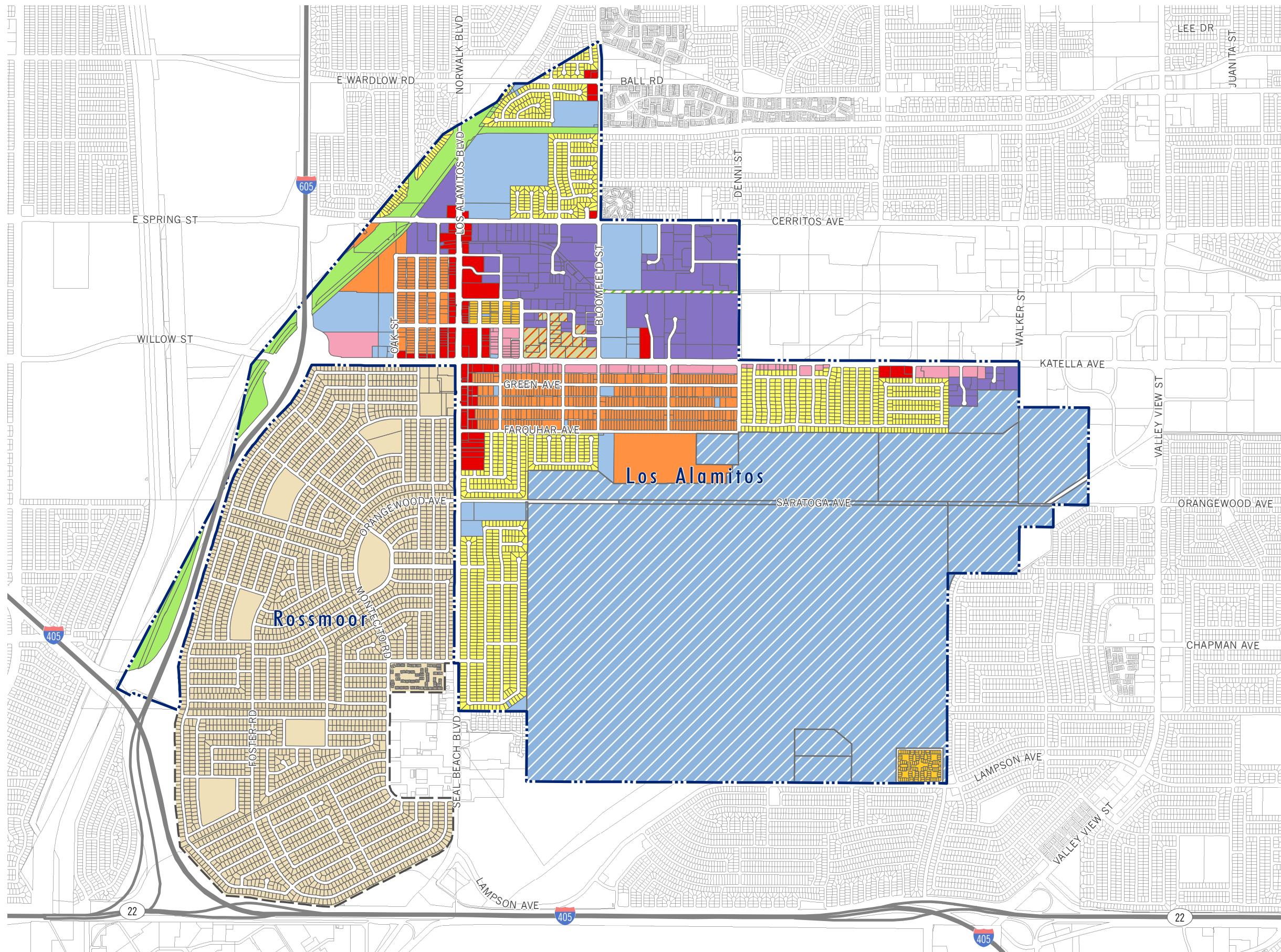


Figure 4
Current General Plan Land Use

City Boundary

Sphere of Influence

Current General Plan Land Use

- Single Family Res. 1-6 DU/Ac (R1)
- Limited Multi Family Res. 6-20 DU/Ac (R2)
- Multi Family Res. 20-30 DU/Ac (R3)
- Professional Office (PO)
- Retail Business (RB)
- Mixed Use (MU)
- Community & Institutional (C&I)
- Community & Institutional/JFTB
- Limited Industrial (LI)
- Planned Industrial (PI)
- Specific Plan (SP)
- Easement (E)
- Open Area (OA)

Sphere of Influence

- Suburban Residential (1B)

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1. Introduction

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1. Introduction

1.3 PROJECT DESCRIPTION

The proposed project is an update to the City of Los Alamitos General Plan. The Los Alamitos General Plan Update is intended to shape development in the City and the unincorporated community of Rossmoor (sphere of influence) over the next 20-plus years.

1.3.1 General Plan Community Values

The General Plan Update is guided by a set of community values and priorities developed by the Los Alamitos City Council and Commissions with input from the community in Los Alamitos and Rossmoor. The following values are integrated into the General Plan Update's policies and goals:

- Maintain high levels of safety and service
- Create an attractive and pedestrian-friendly downtown
- Introduce pedestrian bridges
- Maximize retail opportunities along Katella Ave
- Relocate City Hall
- Offer incentives to preserve and attract business
- Improve the look and identity of the City
- Provide consistent and effective code enforcement
- Maintain a good relationship with the school district
- Create more open space, park, trail, community garden, and recreation areas
- Evaluate annexation carefully
- Establish centralized parking options
- Enhance cultural uses and historical preservation

1.3.2 Proposed General Plan Elements

The Los Alamitos General Plan Update involves reorganization of the current General Plan into the following six required and two optional elements:

Required General Plan Elements

- **The Land Use Element** guides the distribution, location, and extent of land uses for housing, business, industry, institutions, open space, and recreation in the City and its sphere of influence. The element includes goals, policies, and implementation direction and establishes development criteria and standards, including building intensity and residential density.
- **The Circulation and Transportation Element** addresses the identification, location, and extent of existing and proposed major thoroughfares, transportation routes, multimodal transportation options, and local public utilities and facilities. It serves as an infrastructure plan and is correlated with the land use element.

1. Introduction

- **The Open Space and Recreation Element** focuses on natural and built recreational resources. It focuses on the preservation of existing open spaces and recreational facilities and the development of new resources.
- **The Conservation Element** emphasizes the conservation of natural, cultural, and historic resources within the community to maximize their value and prevent their wasteful exploitation and destruction.
- **The Safety Element** identifies natural and man-made hazards and establishes policies to protect the people and property within community.
- **The Noise Element** provides guidance related to noise conditions and identifies goals and policies aimed at mitigating and adapting to nuisance noise.

Optional General Plan Elements

- **The Economic Development Element** includes long-term goals for the community and policies to guide decision making relative to economic issues.
- **The Growth Management Element** is required for Orange County jurisdictions (Measure M) and ensures that growth and development is commensurate with the City's ability to provide an adequate circulation system.

1.3.3 Proposed Land Use Designations

Table 3 outlines the proposed land use designations and details the projected population, employment, dwelling units, and nonresidential square footage of development planned for under the General Plan Update. The proposed land use designations are also shown on Figure 5, *Proposed General Plan Land Use*.

1. Introduction

Table 3 Proposed General Plan Land Use

Category	Acres	Residential Units	Population	Nonresidential Square Feet	Employment
Los Alamitos	2,619	4,772	12,463	8,455,330	18,022
Community & Institutional	152	-	-	928,409	645
Community & Institutional/JFTB	1,318	-	-	1,397,993	675
Easement	4	-	-		-
Limited Industrial	8	-	-	106,286	185
Limited Multi-Family Residential	18	189	494		-
Medical Overlay	13	-	-	357,255	1,429
Mixed Use	19	14	35	626,644	2,279
Multi-Family Residential	145	3,017	7,880		-
Open Area	82	-	-		-
Planned Industrial	141	-	-	2,794,587	4,860
Professional Office	22	3	8	543,573	2,174
Retail Business	86	-	-	1,117,758	4,431
Single Family Residential	258	1,549	4,046		-
Specific Plan	17			582,824	1,345
Suburban Residential	0				-
ROW	336	-	-		-
Rossmoor	982	3,963	10,540	426,112	408
Suburban Residential	749	3,963	10,540	426,112	408
ROW	233				
Grand Total	3,601	8,735	23,003	8,881,442	18,430
Increase from Existing Conditions	0	535	1,395	903,465	3,722
Change Compared to the Current General Plan	0	-667	-1,741	-104,612	1,787

1. Introduction

Table 3 Proposed General Plan Land Use

Category	Acres	Residential Units	Population	Nonresidential Square Feet	Employment
Sources and assumptions:					
Units: The Planning Center DC&E, 2012. The following density assumptions were used unless adjusted by a specific project or to reflect the current buildout of an existing neighborhood.					
Single Family Residential: 6 units per acre Limited Multi Family Residential: 12 units per acre Multi Family Residential: 22 units per acre Suburban Residential: 5.65 units per acre					
Mixed Use: applied on a parcel-by-parcel basis; when residential assumed, the residential density was projected at 22 units per acre					
Population: The Planning Center DC&E, 2012. 2.70 persons per household in the City of Los Alamitos; 2.75 persons per household in Rossmoor.					
Nonresidential Square Footage: The Planning Center DC&E, 2011–12. Projections assumed an increase of approximately 10 percent above existing building square footage.					
Employment: The Planning Center DC&E, 2012. The following employment generation factors were used.					
Retail Business: 300 square feet per employee Planned Industrial: 575 square feet per employee Community & Institutional/JFTB: 1,000 square feet per employee Mixed Use: 275 square feet per employee					
Professional Office: 250 square feet per employee Limited Industrial: 575 square feet per employee Community & Institutional: 1,000 square feet per employee					
Medical Overlay: 250 square feet per employee Specific Plan: per assumptions in Los Alamitos Medical Center Specific Plan EIR					

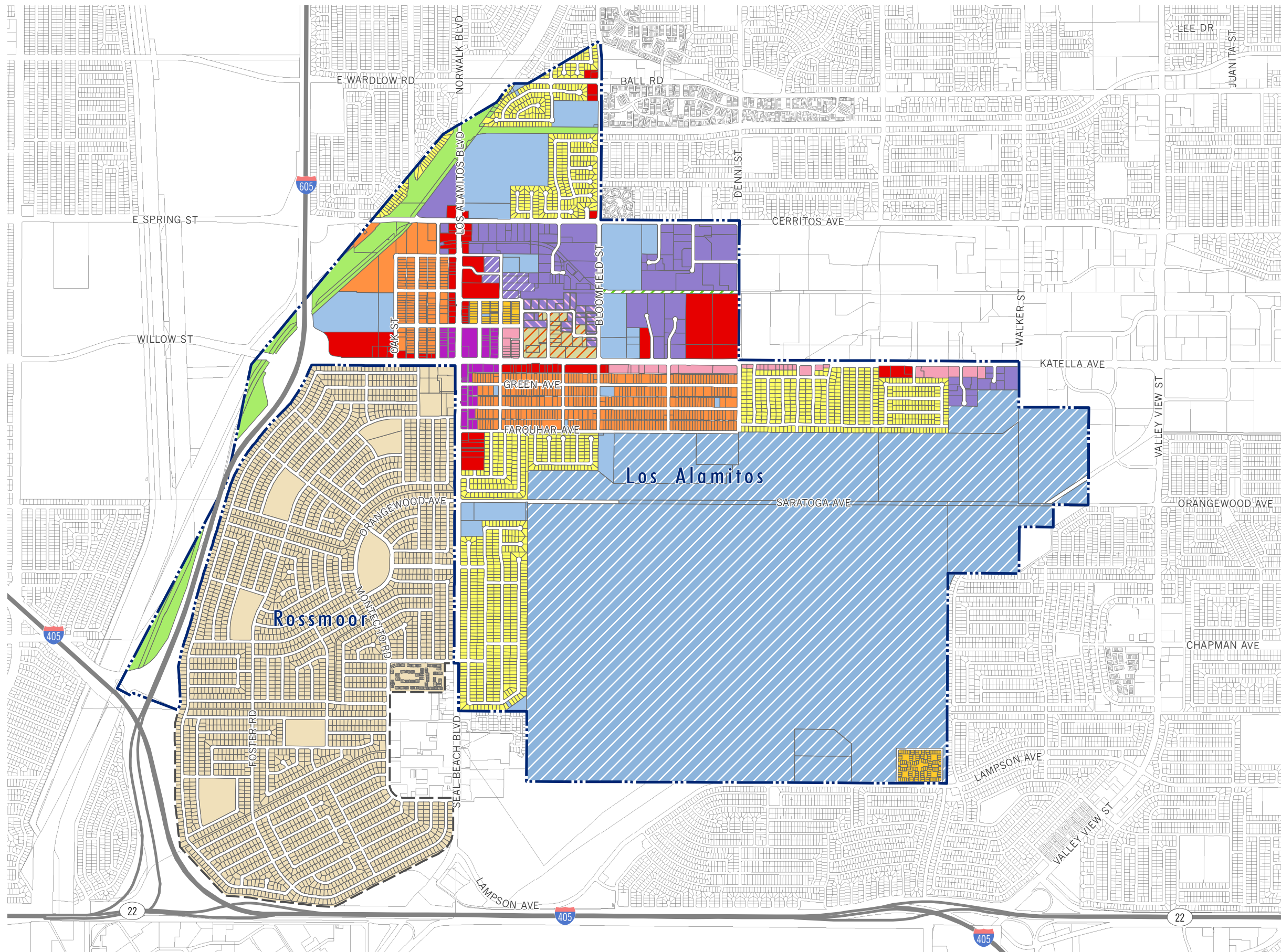


Figure 5
Proposed General Plan Land Use

- City Boundary**
Sphere of Influence
- General Plan Land Use**
- Single Family Res. 1-6 DU/Ac (R1)
 - Limited Multi Family Res. 6-20 DU/Ac (R2)
 - Multi Family Res. 20-30 DU/Ac (R3)
 - Professional Office (PO)
 - Retail Business (RB)
 - Mixed Use (MU)
 - Medical Overlay (M)
 - Limited Industrial (LI)
 - Planned Industrial (PI)
 - Community & Institutional (C&I)
 - Community & Institutional/JFTB
 - Specific Plan (SP)
 - Easement (E)
 - Open Area (OA)
- Sphere of Influence**
- Suburban Residential (1B)

LOS ALAMITOS GENERAL PLAN

education • recreation • safety • service



INITIAL STUDY

1. Introduction

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1. Introduction

Los Alamitos Joint Forces Training Base

No changes are proposed to the land use designations of the Los Alamitos JFTB. The proposed Los Alamitos General Plan Update identifies the JFTB as Community & Institutional/JFTB. The City of Los Alamitos has no jurisdiction or land use authority on this U.S. military installation. Consequently, no changes from existing conditions are assumed within the Los Alamitos JFTB as part of the City's General Plan Update.

1.4 EXISTING ZONING AND GENERAL PLAN

The current general plan, Los Alamitos 2010 General Plan, was adopted in May 1990—2010 was the planning horizon when the plan was approved in 1990 and substantially amended in 2000.

The City's zoning map identifies where various uses are allowed throughout the City—residential, community facilities, commercial, office, industrial, and open space.

1.5 CITY ACTION REQUESTED

The Los Alamitos City Council is the City's legislative body and the approving authority for the City of Los Alamitos General Plan. In order to implement the General Plan, the City Council must take the following actions:

- Certify the City of Los Alamitos General Plan Update EIR
- Adopt Findings of Fact (and Statement of Overriding Considerations, if required)
- Adopt a Mitigation Monitoring and Reporting Program
- Adopt the City of Los Alamitos General Plan Update

1.6 RESPONSIBLE AGENCIES

A public agency other than the lead agency that has discretionary approval power over a project is a responsible agency, as defined by CEQA Guidelines. Adoption of the City of Los Alamitos General Plan does not require permits or approvals from any other agency.

1.7 REVIEWING AGENCIES

Reviewing agencies do not have discretionary powers to approve or deny the proposed project or actions needed to implement it, but may review the environmental document for adequacy and accuracy. Potential reviewing agencies include:

Federal

- US Army Corps of Engineers
- US Fish and Wildlife Service
- US Environmental Protection Agency
- California National Guard (Los Alamitos JFTB)

1. Introduction

State

- California Highway Patrol
- California Department of Transportation, District 12
- California Department of Fish and Wildlife
- Native American Heritage Commission

Regional/Local

- South Coast Air Quality Management District
- Orange County Transportation Authority
- County of Orange Community Development Department
- County of Los Angeles Regional Planning
- Orange County Fire Authority
- Orange County Flood Control District
- Orange County Sheriff's Department
- Southern California Association of Governments
- City of Long Beach
- City of Seal Beach
- City of Cerritos
- City of Cypress
- City of Westminster
- Los Alamitos Unified School District
- Los Alamitos Medical Center
- Municipal Water District of Orange County

2. Environmental Checklist

2.1 BACKGROUND

1. Project Title: City of Los Alamitos General Plan Update

2. Lead Agency Name and Address:

City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720

3. Contact Person and Phone Number:

Steven Mendoza, Community Development Director
(562) 431-3538

4. Project Location:

The City of Los Alamitos is in the northwestern corner of Orange County, bordering the Orange-Los Angeles county line. The City borders the Los Angeles County cities of Hawaiian Gardens and Long Beach to the north and west, respectively; and the Orange County cities of Cypress to the east and Garden Grove and Seal Beach to the south. The City's sphere of influence includes the unincorporated community of Rossmoor, adjacent to the City's southwestern boundary.

5. Project Sponsor's Name and Address:

City of Los Alamitos
2191 Katella Avenue
Los Alamitos, CA 90702

6. General Plan Designation:

Various General Plan designations throughout the City. See Section 1.2.3.

7. Zoning: Various zoning designations throughout the City.

8. Description of Project:

The proposed project is an update to the City of Los Alamitos General Plan. The Los Alamitos General Plan Update is intended to shape development in the City and the unincorporated community of Rossmoor (sphere of influence) over the next 20-plus years. The Los Alamitos General Plan Update will reorganize the current General Plan into the following six required and two optional elements: land use element, circulation and transportation element, open space and recreation element, conservation element, safety element, noise element, economic development element, and growth management element. The Los Alamitos Joint Forces Training Base is within the City of Los Alamitos. The proposed Los Alamitos General Plan Update identifies the JFTB as Community & Institutional/JFTB. However, the City of Los Alamitos has no jurisdiction or land use authority on this U.S. military installation. The General Plan Update would result in a total of 8,735 residential units, a population of 23,003 people, 8,881,442 square feet of nonresidential development, and 18,430 jobs in the City and unincorporated community of Rossmoor.

2. Environmental Checklist

9. Surrounding Land Uses and Setting:

The City of Los Alamitos is largely surrounded by developed and urbanized communities of Orange and Los Angeles County. Los Alamitos is bordered by Old Ranch Country Club and Golf Course directly south of the Los Alamitos JFTB; a mixture of developed residential areas to the south and southeast in Garden Grove; business park and residential uses to the north and northeast in Cypress; El Dorado Regional Park and Golf Course to the northwest in Long Beach; and California State University, Long Beach, to the east. South of the unincorporated area of Rossmoor is the retirement community of Leisure World Seal Beach.

10. Other Public Agencies Whose Approval Is Required: None

2. Environmental Checklist

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agricultural and Forest Resources	☒ Air Quality
☐ Biological Resources	☒ Cultural Resources	☐ Geology / Soils
☒ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☒ Land Use / Planning	☐ Mineral Resources	☒ Noise
☒ Population / Housing	☒ Public Services	☒ Recreation
☒ Transportation / Traffic	☒ Utilities / Service Systems	☒ Mandatory Findings of Significance

2.3 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

12/13/2013
Date

Steven A. Mendoza
Printed Name

City of Los Alamitos
For

2. Environmental Checklist

2.4 EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) **Earlier Analyses Used.** Identify and state where they are available for review.
 - b) **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) **Mitigation Measures.** For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

2. Environmental Checklist

- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significant.

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	X			
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	X			

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	X			
e) Create objectionable odors affecting a substantial number of people?	X			
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	X			
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	X			
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
VII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	X			
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	X			
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	X			
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	X			
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	X			
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	X			

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j) Inundation by seiche, tsunami, or mudflow?			X	
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X			

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	X			
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	X			
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	X			
XIII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	X			
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			X	
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			X	
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	X			
b) Police protection?	X			
c) Schools?	X			

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Parks?	X			
e) Other public facilities?	X			
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	X			
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	X			
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	X			
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	X			
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e) Result in inadequate emergency access?			X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	X			
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	X			
e) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	X			
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	X			
g) Comply with federal, state, and local statutes and regulations related to solid waste?	X			
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

3. Environmental Analysis

Section 2.3 provided a checklist of environmental impacts. This section provides an evaluation of the impact categories and questions contained in the checklist and identifies mitigation measures, if applicable.

3.1 AESTHETICS

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. The City is in a highly urbanized area of Orange County and generally surrounded by other built-out cities, including Long Beach, Seal Beach, Cypress, Hawaiian Gardens, and Garden Grove. The City's physical setting in the Santa Ana River Basin region and relatively flat topography affords scenic views of the San Gabriel, San Bernardino, and San Jacinto Mountains. All of these vistas contribute to the unique character of Los Alamitos. Locally, a significant amount of the City's native grassland and chaparral vegetation was removed and replaced with ornamental planting as development occurred (Los Alamitos 2000).

Los Alamitos and its SOI are primarily built out and do not contain substantial undeveloped areas. Proposed land use changes are limited to urbanized areas of the City, and therefore infill and redevelopment would not impact any major scenic vistas in the region. Impacts would be less than significant and this topic will not be evaluated in the EIR.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The California State Scenic Roadways Program, established in 1963 by the state legislature, identifies key roadways in California that contribute to the state's scenic resources by providing viewsheds with aesthetic value. The program establishes the state's responsibility for the protection and enhancement of California's natural scenic beauty through regulations pertaining to scenic roadways and their function. Los Alamitos does not contain an Officially Designated State Scenic Highway, Officially Designated County Scenic Highway, or Eligible State Scenic Highway (DOT 2012). Therefore, no impacts relating to scenic highways would occur upon implementation of the General Plan Update. This topic will not be evaluated in the EIR.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Potentially Significant Impact. Although the majority of the city is built out and developed with a number of buildings, structures, and hardscape improvements, future development in accordance with the General Plan Update has the potential to impact the overall visual character of Los Alamitos and its surroundings through infill and redevelopment of underutilized parcels. Thus, impacts to the existing visual character are potentially significant, and additional analysis will be provided in the EIR.

3. Environmental Analysis

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Future development in accordance with the General Plan Update would allow for development of currently undeveloped parcels and alteration, intensification, and redistribution of existing land uses. Future development has the potential to introduce new sources of light and glare that could adversely affect day or nighttime views in Los Alamitos. However, the City is nearly built out, and a significant amount of ambient light already exists from surrounding cities and its own urban areas. Areas proposed for land use intensification are within existing, developed areas of the City and are not adjacent to open space or natural areas. Existing regulatory requirements per the City's Municipal Code, Section 8.48.010 (Outdoor Lighting Performance Standards)—including general outdoor lighting standards, parking lot lighting standards, and outdoor lighting (spotlighting and floodlighting)—would assure that lighting impacts associated with the proposed project would be less than significant. No further analysis is required in the EIR.

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less Than Significant Impact. There are approximately 190 acres in the City and SOI that are identified as Prime Farmland on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Department of Conservation (DLRP 2011). These prime farmlands are on the southern and northeastern corners of the Los Alamitos JFTB property and are currently being cultivated for strawberry production through an out-lease with a commercial farming operation (JFTB 2010). However, the City of Los Alamitos has no land use authority on the Los Alamitos JFTB, and the General Plan Update would not affect any land uses in the JFTB boundary. Therefore, the General Plan Update would result in a less than significant impact to farmland. No additional discussion of this issue in the EIR is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. Williamson Act contracts restrict the use of privately owned land to agriculture and compatible open space uses under contract with local governments. In exchange, the land is taxed based on actual use rather than potential market value. The City of Los Alamitos does not designate any land within the City for agricultural uses. Additionally, no areas in the City are under Williamson Act contracts (DLRP 2007). Therefore, future

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development in accordance with the General Plan Update would not result in the conversion of areas zoned for agriculture uses to nonagricultural use, and further analysis is not required. This topic will not be evaluated in the EIR.

- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

No Impact. Implementation of the General Plan Update would not rezone or conflict with the existing zoning of forest land or timberland as defined by Public Resources Code sections 12220(g) or 51104(g). Los Alamitos does not have any areas designated forest land or timberland for production or resource management. Therefore, the proposed General Plan would not cause impacts to forest land or timberland. This topic will not be evaluated in the EIR.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact. See response to 3.2(c), above. There are no forest lands in Los Alamitos. Implementation of the proposed General Plan would not convert forest land to nonforest use, and no impacts related to the loss of forest land would occur. This topic will not be evaluated in the EIR.

- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact. As discussed above, the City and the SOI does not have agricultural or significant forest resources. No impacts would occur, and this issue will not be addressed in the EIR.

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?**

Potentially Significant Impact. The City of Los Alamitos is in the South Coast Air Basin (SoCAB) and is subject to the air quality management plan (AQMP) prepared by the South Coast Air Quality Management District (SCAQMD). SCAMQD's 2012 AQMP is based on regional growth forecasts for the Southern California Association of Governments (SCAG) region. Buildout of the General Plan Update would involve changes in land use intensity and additional traffic volumes throughout the City and SOI, resulting in an increase of air pollutant emissions. Therefore, the General Plan Update could result in potentially significant impacts to air quality. The EIR will assess the proposed project's consistency with the AQMP and identify mitigation measures as necessary.

- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

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Potentially Significant Impact. The City of Los Alamitos is in the SoCAB, which is designated nonattainment for ozone (O₃), fine inhalable particulate matter (PM_{2.5}), coarse inhalable particulate matter (PM₁₀), and lead (Los Angeles County only) under the California and National ambient air quality standards (AAQS) and nonattainment for nitrogen (NO₂) under the California AAQS. Development pursuant to the General Plan Update may impact air quality during construction and operation of planned uses and would generate an increase in vehicle trips. Air pollutant emissions associated with the increase in stationary and mobile sources of air pollution within the City and the SOI may exceed the SCAQMD regional significance thresholds and contribute to the current nonattainment status of the SoCAB. The EIR will evaluate the potential for buildout of the General Plan Update to generate significant air quality impacts.

- c) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

Potentially Significant Impact. The SoCAB is designated nonattainment for O₃, PM_{2.5}, PM₁₀, lead (Los Angeles County only), and NO₂ (state only). Buildout of the proposed General Plan would increase existing levels of criteria air pollutants generated by land uses in the City and the SOI and would contribute to the nonattainment status of the SoCAB. The EIR will evaluate air quality impacts of the proposed project. The EIR will identify the policies of the proposed General Plan that are intended to reduce air quality impacts.

- d) **Expose sensitive receptors to substantial pollutant concentrations?**

Potentially Significant Impact. Development in accordance with the Los Alamitos General Plan Update may expose sensitive receptors—that is, children, the elderly, or persons with respiratory-related health conditions—to substantial pollutant concentrations. The EIR will evaluate the proposed land use changes and the potential air quality impacts of these uses on sensitive receptors.

- e) **Create objectionable odors affecting a substantial number of people?**

Potentially Significant Impact. Residential development and commercial uses do not typically generate objectionable odors that affect a substantial number of people. However, some industrial uses have the potential to generate objectionable odors. The EIR will evaluate potential sources of odor generated by future development accommodated by the General Plan Update and their potential to affect a substantial number of people.

3.4 BIOLOGICAL RESOURCES

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Less Than Significant Impact. Sensitive biological resources are habitats or species that have been recognized by federal, state, and/or local agencies as being endangered, threatened, rare, or in decline throughout all or part of their historical distribution. The California Natural Diversity Database (CDFW 2013) identifies a number of sensitive plant and animal species at sites around Los Alamitos, but most of these are associated with aquatic and wetland habitats at the mouth of the San Gabriel River and the open grassland habitats in the Los Alamitos JFTB.

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The San Gabriel River flows to the west and outside of the City of Los Alamitos. Approximately half of the City's land area is occupied by the Los Alamitos JFTB, which has potential habitat for a number of sensitive species such as the burrowing owl (*Athene cunicularia*). The City of Los Alamitos has no jurisdiction or land use authority on this military base. The City's General Plan Update does not propose any changes within the base and would have no impact on species that occur there.

The City of Los Alamitos is urbanized (excluding the Los Alamitos JFTB); the existing vegetation is largely ornamental; and the plants and animals found there are typical of urbanized areas of the region. Two streams flow through the City: Coyote Creek flows toward the San Gabriel River inside and adjoining the northwestern part of the City, and a small section of Carbon Creek flows through the northern tip of the City. These streams flow in concrete channels and provide limited habitat for species, and the General Plan Update maintains their land use designations as Open Space. Coyote Creek and Carbon Creek would not be altered, and land uses adjacent to the water sources would remain substantially the same as designated in the existing general plan.

There are several small patches of disturbed vegetation that occur along the Coyote Creek and Carbon Creek channels, along the Southern California Edison and Southern Pacific Railroad easement areas, and on the northern part of the parcels occupied by the Arrowhead Products facility on Lexington Drive. There is low potential for rare plant species to occur in these areas. If these areas are proposed for development in the future, biological assessments should be carried out to determine whether any sensitive species occur there. Compliance with existing regulations regarding protection of sensitive species and their habitat would ensure no significant impacts would occur. Therefore, impacts to the habitat of candidate, sensitive, or special status species within the City or SOI would be less than significant upon implementation of the General Plan Update. This topic will not be further evaluated in the EIR.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Less Than Significant Impact. The City and SOI do not contain any riparian or other sensitive natural communities. Coyote Creek and Carbon Creek provide seasonal water flows, but lack riparian habitat and would not be altered under the General Plan Update. This topic will not be further evaluated in the EIR.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Less Than Significant Impact. Wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and wildlife communities living in the soil and on its surface. The sections of Coyote Creek and Carbon Creek that pass through the City would be considered jurisdictional waters, but not wetlands. These stream courses are concrete channels with biking and walking trails along the tops. The Open Space designation for these channels and adjoining lands are not changed under the General Plan Update, and they would not be impacted by its implementation. Wetlands may occur in the Los Alamitos JFTB. The City has no jurisdiction or land use authority on this military base. The City's General Plan

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Update does not propose any changes within the base, and would have no impact on wetlands that could occur there. This topic will not be further analyzed in the EIR.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

No Impact. The City is urbanized and surrounded by urbanized cities. Coyote Creek and Carbon Creek provide aquatic connectivity upstream and downstream of the City, but these concrete channels provide limited wildlife habitat. The San Gabriel River lies outside of City boundaries. The proposed update maintains these areas in Open Space and would not impact wildlife movement or native wildlife nurseries. This topic will not be further evaluated in the EIR.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

No Impact. The City is urbanized and lacks natural habitats. The municipal code has a number of measures to protect trees on public lands and right of ways, to contribute to the City's property values, aesthetics, and natural resources. The proposed update does not conflict with any of these tree protection measures. This topic will not be further evaluated in the EIR.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

No Impact. The California Coastal Conservancy (CCC) is a state agency established to ensure the protection and restoration of coastal resources by partnering with local governments, public agencies, and nonprofit organizations (CCC 2010). The Rivers and Mountains Conservancy (RMC) is a regional conservancy agency that works with the CCC to preserve and protect open space and habitat in eastern Los Angeles County and western Orange County (RMC 2011). The RMC develops parkway and open space plans to provide best practices and programs for low-impact recreation and educational uses, wildlife habitat restoration and protection, and watershed improvements within the region. The Los Cerritos Wetlands at the mouth of the San Gabriel River in the nearby cities of Seal Beach and Long Beach has been identified by the RMC and CCC as sensitive habitats in need of protection. However, because the wetlands are not within the City of Los Alamitos, implementation of the General Plan Update would not conflict with provisions of any Los Cerritos Wetlands conservation plans. There are no other Habitat Conservation Plans (HCP) or Natural Community Conservation Plans (NCCP) in the City. Implementation of the General Plan Update would not conflict with provisions of any HCP or NCCP. This topic will not be further evaluated in the EIR.

3.5 CULTURAL RESOURCES

- a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?**

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Potentially Significant Impact. Section 15064.5 of the CEQA Guidelines defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally a resource is considered to be “historically significant” if it meets one of the following criteria:

- i) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- ii) Is associated with the lives of persons important in our past;
- iii) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- iv) Has yielded, or may be likely to yield, information important in prehistory or history.

Although there are no sites in Los Alamitos listed on the state or federal registers of historic places, the City has a number of structures that are of local significance. Furthermore, Rancho Los Alamitos and Rancho Los Cerritos are in the neighboring city of Long Beach and listed on the National Register of Historic Places. Other historic resources could also exist within the City or SOI. Changes to policies and land use designations in the General Plan Update may impact these and other historical resources. A historical records search will be conducted, and analysis of potential impacts to historic resources will be included in the EIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact. Los Alamitos was first inhabited by the Tongva peoples, also known as the Gabrielino. Traditional Gabrielino territory included most of the San Fernando Valley, Los Angeles Basin, and southern Channel Islands. Development in accordance with the proposed General Plan Update may cause the disturbance of archaeological resources. Building construction in undeveloped areas or redevelopment that requires excavation to depths greater than current foundations would potentially cause the destruction of unknown archaeological resources. The EIR will evaluate potential impacts of the General Plan Update on sensitive archeological resources. As a part of the EIR, a records search of archeological resources will be conducted.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. Unique paleontological resources may be present in Los Alamitos, especially in areas of undetermined significance where sedimentary formations are exposed. The EIR will evaluate potential impacts of the General Plan Update on unique paleontological resources and geologic features. As part of the EIR, a record search for paleontological resources will be conducted.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental

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discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Although soil-disturbing activities associated with development in accordance with the General Plan Update could result in the discovery of human remains, compliance with existing law would ensure that significant impacts to human remains would not occur. This topic will not be evaluated in the EIR.

3.6 GEOLOGY AND SOILS

a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

No Impact. The entire southern California region is considered seismically active. Los Alamitos is in a high seismic risk zone subject to seismic activity from various faults, including the Los Alamitos Fault—the closest fault, which also passes through the communities of Lakewood and Bellflower (CGS 2010). Other nearby faults include the Norwalk, Newport-Inglewood-Rose Canyon, El Modena, Elysian Park, and Whittier-Elsinore faults. However, none of these faults are zoned under the guidelines of the Alquist-Priolo Earthquake Fault Zoning Act (DOC 1986). Thus, there are no Alquist-Priolo fault zones within the vicinity of the City and no impact would occur. This will not be further analyzed in the EIR.

ii) **Strong seismic ground shaking?**

Less Than Significant Impact. Implementation of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos. The fault zones listed above could cause seismic ground shaking in Los Alamitos regardless of whether new development is built in the City and its SOI under the proposed project. Furthermore, much of the southern California region is susceptible to seismic ground shaking, and Los Alamitos is not any more susceptible than neighboring cities. New development would have to adhere to applicable California Building Code (CBC) regulations to minimize ground shaking impacts. The City has also adopted CBC Part 2 standards in the City's Municipal Code, Section 15.04.010 (Construction Codes Adopted), which includes building design standards for the construction of new buildings and/or structures and specific seismic engineering design and construction measures to avoid the potential for adverse ground shaking impacts. Thus, seismic ground shaking impacts would be less than significant after compliance with applicable state and local regulations and policies and will not be further analyzed in the EIR.

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iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction affects uniformly sized, loosely deposited, saturated, granular soils with low clay content. Soils with these properties that undergo sufficient duration and intensity of groundshaking may behave as a fluid for a short period of time. According to the Department of Conservation Seismic Hazard Zones Map for the Los Alamitos Quadrangle, the City is zoned as an area of historical liquefaction or where local geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacements (DOC 1999). Though implementation of the General Plan Update would allow for new buildings and structures to be constructed in liquefaction zones, all new development would be required to conduct site-specific geotechnical studies and hazards assessments on a project-by-project basis to determine site-specific soil properties and potential for ground failure. Furthermore, compliance with standards in the CBC requires implementation of design features to mitigate any potential ground failure hazards. Thus, impacts related to liquefaction would be less than significant and will not be further discussed in the EIR.

iv) Landslides?

Less Than Significant Impact. Although implementation of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos, the City and its SOI have low vulnerability for landslide, mudslide, or rock-fall events induced by seismic activity or excessive rainfall because Los Alamitos is primarily on flat land and has less than a 2 percent slope. With such flat and uniform topography, the City and its SOI has very low potential for landslides. Therefore, implementation of the General Plan Update would not result in significant impacts relating to landslides. This topic will not be further evaluated in the EIR.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant. As described above, Los Alamitos is primarily on flat land. The City and its SOI are also largely built out and do not feature substantial undeveloped areas where new development would disturb topsoil. Due to the flat topography, soil erosion would not be an issue. New developments on sites larger than an acre are also required to comply with the National Pollution Discharge Elimination System (NPDES) program's General Construction Permit (GCP) requirements, which include development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Furthermore, prior to construction and grading permit issuance, the City's Municipal Code, Section 8.44.060 (BMPS – Monitoring – Inspections), requires developers to implement best management practices (BMPs) to ensure that discharge of pollutants from project sites is reduced so that it would not cause or contribute to an exceedance of water quality standards. This includes emphasizing erosion prevention through sediment control, stabilizing slopes, and minimizing soil disturbance. By adhering to the federal and local regulations, development in accordance to the General Plan Update would not result in significant impacts relating to soil erosion or the loss of topsoil. Further evaluation of this topic in the EIR is not required.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

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Less Than Significant Impact. See response to Section 3.6(a), above. Although the City is near the Los Alamitos Fault and within a zone of liquefaction potential, all new development is required to comply with CBC standards for construction design and earthwork and foundation preparations to ensure soil and site stability. Therefore, adherence to CBC standards on a project-by-project basis would ensure maximum protection against unstable soils and geologic units. Thus, development due to the proposed project would be less than significant. This impact will not be further analyzed.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. Expansive soils are prone to change in volume because of the presence or absence of moisture. Expansive soils decrease in volume when dry and increase when wet (shrink-swell). They have high percentages of certain kinds of clay particles, which can expanding 10 percent or more as the clay becomes wet. Soils composed predominantly of sand and gravel do not absorb much water. Expansive soils can cause structural damage, cracked driveways and sidewalks, heaving of roads and highway structures, and disruption of pipelines and other utilities. Expansive soils are most likely to occur in basins and on basin rims.

The soils in the City and SOI include clays, silts, and sand, most likely from alluvial and floodplain deposits from the San Gabriel River. More specifically, the soils include Drained Bolsa Silt/Silty Loam, Drained Hueneme Fine Sandy Loam, Metz Loamy Sand, and San Emigdio Fine Sandy/Moderately Sandy Loam. These soil types are considered suitable for urban development and have low shrink-swell potential and limited susceptibility to expansion (RBF 2011). Furthermore, the City requires tentative maps for all new developments to include a preliminary soils report based upon adequate test borings, pursuant to Municipal Code Section 16.08.070 (Soils Report). If expansive soils are found, soils investigations of each potentially affected parcel may be required. Additionally, CBC Section 1802.2.2 (Expansive Soils) also requires soils testing to identify expansive characteristics and appropriate remediation measures. Specific treatments to eliminate expansion of soils include, but are not limited to, grouting (cementing the soil particles together), recompaction (watering and compressing the soils), and replacement with a nonexpansive material (excavation of unsuitable soil and filling with suitable material). Therefore, building can occur successfully on potentially expansive soils with proper site- and project-specific mitigation to offset the vertical and horizontal forces of the soil type. After complying with CBC and City requirements, impacts relating to expansive soils would be less than significant. This topic will not be further evaluated in the EIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Wastewater services are provided by the Rossmoor/Los Alamitos Sewer District and the Orange County Sanitation District. The City and the SOI does not use any septic tanks. Thus, the proposed project would have no impact on septic tank or alternative wastewater disposal systems in Los Alamitos.

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3.7 GREENHOUSE GAS EMISSIONS

- a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Potentially Significant Impact. Implementation of future development projects pursuant to the General Plan Update would increase land use intensities, generating additional traffic volumes and new direct and indirect sources of greenhouse gas (GHG) emissions throughout Los Alamitos. An analysis will be prepared as part of the EIR to determine the General Plan Update's potential GHG impacts.

- b) **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

Potentially Significant Impact. Assembly Bill 32, the Global Warming Solutions Act of 2006 (AB 32), requires the state to reduce GHG emissions to 1990 levels by 2020. The California Air Resources Board (CARB) adopted the Scoping Plan to identify state regulations and programs that would be adopted by state agencies to achieve the 1990 target of AB 32. In addition, Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008 (SB 375), was adopted by the legislature to reduce per capita vehicle miles traveled and associated GHG emissions from passenger vehicles. The Southern California Association of Governments' 2012 Regional Transportation Plan/Sustainable Communities Strategy identifies the per capita GHG reduction goals for the SCAG region. The EIR will evaluate consistency of the General Plan Update with the overall GHG reduction goals of AB 32 and SB 375.

3.8 HAZARDS AND HAZARDOUS MATERIALS

- a) **Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?**

Potentially Significant Impact. Implementation of the General Plan Update would accommodate the development of commercial (designated Retail Business and Professional Office in Table 3) and Limited Industrial uses, which may manufacture, transport, store, use, and dispose of hazardous materials and waste. The transport of hazardous materials along the highways and local roads creates potential risks for spills or leaks from nonstationary sources. The alteration, intensification, and redistribution of land uses may also contribute to public exposure and environmental hazards during transport, use, or disposal of hazardous materials. The EIR will evaluate impacts of the General Plan Update relative to hazardous materials.

- b) **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Potentially Significant Impact. The General Plan Update would accommodate the development of commercial (designated as Retail Business and Professional Office in Table 3) and Limited Industrial uses. These land uses have the potential to manufacture, use, store, and/or transport hazardous materials; therefore, such new land uses in Los Alamitos could create some risk of accidental release of hazardous materials. This topic will be addressed in the EIR.

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- c) **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Potentially Significant Impact. There are 10 public schools, an adult school, and numerous private schools in Los Alamitos. Future development in accordance with the General Plan Update may involve development of land uses that involve the use of hazardous materials or generate hazardous emissions within one-quarter mile of a school. This impact is potentially significant and will be addressed in the EIR.

- d) **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Potentially Significant Impact. Implementation of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos. Development could occur on hazardous materials sites. Sites that are identified as being contaminated by hazardous substances or containing underground storage tanks and/or generators of hazardous waste are required to undergo remediation and cleanup pursuant to regulations under the California Department of Toxic Substances Control (DTSC) and the Santa Ana Regional Water Quality Control Board (RWQCB) before construction activities can begin. Furthermore, if any future specific project were to exceed regulatory action contamination levels, the developer would be required to undertake remediation procedures under the supervision of the County Environmental Health Division, County Department of Toxic Substances Control, or RWQCB, depending on the nature of the identified contaminants.

Future development in accordance with the General Plan Update could lead to a significant hazard to the public or environment. Thus, the EIR will further discuss this impact and also include database searches for listings of hazardous materials within Los Alamitos using the EnviroStor database maintained by the DTSC and the GeoTracker database maintained by the State Water Resources Control Board. This impact will be addressed in the EIR.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

No Impact. The closest public airports to Los Alamitos are the Long Beach Airport, approximately 3 miles west of the City, and the Fullerton Municipal Airport, approximately 6 miles northeast of the City. However, the Airport Land Use Plans for these airports do not extend into the City or its SOI. Therefore, no impact would occur from these facilities. There are also no public or public use airports in Los Alamitos. Thus, this impact will not be discussed further in the EIR.

- f) **For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

Potentially Significant Impact. The Los Alamitos JFTB is in the City and has an airport for military operations—the Los Alamitos Army Airfield (AAF). The City of Los Alamitos is within the Airport Environs Land Use Plan (AELUP) for the JFTB. Future developments in the City and the SOI in accordance with the General Plan Update could be affected by JFTB's airport operations (OCALUC 2005). Future development in

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accordance to the General Plan Update could result in potentially significant impacts to residents and workers in the City and the SOI related to safety hazards generated by the Los Alamitos AAF; therefore, airport hazards will be further evaluated in the EIR.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Buildout of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos. However, the City and its SOI is generally built out, and the proposed land use changes would not result in substantial changes to the circulation patterns or emergency access routes. Therefore, impacts to emergency response plans would be less than significant. This topic will not be evaluated in the EIR.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The City is not proximate to wildland areas and is not classified in the California Department of Forestry and Fire Protection's (CAL FIRE) "Communities at Risk" list (CAL FIRE 2012). CAL FIRE maps show a "moderate" fire threat in the City of Los Alamitos and its SOI. Furthermore, land use changes proposed by the General Plan Update are generally limited to infill development and would not expose people or structures to heightened risks related to wildfires. Thus, no impacts would result from the proposed project, and no further discussion will be required in the EIR.

3.9 HYDROLOGY AND WATER QUALITY

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The US Environmental Protection Agency (EPA) establishes national water quality standards. Pursuant to Section 402 of the Clean Water Act, the EPA has also established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. In Los Alamitos, the Santa Ana RWQCB administers NPDES permitting programs and is responsible for developing wastewater discharge requirements. Construction and operation of planned development per the General Plan Update has the potential to discharge sediment and pollutants to storm drains and receiving waters.

As stated in the response to section 3.6(b), all new developments over an acre in size are required to obtain a Construction General Permit (NPDES No. CAS000002) through the Santa Ana RWQCB NPDES program. The permit requires the development and implementation of a SWPPP, which would identify point and non-point sources of pollutant discharge that could adversely affect water quality in the City and its SOI. The SWPPP also designates project-specific BMPs that would be appropriate for achieving minimal pollutant discharge during construction and operations. Each applicant under the GCP must ensure that a SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must list BMPs implemented on the construction site to reduce stormwater runoff and must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a monitoring plan if the site

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discharges directly to a water body listed on the state's 303(d) list of impaired waters. By implementing the BMPs, projects would be able to minimize construction impacts on City water quality.

In May 2009, the Santa Ana RWQCB reissued the North Orange County Municipal Separate Stormwater (MS4) Storm Water Permit as WDR Order R8-2009-0030 (NPDES Permit No. CAS618030) to the County of Orange, the incorporated cities of Orange County, and the Orange County Flood Control District (OCFCD) within the Santa Ana Region. Pursuant to this "Fourth-Term" MS4 Permit, the co-permittees were required to develop and implement drainage area management plans (DAMP) for their jurisdictions, as well as local implementation plans (LIPs), which describe the co-permittees' urban runoff management programs for their local jurisdictions, such as the City of Los Alamitos.

Under the City's LIP, land development policies pertaining to hydromodification and low impact development (LID) are regulated for new developments and significant redevelopment projects. The term "hydromodification" refers to the changes in runoff characteristics from a watershed caused by changes in land use condition. More specifically, hydromodification refers to "the change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport." LID BMPs are used in project planning and design to preserve a site's predevelopment hydrology by minimizing the loss of natural hydrologic processes such as infiltration, evapotranspiration, and runoff detention. LID BMPs try to offset these losses by introducing into the project's land plan structural and nonstructural design components that restore these water quality functions. These land development requirements are detailed in the countywide Model Water Quality Management Plan (WQMP) and Technical Guidance Document, approved in May 2011, which cities have incorporated into their discretionary approval processes for new development and redevelopment projects.

One component of the New Development/Significant Redevelopment Section of the City's LIP is the provision to prepare a project-specific WQMP for specified categories of development, aimed at reducing pollutants in postdevelopment runoff. Specifically, a project-specific WQMP includes Santa Ana RWQCB-approved BMPs, where applicable, that address postconstruction management of stormwater runoff water quality. This includes operation and maintenance requirements for all structural or treatment control BMPs required for specific categories of developments (termed "priority development projects") to reduce pollutants in postdevelopment runoff to the maximum extent practicable (MEP). The categories of development that require preparation of a project-specific Priority Project WQMP include:

- All significant redevelopment projects, where significant redevelopment is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site;
- New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site), including commercial, industrial, residential housing subdivisions, mixed-use, and public projects;
- Automotive repair shops;

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- Restaurants where the land area of development is 5,000 square feet or more including parking area;
- All hillside developments on 5,000 square feet or more that are on areas with known erosive soil conditions or where natural slope is 25 percent or more;
- Developments of 2,500 square feet or more of impervious surface adjacent to (within 200 feet) or discharging directly into environmentally sensitive areas, such as areas designated in the Ocean Plan as Areas of Special Biological Significance or water bodies listed on the CWA Section 303(d) list of impaired waters;
- Parking lots with 5,000 square feet or more of impervious surface exposed to stormwater runoff;
- Streets, roads, highways, and freeways of 5,000 square feet or more of paved surface shall incorporate US EPA guidance, “Managing Wet Weather with Green Infrastructure: Green Streets” in a manner consistent with the MEP standard;
- Retail gasoline outlets of 5,000 or more square feet with a projected average daily traffic of 100 or more vehicles per day.

As required by the City of Los Alamitos LIP and municipal ordinances on stormwater quality management (e.g., the City’s Municipal Code Chapter 8.44, Stormwater and Urban Runoff Pollution Controls) and the Orange County DAMP, projects that result in 5,000 square feet or more of impervious surfaces must submit a priority project-specific WQMP to the City for approval prior to the City issuing any building or grading permits; the project-specific WQMP is required to include appropriate BMPs. Sites are required to implement the minimum BMPs designated by the City and are subject to inspections.

By complying with these federal and local regulations, development in accordance to the General Plan Update would result in a less than significant impact on the City’s water quality standards and waste discharge requirements. This impact will not be further analyzed in the EIR.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

Less Than Significant Impact. Groundwater for the City of Los Alamitos is provided by Golden State Water Company (GSWC), which owns and operates the water lines serving the majority of the City. Additionally, a portion of the City and the community of Rossmoor are within the jurisdiction of the City of Seal Beach water utility.

GSWC’s water supply comes from the Orange County Groundwater Basin and imported water from the Municipal Water District of Orange County (MWDOC). Groundwater is pumped from several wells in the Orange County Groundwater Basin. According to the 2010 Urban Water Management Plan (UWMP) – West Orange County, prepared by GSWC, water supply for Los Alamitos is considered 100 percent reliable and stable through 2035 for normal water years, single-dry years, and multiple-dry years provided that water supply from the

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MWDOC and BMPs of water extraction from the Orange County Groundwater Basin remain reliable and stable (GSWC 2011).

Development in accordance to the General Plan Update would increase demand for water. However, the Orange County Water District (OCWD) annually evaluates hydrologic conditions of the Orange County Groundwater Basin and sets the yearly basin production percentage (BPP) based on the groundwater levels in storage. The BPP places a maximum limit on how much groundwater is extracted from the basin every year (GSWC 2011). Therefore, demands from new developments in Los Alamitos would be reflected in the yearly basin evaluation and BPP. Furthermore, GSWC has a contingency plan in its 2010 UWMP that outlines response actions to mitigate potential impacts of water shortage in the county, including action stages; estimate of minimum supply available; actions to be implemented during a catastrophic interruption of water supplies; prohibitions, penalties, and consumption reduction methods; revenue impacts of reduced sales; and water use monitoring procedures.

As stated above, the City of Seal Beach also provides water supply to portions of Los Alamitos and the Rossmoor community. Seal Beach's main sources of water supply are groundwater from the Orange County Groundwater Basin and imported water from MWDOC. According to Seal Beach's UWMP and MWDOC's 2010 Regional UWMP, imported waters from MWDOC would be 100 percent reliable and stable through 2035 for normal water years, single-dry years, and multiple-dry years. MWDOC's Integrated Water Resources Plan (IRP) update also outlines core water resource strategies that ensure MWDOC would meet full-service demands under all foreseeable hydrologic conditions from 2015 through 2035 (Seal Beach 2011).

Development in accordance with the General Plan Update in areas served by Seal Beach would also increase demand for water supply. Given that both Seal Beach and Los Alamitos receive their groundwater from the same basin, the same basin evaluation, BPP, and contingency plans apply to Seal Beach (Seal Beach 2011). Therefore, the increased water demand would be reflected in MWDOC's yearly basin evaluations and would not lead to an exceedance in groundwater pumping.

In addition, pursuant to Section 16.08.060 of the City's Municipal Code, new developments under the General Plan Update are required to submit project details and appropriate environmental documents in accordance with CEQA guidelines to ensure adequate water supply and infrastructure. Thus, impacts to groundwater supply and recharge would be adequately addressed by the above regulations and guidelines and remain less than significant. The EIR will not further analyze this impact.

- c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.**

Less Than Significant Impact. Stormwater drainage around the City and its SOI could change due to site-specific grading and construction of impervious surfaces, that is, structures and other hardscape improvements. Increasing impervious surfaces would increase stormwater runoff into the City's drainage system, local streams, and regional rivers, primarily Coyote Creek, Carbon Creek, and the San Gabriel River. As stated in section 3.6(b), the City is almost completely flat, with only a 2 percent slope in some areas of the City. Therefore, soil erosion or siltation is not an issue. Nevertheless, all new developments under the General Plan Update, if on sites larger than an acre, are required to comply with NPDES program and its GCP requirements, which include development and

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implementation of a SWPPP. The SWPPP would include measures to minimize pollutant discharge from project sites through BMPs that emphasize erosion prevention through sediment control, stabilizing slopes, and minimizing soil disturbance during both construction and operation phases. Given the fact that soil erosion is not an issue based on the City's topography and also the NPDES requirements for construction permitting and operation, impacts on existing drainage patterns and potential soil erosion would be less than significant. This will not be further discussed in the EIR.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact. See response to section 3.9(c), above. The SWPPP, required under the NPDES program and GCP requirements, must contain site maps showing the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography (before and after construction), and drainage patterns across the project. Additionally, the SWPPP must list BMPs to protect against excessive stormwater runoff. More specifically related to potential flooding on- or offsite, BMPs could include permeable/pervious concrete pavement, porous landscaping, bioretention (rain gardens), dry detention basins, infiltration basins, grassed swales, green roofs, etc. (EPA 2012). These design features would be specific to each new development in accordance with the General Plan Update. Impacts on existing drainage patterns and potential flooding would remain less than significant and will not be analyzed in the EIR.

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. See responses to section 3.9(a), (c), and (d), above. As required by the City of Los Alamitos's LIP and municipal ordinances on stormwater quality management and the DAMP, projects that result in 5,000 square feet or more of impervious surfaces must submit a priority project-specific WQMP to the City for approval prior to the City issuing any building or grading permits; the project-specific WQMP is required to include appropriate BMPs. Sites are required to implement the minimum BMPs designated by the City and are subject to inspections. Impacts would be less than significant, and this topic will not be analyzed in the EIR.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact. See response to section 3.9(a), above. As required by the City of Los Alamitos's LIP and municipal ordinances on stormwater quality management (e.g., Municipal Code Chapter 8.44, Stormwater and Urban Runoff Pollution Controls) and the DAMP, projects that result in 5,000 square feet or more of impervious surfaces must submit a priority project-specific WQMP to the City for approval prior to the City issuing any building or grading permits; the project-specific WQMP is required to include appropriate BMPs. Sites are required to implement the minimum BMPs designated by the City and are subject to inspections. Impacts would be less than significant, and this topic will not be analyzed in the EIR.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

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Less Than Significant Impact. Storm drainage and flood control—including the design, construction, operation, and maintenance of regional flood control facilities in the City and the SOI—are handled by the OCFCD and the Orange County Environmental Management Agency (EMA). The two most prominent water bodies in or near Los Alamitos are Coyote Creek, flowing southwest, and the San Gabriel River, flowing south. Carbon Creek flows west and converges with Coyote Creek. All of these water bodies are concrete lined and drain surface water from Los Alamitos, Cypress, Stanton, and Garden Grove. OCFCD and the Orange County EMA maintain the City’s flood control facilities, which are able to accommodate 25-year storms; however, the facilities cannot accommodate 100-year storms (Los Alamitos 2000).

According to the FEMA 100-Year Flood Zone Map for the City of Los Alamitos, the Carbon Creek Channel and San Gabriel River are within the 100-year flood zone area. However, no residential housing is proposed in these areas. The land around the Carbon Creek Channel and San Gabriel River are designated open space in the proposed land use plan. Therefore, the proposed project would not place housing within a 100-year flood hazard area and would result in a less than significant impact. This impact will not be further analyzed in the EIR.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less Than Significant Impact. See response to section 3.9(g), above. The area around the Carbon Creek Channel and San Gabriel River are designated for open space and would not place structures within the hazard area that would impede or redirect flood flows. These hazard areas would remain in existing conditions, and impacts would be less than significant. The EIR will not discuss this impact further.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less Than Significant Impact. Los Alamitos is within the dam inundation area of the Prado Dam, which is a flood control and water conservation project constructed and operated by the U.S. Army Corps of Engineers (RBF 2011). Prado Dam is 25 miles northeast of Los Alamitos in the City of Corona on the Santa Ana River. According to the current General Plan, potential damage to the City and the SOI from a failure of the Prado Dam is not an issue due to recent dam upgrades. If the Prado Dam were to fail, waters would reach the City in approximately 6.5 hours after dam failure and are anticipated to reach four feet deep throughout the area (RBF 2011). However, as previously stated, dam failure is considered unlikely and impacts would be less than significant given the time it would take for the flood waters to reach the City. Furthermore, according to the current General Plan, the City addresses flood risks in the Los Alamitos Emergency Operations Plan, which would be activated immediately in a state of emergency from the state, national, or local disaster. Additionally, a California Office of Emergency Services (Cal OES) office in Los Alamitos provides local level Cal OES information and resources in all phases of emergency management. Thus, impacts from potential dam failure would be less than significant and will not be further analyzed in the EIR.

j) Inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other

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artificial body of water. Although there are no large water tanks in the area that could impact the proposed project site, there are dams in the region that could create flooding impacts. Thirteen dams in the greater Los Angeles area moved or cracked during the 1994 Northridge earthquake. However, none were severely damaged. This low damage level was due in part to the retrofitting of dams and reservoirs pursuant to the 1972 State Dam Safety Act.

See response to section 3.9(i), above. Failure of the Prado Dam is very unlikely. However, if the dam failed, the City would have more than six hours to evacuate and would activate their emergency operations plan with assistance from the Cal OES regional office in Los Alamitos. Thus, impacts would be less than significant and will not be further analyzed in the EIR.

3.10 LAND USE AND PLANNING

a) Physically divide an established community?

No Impact. Implementation of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos. However, these changes would be largely limited to infill and redevelopment of parcels that already feature urban uses. The General Plan Update does not propose major changes to the City's circulation network, nor does it represent a dramatic shift in how land uses would be distributed in the City and SOI. The proposed land use map preserves the character of existing single- and multifamily residential neighborhoods and does not introduce new facilities or uses that would divide an established neighborhood or community. Therefore, implementation of the General Plan Update would not result in impacts relating to division of established communities, and no further evaluation in the EIR is necessary.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. The proposed project would replace the current Los Alamitos General Plan and would modify land use designations in Los Alamitos. The EIR will evaluate the consistency of the General Plan Update with other land use plans, policies, and/or regulations governing Los Alamitos.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The Central and Coastal Orange County NCCP/HCP includes 13 cities in the county. However, Los Alamitos is not a participant. Furthermore, the closest portion of the plan area—near Newport Beach—is approximately 13 miles from the southeast corner of Los Alamitos. Therefore, the proposed General Plan Update would have no impact on conservation plans, and this impact will not be evaluated in the EIR.

3.11 MINERAL RESOURCES

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

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No Impact. Los Alamitos does not contain any nonfuel mineral resources of statewide or regional importance. The California Geological Survey (CGS) classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act (SMARA) of 1975. The State Geologist is responsible for classifying areas within California that are subject to urban expansion or other irreversible land uses. Furthermore, the State Geologist is also responsible for classifying Mineral Resource Zones (MRZ) to record the presence or absence of significant mineral resources in the state based on CGS data.

Lands designated MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are “regionally significant.” This requires that a lead agency’s land use decisions involving designated areas be made in accordance with its mineral resource management policies (if any exist) and that it consider the importance of the mineral resource to the region or the state as a whole, not just to the lead agency’s jurisdiction. The MRZ-1 zones are areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. MRZ-3 indicates areas of undetermined mineral resource significance. MRZ-4 indicates areas where available information is inadequate for assignment to any other MRZ zone.

The MRZ classification areas in Los Alamitos are shown in the CGS mineral resources map, “Generalized Mineral Land Classification of Orange County, California: Aggregate Resources Only” (CGS 1994). The City of Los Alamitos and the SOI fall within the MRZ-1 and MRZ-4 zones. No areas are designated MRZ-2. Development in accordance with the proposed General Plan would not impact any areas of a known mineral resources. This topic will not be evaluated in the EIR.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. See response to Section 3.11(a), above. There are no locally important mineral resource recovery sites in the City or the SOI. Therefore, future development in accordance with the General Plan Update would not result in the loss of availability of a locally important mineral resource, and impacts relating to mineral resources recovery sites would be less than significant. No further evaluation in the EIR is necessary.

3.12 NOISE

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. The General Plan Update would involve the alteration, intensification, and redistribution of land uses, which may result in temporary, periodic, or permanent increases in ambient noise or in noise levels in excess of standards established in the City’s General Plan or Municipal Code. The proposed General Plan includes an update to the noise element. A noise analysis will be conducted, and issues relating to noise will be further evaluated in the EIR. Emphasis will be placed on the major noise sources in Los Alamitos, including traffic on major arterial streets (such as Los Alamitos Boulevard and Katella Avenue); military operations at the JFTB, including the Los Alamitos AAF; the Union Pacific Railroad; and scattered stationary sources.

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b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. The General Plan Update would involve the alteration, intensification, and redistribution of land uses. Implementation of these land use changes may result in excessive short- and/or long-term ground-borne vibration or noise. An analysis will be conducted, and issues relating to ground-borne vibration and ground-borne noise will be evaluated in the EIR. Part of this impact assessment will focus on the construction phases of new development accommodated under the General Plan Update.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact. Development pursuant to the General Plan Update may result in a permanent increase in ambient noise from stationary and transportation-related noise sources, particularly in undeveloped areas. As discussed in response 3.12(a), a noise analysis will be conducted, and the EIR will evaluate the proposed project's potential increase in ambient noise levels.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact. Development pursuant to the General Plan Update may result in a temporary or periodic increase in ambient noise above existing levels. A noise analysis will be conducted and the EIR will evaluate the proposed project's potential impact on ambient noise levels, including construction impacts of new development accommodated under the General Plan Update.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The closest public airports to Los Alamitos are the Long Beach Airport, approximately 3 miles west of the City, and the Fullerton Municipal Airport, approximately 6 miles northeast of the City. The airport land use plans for these airports do not extend into the City or the SOI, and therefore no impact would occur from these facilities. Thus, implementation of the General Plan Update would not result in impacts relating to excessive noise levels generated from public and/or public use airports. This topic will not be evaluated in the EIR.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Potentially Significant Impact. Los Alamitos JFTB encompasses nearly the entire southern half of the City. The JFTB owns two private runway airstrips and associated taxiways, hangars, and clear zones (Los Alamitos AAF). The proposed project would be within JFTB's AELUP area, and future development in accordance to the General Plan Update would increase or intensify development near the Los Alamitos AAF. Therefore, buildout of the proposed project would potentially expose residents or workers in Los Alamitos to excessive noise levels related to aircraft movement. This potentially significant impact will be further discussed in the EIR.

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3.13 POPULATION AND HOUSING

- a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Potentially Significant Impact. The existing population of the City of Los Alamitos and the SOI is estimated at 21,608 people (see Table 1, *Existing Land Use*). The proposed General Plan Update would allow the construction of new housing in a variety of densities and employment-generating businesses throughout the City and SOI. Buildout of the General Plan Update is estimated to increase population to 23,003 people, an approximately 6 percent increase from the existing population. General Plan buildout would also increase the amount of nonresidential land uses in the City and the SOI by 903,465 square feet and approximately 3,722 employees (see Table 3, *Proposed General Plan Land Use*). Therefore, implementation of the General Plan Update has the potential to induce population growth both directly and indirectly. The EIR will evaluate population growth related to development allowed in the proposed General Plan.

- b) **Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

Less Than Significant Impact. The City and SOI is estimated to contain approximately 8,200 dwelling units (see Table 1, *Existing Land Use Summary*). The proposed General Plan would allow a total of 8,735 residential units at buildout (see Table 3, *Proposed General Plan Land Use*). Development under the proposed General Plan would alter existing land use designations and could displace nonconforming housing with new development. However, implementation of the General Plan Update is not expected to displace a substantial amount of existing housing, and it would increase the number of dwelling units by allowing higher intensity residential uses and mixed-use development. As a result, impacts would be less than significant.

- c) **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

Less Than Significant Impact. Growth in accordance with the General Plan Update is not expected to displace substantial numbers of people. Development under the proposed General Plan would alter existing land use designations that could displace nonconforming housing with new development. However, the General Plan Update is not expected to displace a substantial amount of people, and it would increase the number of dwelling units and population by allowing higher intensity residential uses and mixed-use development. As a result, impacts would be less than significant.

3.14 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

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a) Fire protection?

Potentially Significant Impact. Fire protection services are provided in Los Alamitos by the Orange County Fire Authority (OCFA). Of OCFA's 62 fire stations in Orange County, Los Alamitos is served by OCFA Fire Station 2, located at 3642 Green Avenue. Station 17 in the City of Cypress and Station 48 in the City of Seal Beach are less than two miles from Los Alamitos and would provide additional fire services to the City. The alteration of land uses and new development under the General Plan Update could potentially increase the demands on fire department personnel and equipment. Therefore, the EIR will evaluate impacts of the General Plan Update on the existing fire protection services.

b) Police protection?

Potentially Significant Impact. Police services in Los Alamitos are provided by the City of Los Alamitos Police Department. The alteration of land uses and new development under the General Plan Update could potentially increase the demands on police department personnel and facilities. The EIR will evaluate impacts of the proposed project on police protection services.

c) Schools?

Potentially Significant Impact. Los Alamitos Unified School District serves the City and SOI's student residents. The district oversees six elementary schools, two middle schools, one comprehensive high school, and one continuation high school. Los Alamitos also has multiple private schools. The additional population projected for the City under the General Plan Update would likely result in the generation of new students due to the increase in allowable dwelling units. Therefore, implementation of the General Plan Update would likely increase the need for school services and facilities. The EIR will evaluate impacts of the General Plan Update on school services and facilities.

d) Parks?

Potentially Significant Impact. The City currently has 39 acres of parkland, and the General Plan Update would designate approximately 82 acres of open space. However, population increase associated with the General Plan Update would also increase overall demand on parks and on recreational services and facilities within Los Alamitos. Pursuant to the City's Municipal Code Section 16.17.040 (Amount of Dedicated Parkland to Be Required), the City's parkland standard is 2.5 acres per 1,000 residents. The future parkland-to-residents ratio may not meet this standard, regardless of the increase in planned open space. The EIR will evaluate the provision of additional park space in Los Alamitos and impacts to parks services and facilities.

e) Other public facilities?

Potentially Significant Impact. Library services in Los Alamitos are provided by the Orange County Public Library, a network of community libraries that includes the Los Alamitos-Rossmoor Branch in Seal Beach, directly south of the Rossmoor community. Population increases associated with the General Plan Update would increase demands on library facilities and services. The EIR will evaluate impacts on library services.

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3.15 RECREATION

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?**

Potentially Significant Impact. See response to section 3.14(d), above. The General Plan Update would accommodate the development of new housing at a variety of densities, including mixed-use, multifamily residential, and single-family residential. The new housing would lead to an increased population in the City and SOI and could lead to an increase in use of neighborhood and regional parks and recreational facilities. The EIR will address the potential impacts of the General Plan Update to local parks and recreational facilities.

- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?**

Potentially Significant Impact. The General Plan Update proposes approximately 82 acres of open space. However, increases in population resulting from future development associated with the General Plan Update would increase overall demand on parks and recreational services and facilities within Los Alamitos. The EIR will evaluate the provision of additional park space in Los Alamitos and impacts to parks services and facilities.

3.16 TRANSPORTATION/TRAFFIC

- a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Potentially Significant Impact. The General Plan Update would allow for development of currently undeveloped parcels and for alteration, intensification, or redistribution of existing land uses. These changes are expected to result in an increase and redistribution of vehicle trips, which may conflict with local plans, policies, or ordinances. A traffic analysis will be conducted to assess the existing conditions and future forecast traffic conditions at General Plan buildout. This analysis will include a roadway operations (roadway segments) analysis and a level-of-service analysis for study area intersections. Impacts related to compliance with plans and policies that establish measures of effective performance of the circulation system would be potentially significant, and this issue will be discussed in more detail in the EIR.

- b) **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

Potentially Significant Impact. The Congestion Management Plan (CMP) in effect for Orange County was prepared by the Orange County Transit Authority (OCTA) and approved in 2011. All freeways and selected roadways in the county are designated elements of the CMP system of highways and roadways. This system includes two roadways in Los Alamitos: Katella Avenue (west of Valley View Street) and Interstate 605 (I-605) at the Katella Avenue exit. The CMP also analyzes the intersections where these roadways meet at the I-605

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Northbound Ramp/Katella Avenue. Traffic impacts to these roadways and their intersections that would result from implementation of the General Plan Update will be analyzed in the EIR.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. As shown in Figure 1, *Regional Location*, the Los Alamitos JFTB encompasses nearly the entire southern half of the City. Air space in the region is used for military aviation operations, and the City lies within JFTB's AELUP area. In addition, Long Beach Airport is approximately three miles west of the City, and Fullerton Municipal Airport is approximately six miles northeast of the City. Other general aviation airports within 20 miles of the City include Compton/Woodley, Torrance, Hawthorne, and El Monte Airports. Two commercial airports—Long Beach and John Wayne Airport—operate within 20 miles of the City. Future development in accordance with the General Plan Update may place additional residential, commercial, and industrial uses near the Los Alamitos AAF. However, the City and the SOI is largely built out, and those land use changes would not result in a change in air traffic patterns at JFTB. This topic will not be evaluated in the EIR.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The General Plan Update does not propose substantial changes to the City and SOI circulation patterns, such as the redesign or closure of streets. The General Plan Update also does not propose to introduce new incompatible uses (e.g., farm equipment) into the City's circulation system. Therefore, impacts relating to hazards due to a design feature or incompatible uses would be less than significant. This topic will not be further evaluated in the EIR.

e) Result in inadequate emergency access?

Less Than Significant Impact. Buildout of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos. However, the City and SOI is generally built out, and the proposed land use changes would not result in substantial changes to the City and SOI circulation patterns or emergency access routes. Therefore, impacts to emergency response plans would be less than significant. This topic will not be evaluated in the EIR.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Potentially Significant Impact. Future development in accordance with the General Plan Update would increase traffic in Los Alamitos. Increased traffic may affect public transit facilities, including bus, pedestrian, and bicycle facilities, by impairing their safety or by increasing their use. Impacts to policies, plans, or programs for public transit facilities are potentially significant. General plans of California cities and counties are required under the Complete Streets Act to include planning for complete streets: that is, streets that meet the needs of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled. Additionally, SCAG's RTP/SCS calls for smart growth planning principles, including the creation of walkable communities and the provision of a variety of transportation choices. The EIR will consider the policies

3. Environmental Analysis

and programs of the General Plan Update and evaluate its consistency with adopted alternative transportation plans and programs.

3.17 UTILITIES AND SERVICE SYSTEMS

a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. The proposed General Plan Update would involve the alteration, intensification, and redistribution of existing land uses. Development under the General Plan Update would primarily be infill and intensification since the City and the SOI is generally built out already. New development may increase wastewater treatment requirements and result in significant impacts to the provision of wastewater service. However, as stated in section 3.6(b), new development on sites over an acre in size are required to obtain a GCP from the NPDES program, which would require the development and implementation of a SWPPP. The SWPPP would ensure the new development does not discharge more wastewater pollutants than the standard enforced by the Santa Ana RWQCB. Thus, impacts to wastewater treatment requirements would be less than significant under the proposed project and will not be further analyzed in the EIR.

b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact. See response to Section 3.17(a), above. Future growth in accordance with the General Plan Update may necessitate expanded water and wastewater collection and treatment facilities from the GSWC and the City of Seal Beach for water and Orange County Sanitation District (OCS D) for wastewater to serve project population demands. Therefore, the EIR will further discuss the impact of the proposed project on water and wastewater facilities.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact. The majority of the stormwater flow in Los Alamitos is conveyed to storm drains flowing from north to south in the City's major streets to the Coyote Creek and Carbon Creek Channels, which flow into the San Gabriel River. Orange County Public Works (OCPW) is responsible for the design, construction, operation, and maintenance of regional flood control facilities, including those of Coyote Creek and the Carbon Creek Channel. Local facilities are maintained by the City of Los Alamitos. Increased development in Los Alamitos under the General Plan Update may create additional impervious surfaces and stormwater runoff, which could require additional stormwater facilities and expansion of existing facilities. The City's storm drains in Katella Avenue are the most affected by new growth in the City. The EIR will evaluate impacts of the General Plan Update to stormwater drainage facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Potentially Significant Impact. Los Alamitos' water services are provided by GSWC, and the community of Rossmoor is supplied by the City of Seal Beach. GSWC operates several wells within the Orange County

3. Environmental Analysis

Groundwater Basin and imports water from the Municipal Water District of Orange County (GSWC 2011). The City of Seal Beach also receives groundwater and imported water from the basin and MWDOC, respectively (Seal Beach 2011). Future development and population growth in accordance with the General Plan Update would increase water demand in Los Alamitos. Therefore, the EIR will address these potentially significant impacts to water supplies.

- e) **Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Potentially Significant Impact. See response to Section 3.17(a), above. Buildout of the General Plan Update may require additional wastewater capacity from the Rossmoor/Los Alamitos Sewer District (local sewer lines) and OCSD (regional facilities and wastewater treatment) to serve projected population demands. The EIR will evaluate the General Plan Update's impacts to wastewater treatment capacity.

- f) **Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

Potentially Significant Impact. The City of Los Alamitos' contracted waste hauler is Consolidated Disposal Service, LLC. Solid waste collected in Los Alamitos is received by Azusa Land Reclamation Company Landfill in Azusa, Chiquita Canyon Sanitary Landfill in Castaic, Commerce Refuse-To-Energy Facility in Commerce, El Sobrante Landfill in Corona, Frank R. Bowerman Landfill in Irvine, Olinda Alpha Sanitary Landfill near the City of Brea, Prima Deshecha Sanitary Landfill in San Juan Capistrano, Simi Valley Landfill & Recycling Center in Simi Valley, and Southeast Resource Recovery Facility in Long Beach (CalRecycle 2013). The majority of the City's solid waste is received by the Frank R. Bowerman Landfill and the Olinda Alpha Sanitary Landfill. Frank R. Bowerman Landfill is scheduled to close in 2053 and Olinda Alpha Landfill is scheduled to close in 2021 (OC Waste & Recycling 2013).

Implementation of the General Plan Update would involve development of vacant land, intensification of existing land uses, and the introduction of new land uses on parcels throughout the City and the SOI. These changes could result in increased solid waste generation, which could impact long-term landfill capacity. The EIR will evaluate long-term regional landfill capacity.

- g) **Comply with federal, state, and local statutes and regulations related to solid waste?**

Potentially Significant Impact. Future development in accordance with the General Plan Update may increase the amount of solid waste generated in Los Alamitos and may require expansion of landfills or the adoption of alternative methods for solid waste disposal. The EIR will evaluate the General Plan Update's conformance with federal, state, and local regulations related to solid waste.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

- a) **Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict**

3. Environmental Analysis

the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact. Future development pursuant to the General Plan Update would involve alteration, intensification, and redistribution of land uses in Los Alamitos. These changes would not substantially reduce the habitat of fish or wildlife species, causes a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Furthermore, as stated in the response to section 3.5(a), Los Alamitos does not have any sites listed on the state or federal register of historic places. However, the City may have archaeological or paleontological resources that have not been discovered. Thus, cultural resource impacts will be further analyzed in the EIR.

b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Potentially Significant Impact. Implementation of the General Plan Update and its land use changes could result in cumulative impacts to aesthetics, air quality, cultural resources, GHG emissions, hazards and hazardous materials, land use and planning, noise, population and housing, public services, recreation, transportation and traffic, or utilities and service systems. Cumulative impacts of these resources—or which potentially significant impacts are identified in this Initial Study—will be further analyzed in the EIR.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. As discussed in this Initial Study, the General Plan Update and its associated land use changes could potentially have harmful effects on the environment, which could affect humans either directly or indirectly. Impacts would be potentially significant, and these issues will be discussed in the EIR.

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4. References

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5. List of Preparers

LEAD AGENCY

Steven Mendoza, Community Development Director

THE PLANNING CENTER|DC&E

William Halligan, Esq., Principal, Environmental Services

Nicole Vermilion, Associate Principal

Fernando Sotelo, Senior Associate, Noise, Vibration, and Acoustics

Kim Herkewitz, Associate Designer

Frances Ho, Assistant Planner

5. List of Preparers

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Appendices

Appendix B Notice of Preparation Comments

Appendices

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DEPARTMENT OF TRANSPORTATION

DISTRICT 12

3347 MICHELSON DRIVE, SUITE 100

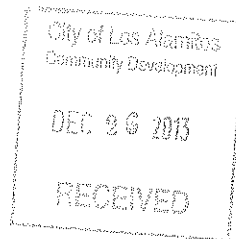
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*Flex your power!
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December 20, 2013

Mr. Steven Mendoza
Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA. 90720

File: IGR/CEQA
SCH#: None
Log #: 3604
SR- I-605

Dear Mr. Mendoza:

Thank you for the opportunity to review and comment on the Initial Study of a Draft Environmental Impact Report. The proposed project is an update to the City of Los Alamitos General Plan. Update is intended to shape development in the City and the unincorporated community of Rossmoor (sphere of influence) over the next 20-plus years.

The General Plan Update is guided by a set of community values and priorities developed by the Los Alamitos City Council and Commissions with input from the community in Los Alamitos and Rossmoor. The following values are integrated into the General Plan Update's policies and goals:

- ☐ Maintain high levels of safety and service
- ☐ Create an attractive and pedestrian-friendly downtown
- ☐ Introduce pedestrian bridges
- ☐ Maximize retail opportunities along Katella Ave
- ☐ Relocate City Hall
- ☐ Offer incentives to preserve and attract business
- ☐ Improve the look and identity of the City
- ☐ Provide consistent and effective code enforcement
- ☐ Maintain a good relationship with the school district
- ☐ Create more open space, park, trail, community garden, and recreation areas
- ☐ Evaluate annexation carefully
- ☐ Establish centralized parking options
- ☐ Enhance cultural uses and historical preservation

The Department of Transportation (Department) is a commenting agency on this project and has the following comments for your consideration.

1. Caltrans has concerns with plans and projects that may impact traffic circulation and increase demand on State Transportation Facilities. For all new developing areas, major new developments, redevelopment areas that may require new or improved access, new signals or any improvements to

State Transportation Facilities, particularly State Route (I-605), will require close coordination with Caltrans.

2. Any major oversight project work proposed for State facilities, including I-605 would require coordination with the Department and may require an encroachment permit. For specific details on the Encroachment Permits procedure, please refer to the Department's Encroachment Permits Manual, Seventh Edition. This Manual is available on the web site: <http://www.dot.ca.gov/hq/traffops/developserv/permits>. If an encroachment permit is required, all environmental concerns must be adequately addressed. Please coordinate with the Department to meet requirements for any work within or near the State Right-of-Way. For projects on our Right-of-Way, the Department has the authority to maintain or delegate Lead Agency status for CEQA.
3. The Department supports General Plans that foster a more efficient land use pattern that (a) supports improved mobility and reduced dependency on single-occupant vehicle trips, (b) accommodates an adequate supply of housing for all incomes, (c) reduces impacts on valuable habitat, productive farmland, and air quality, (d) increases resource use efficiency, and (e) results in safe and vibrant neighborhoods. The Department recognizes that non-motorized travel is a vital element of the transportation system and therefore, encourages communities make pedestrian and bicycle activity possible, thus expanding transportation options, and creating a streetscape that better serves a range of users – pedestrians, bicyclists, transit riders, and automobiles.
4. The Highway Capacity Manual (HCM) method should be used when analyzing traffic impacts on State Transportation Facilities. The use of HCM is preferred by the Department because it is an operational analysis as opposed to the Intersection Capacity Utilization (ICU) method, which is a planning analysis. In the case of projects that have direct impacts on the state's facilities, the Department recommends that the traffic impact analysis be based on HCM method. Should the project require an encroachment permit, traffic operations may find the TIS based on ICU methodology inadequate, resulting in possible delay or denial of a permit by the Department. All input sheets, assumptions, and volumes on State Facilities including ramps and intersection analysis should be submitted to the Department for review and approval. The EIR should include appropriate mitigation measures to offset any potential impacts.

Mr. Steven Mendoza
December 20, 2013
Page 3

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Aileen Kennedy at (949) 724-2239.

Sincerely,

A handwritten signature in black ink, appearing to read "Maureen El Haraque". The signature is fluid and cursive, with the first name "Maureen" written in a larger, more prominent script than the last name "El Haraque".

MAUREEN EL HARAQUE
Branch Chief, Regional-Community-Transit Planning
District 12

c: Scott Morgan, Office of Planning and Research



1919 S. State College Blvd.
Anaheim, CA 92806-6114



December 23, 2013

City of Los Alamitos
3191 Katella Ave
Los Alamitos, CA 90720

Attn: Steven Mendoza

Subject: Environmental Impact Report for the City of Los Alamitos General Plan Update

Thank you for providing the opportunity to respond to this E.I.R. Document. We are pleased to inform you that Southern California Gas Company has facilities in the area where the aforementioned project is proposed. Gas service to the project can be provided from an existing gas main located in various locations. The service will be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission when the contractual arrangements are made.

This letter is not a contractual commitment to serve the proposed project but is only provided as an informational service. The availability of natural gas service is based upon conditions of gas supply and regulatory agencies. As a Public Utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affect gas supply or the conditions under which service is available, gas service will be provided in accordance with the revised conditions.

This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect construction of a main and/or service line extension (i.e., if hazardous wastes were encountered in the process of installing the line). The regulations can only be determined around the time contractual arrangements are made and construction has begun.

Estimates of gas usage for residential and non-residential projects are developed on an individual basis and are obtained from the Commercial-Industrial/Residential Market Services Staff by calling (800) 427-2000 (Commercial/Industrial Customers) (800) 427-2200 (Residential Customers). We have developed several programs, which are available upon request to provide assistance in selecting the most energy efficient appliances or systems for a particular project. If you desire further information on any of our energy conservation programs, please contact this office for assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Armando Torrez", written over a horizontal line.

Armando Torrez
Technical Services Supervisor
Orange Coast Region- Anaheim

AT/ps
EIR.doc

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net
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January 2, 2014

Mr. Steven Mendoza, Planner

City of Los Alamitos

3191 Katella Avenue
Los Alamitos, CA 90720

RE: SCH#2013121055 CEQA Notice of Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **"Los Alamitos General Plan Update;"** located in the City of Los Alamitos; Orange County, California

Dear Mr. Mendoza:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document. This project is also subject to California Government Code Sections 65040.2, *et seq.*

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the

proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

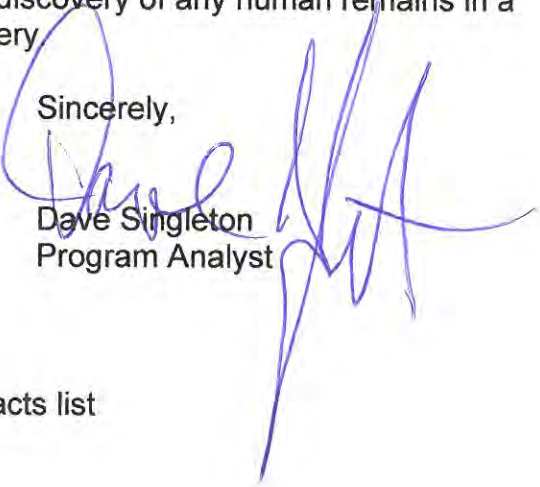
California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery

Sincerely,


Dave Singleton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

**Native American Contacts
Orange County California
January 2, 2014**

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
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(949) 293-8522

Tongva Ancestral Territorial Tribal Nation
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Private Address Gabrielino Tongva
tattnlaw@gmail.com
310-570-6567

Gabrielino/Tongva San Gabriel Band of Mission
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(626) 286-1758 - Home
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Juaneno Band of Mission Indians Acjachemen Nation
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(949) 488-3294 - FAX
(530) 354-5876 - cell

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
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Bellflower , CA 90707
gtongva@verizon.net
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562-761-6417- fax

Juaneno Band of Mission Indians
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Juaneño Band of Mission Indians
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714-998-0721

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

his list s only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013121055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the City of Los Alamitos General Plan Update; Orange County, California.

Native American Contacts
Orange County California
January 2, 2014

United Coalition to Protect Panhe (UCPP)
Rebecca Robles
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Gabrieleno Band of Mission Indians
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(626) 926-4131

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
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Gabrielino-Tongva Tribe
Conrad Acuna,
P.O. Box 180 Gabrielino
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Juaneno Band of Mission Indians Acjachemen Nation
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Gabrielino-Tongva Tribe
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This list is current only as of the date of this document.

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ORANGE COUNTY FIRE AUTHORITY

P.O. Box 57115, Irvine, CA 92619-7115 • 1 Fire Authority Rd., Irvine, CA 92602

Keith Richter, Fire Chief

(714) 573-6000

January 9, 2014

City Of Los Alamitos
Attn: Steven Mendoza
5275 Orange Ave
Cypress, CA 90630

SUBJECT: General Plan Update NOP

Dear Mr. Mendoza:

Thank you for the information provided in the document. Given the nature of the project, the project may impact the OCFA.

The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services response to the project area. Services include: structural fire protection, emergency medical and rescue services, hazardous inspections and response, and public education activities. OCFA also participates in disaster planning as it relates to emergency operations, which includes high occupant areas and schools sites and may participate in community disaster drills planned by others. Resources are deployed based upon a regional service delivery system, assigning personnel and equipment to emergency incidents without regard to jurisdictional boundaries. The equipment used by the department has the versatility to respond to both urban and wildland emergency conditions.

In review of the NOP, page 59 states OCFA has 62 stations. OCFA now also serves the city of Santa Ana and now has 71 fire stations.

Thank you for providing us with this information. Please contact me at 714-573-6199 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Michele Hernandez".

Michele Hernandez

Management Analyst, Strategic Services

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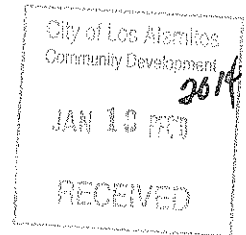
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January 9, 2014

Steven Mendoza, Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720



SUBJECT: Notice of Preparation of a Draft Environmental Impact Report
for the City of Los Alamitos General Plan Update

This letter is in response to the above referenced Notice of Preparation for the Draft Environmental Impact Report for the Los Alamitos (City) General Plan Update. The City is within the jurisdiction of the Orange County Sanitation District (OCSD).

OCSD has several regional sewers that serve the City. The Initial Study indicates that potential significant impacts are possible and likely for wastewater treatment facilities. As such, OCSD requests that both the City and regional sewer systems be modeled to understand any potential impacts to the sewer systems. OCSD also requests that the City review, update, and provide updated sewer maps to OCSD for our records. Please use the following flow factors, unless the City has more accurate flow factors, to estimate current and future flows in the Draft Environmental Impact Report:

- 727 gpd/acre for estate density residential (0-3 d.u. /acre)
- 1488 gpd/acre for low density residential (4-7d.u. /acre)
- 3451 gpd/acre for medium density residential (8-16 d.u./acre)
- 5474 gpd/acre for medium-high density residential (17-25 d.u./acre)
- 7516 gpd/acre for high density residential (26-35 d.u./acre)
- 2262 gpd/acre for commercial/office
- 3167 gpd/acre for industrial
- 2715 gpd/acre for institutional
- 5429 gpd/acre for high intensity industrial/commercial
- 150 gpd/room for hotels and motels



Steven Mendoza

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January 9, 2014

Also, please note that any construction dewatering within the City (public or private) that involve discharges to the local or regional sanitary sewer system must be permitted by OCSD prior to discharges. OCSD staff will need to review/approve the water quality of any discharges and the measures necessary to eliminate materials like sands, silts, and other regulated compounds prior to discharge to the sanitary sewer system.

Thank you for the opportunity to comment on the proposed General Plan update. If you have any questions, please contact me at 714-593-7119.

Daisy Covarrubias, MPA
Senior Staff Analyst

DC:sa

EDMS:003982379 /1.8/g



CITY of CYPRESS

5275 Orange Avenue, Cypress, California 90630

Phone 714-229-6700 www.ci.cypress.ca.us

January 16, 2014

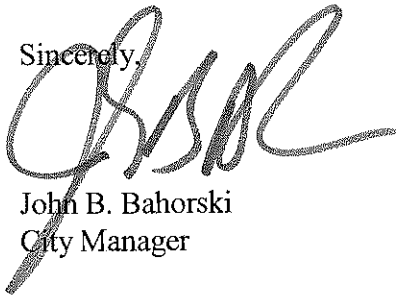
Mr. Steven Mendoza, Director
City of Los Alamitos
Community Development Department
3191 Katella Avenue
Los Alamitos, CA 90720

Subject: Letter Responding to the Notice of Preparation for an Environmental
Impact Report for the 2013 City of Los Alamitos General Plan Update

Dear Mr. Mendoza:

Attached please find the City's comment letter regarding the Notice of Preparation of an Environmental Impact Report for the 2013 City of Los Alamitos General Plan Update. The attached letter was prepared by the firm of Environmental Impact Sciences on behalf of the City of Cypress to evaluate the adequacy of the Initial study and its potential impact on the City of Cypress.

Sincerely,



John B. Bahorski
City Manager

DH/rm

cc: Douglas Dances, Director of Public Works/City Engineer and Acting Director of
Community Development
William Wynder, City Attorney
Douglas Hawkins, Planning Manager

Leroy Mills, Mayor

Rob Johnson, Mayor Pro Tem

Doug Bailey, Council Member

Prakash Narain, M.D., Council Member

Mariellen Yarc, Council Member



Environmental Impact Sciences

26051 Via Concha
Mission Viejo, California 92691.5614
949.837.1195 949.837.3935 Fax

January 15, 2014

Steven Mendoza, Director
City of Los Alamitos
Community Development Department
3191 Katella Avenue
Los Alamitos, CA 90720

VIA HAND DELIVERY

Subject: Notice of Preparation of an Environmental Impact Report and Public Scoping Meeting for the City of Los Alamitos General Plan Update (December 13, 2013)

Initial Study and Mitigated Negative Declaration – City of Los Alamitos 2014-2021 Housing Element (December 13, 2013)

Dear Mr. Mendoza:

Environmental Impact Sciences ("EIS") has been retained by the City of Cypress ("Cypress") to review and comment on that certain "Notice of Preparation of an Environmental Impact Report and Public Scoping Meeting for the City of Los Alamitos General Plan Update" (City of Los Alamitos, December 13, 2013) ("NOP") and that certain "Initial Study for: Los Alamitos General Plan Updated" (The Planning Center/DC&E, December 2013) ("Initial Study") issued by the City of Los Alamitos ("City" or "Lead Agency" or "Los Alamitos").

As indicated in the "City of Los Alamitos Final Environmental Impact Report for Los Alamitos General Plan" (Castaneda & Associates, October 1989) ("1989 FEIR"), "[t]he CEQA review process will continue to be the primary means for providing input to assist adjacent communities" (1989 FEIR, Response to Comments by the City of Cypress). In recognition of that declaration, the following comments are submitted on Cypress' behalf and are intended to be incorporated into the environmental review record for the proposed "Los Alamitos General Plan Update" ("General Plan Update" or "GPU"), as described in the Initial Study and NOP.

In addition, these comments are also intended for inclusion into the environmental review record for the proposed "City of Los Alamitos 2014-2021 Housing Element" ("Housing Element" or "HEU") and its accompanying "Initial Study and Mitigated Negative Declaration – City of Los Alamitos 2014-2021 Housing Element" (City of Los Alamitos, December 13, 2013) ("IS/MND").

As indicated in the NOP, under the provisions of the California Environmental Quality Act ("CEQA"), as codified in 21000 *et seq.* of the Public Resources Code, and the Guidelines for the Implementation of the California Environmental Quality Act ("State CEQA Guidelines"), as codified in Section 15000 *et seq.* in Title 14 of the California Code of Regulations ("CCR"), the Lead Agency has commenced preparation of an environmental impact report ("EIR") for the GPU. In accordance therewith, written comments relating to the GPU and/or EIR shall be submitted to the Lead Agency not later than January 17, 2014. The comments presented herein have been provided to the Lead Agency within that time period.

Steven Mendoza, Director

City of Los Alamitos General Plan Update / 2014-2021 Housing Element Update

January 15, 2014

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As indicated on the Lead Agency's website (<http://losalgeneralplan.org/documents/>): "In accordance with the California Environmental Quality Act, the City is circulating for public review and comment a Notice of Preparation and Initial Study for the General Plan Update." That declaration constitutes a broad solicitation for "public review and comment" in both the planning and environmental compliance processes, thus allowing the general public to actively participate therein.

By way of introduction and to set forth our credentials to provide these comments, EIS is a planning and environmental consulting firm with extensive experience in the preparation and processing of project-level and programmatic CEQA documents for both development and planning-related activities. That hands-on experience and expertise has provided EIS with a detailed understanding of the statutory and regulatory requirements established under CEQA and the State CEQA Guidelines as they may relate to agency-wide planning endeavors such as that now being undertaken by the Lead Agency. A copy of the curriculum vitae of professional qualifications of the signatory to this letter is attached for your reference.

As noted, EIS has been retained by Cypress to ensure that its interests, as well as those of its residents and its business community, are fully considered by the Lead Agency and are reflected in the GPU, HEU, and their accompanying CEQA documentation. Albert Einstein noted:

A human being is part of the whole called by us universe, a part limited in time and space. We experience ourselves, our thoughts and feelings as something separate from the rest. A kind of optical delusion of consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from the prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. . . We shall require a substantially new manner of thinking if mankind is to survive.

The Cities of Los Alamitos and Cypress share a common border and, while these cities primarily focus internally on the interests of their own constituents, they must also adopt a broader regional and subregional perspective with regards to their many shared interests. While local planning is, at least in part, dictated by statute and regulations, those policies do not dictate adherence to the myopia often found in some municipality's general plans.

Absent from the Initial Study and NOP is any indication that the Lead Agency acknowledges, let alone recognizes, the required duality of its vision, focusing both internally and externally to its surrounding neighbors. This is particularly telling since on December 5, 2013, Los Alamitos sent comments to Cypress arguing for just such a wider perspective in its consideration of the proposed expansion of the Los Alamitos Race Track and the possible development of 33 acres on the common borders of these two communities. In light of the Lead Agency's recent communications to Cypress, EIS is tempted to observe "what is sauce for the goose is sauce for the gander."

The relationship between the Cities of Los Alamitos and Cypress have, in the past, been characterized by some (principally individuals residing within the Lead Agency's jurisdiction) as an "inability or unwillingness to work cooperatively" toward mutually beneficial solutions. The current planning and environmental review processes presents a unique opportunity to prove

that assertion wrong and to work together and in combination with other local agencies toward the effectuation of a common vision. Cypress is committed to such an effort. Time will tell if the Lead Agency is equally committed.

Since a “rising tide lifts all boats,” Cypress’ decision to comment on the Initial Study and NOP is not intended to constitute an impediment to the current GPU and HEU (Fifth Cycle) but to ensure that a credible CEQA analysis is presented, Los Alamitos not seek to export its fair-share housing obligations to other communities, sufficient information is presented to allow Cypress’ stakeholders to participation in the CEQA process, appropriate mitigation measures are formulated, and extraterritorial impacts are not ignored. Cypress is a willing participant in any dialogue leading to a more cooperative relationship between cities.

Presently, the Lead Agency does not appear to acknowledge an obligation to study or consider mitigation measures flowing from the impacts of its actions and activities on adjacent communities. For example, as proposed, the “mitigation program for project-induced traffic includes the following policies and implementation programs: (1) “Maintain a Level of Service ‘D’ or better on all City arterials and at intersections” (IS/MND, Policy 5-1.1, pp. 62 and 63); (2) “Take steps whenever feasible so that development proposals in adjacent cities will not diminish levels of service on arterials or at intersections within the City of Los Alamitos” (IS/MND, Policy 5-1.3, pp. 62 and 63); (3) “Cooperate with neighboring cities, the California Department of Transportation and the Orange County Transportation Authority in making mutually-beneficial transportation improvements” (IS/MND, Policy 5-1.4, pp. 62 and 63); and (4) “Require that projects, contributing one percent or more to the critical movement of an intersection that currently operates, or is projected to operate below the target Level of Service, be conditioned to include traffic mitigation measures necessary to maintain a Level of Service D or better on affected City arterials and intersections” (IS/MND, Implementation Programs 5.1.1.2 and 5.1.1.3, pp. 62 and 63). None of those policies and/or implementation programs indicate any acknowledgement that the Lead Agency has or accepts a concurrent obligation to mitigate the extraterritorial impacts of its actions beyond its own corporate boundaries.

Because the Housing Element is a mandatory component of a municipality’s general plan and because “[t]he proposed project is an update to the City of Los Alamitos General Plan” (Initial Study, p. 17), comments on the GPU herein are applicable to both the GPU and HEU and comments on the HEU herein are applicable to both the HEU and GPU. These comments are intended for inclusion in both the upcoming EIR and IS/MND and for consideration by the Lead Agency’s decision-making body as part of that body’s deliberations relating to the GPU, HEU, EIR, and IS/MND.

The comments presented herein are intended to be illustrative rather than comprehensive. As such, given the project’s current administrative record, Cypress has not sought to identify all documents or sections thereof where the individual issues raised herein may be located. Although not expressly cited, the issues which are raised should be construed as having potential application and relevancy in other documentation prepared by or for the Lead Agency relating to the GPU, HEU, and to their accompanying and respective CEQA documents.

Statutory Authority to Comment

Referencing Section 65351 of the California Government Code (“GCC”): “During the preparation or amendment of the general plan, the planning agency shall provide opportunities for the

involvement of citizens, public agencies, public utility companies, and civic, education, and other community groups, through public hearings and any other means the city or county deems appropriate." EIS is commenting herein as a member of the affected public and as a consultant to and on behalf of an affected public agency.

As further stipulated under Section 65352(a) of the CGC: "Prior to action by a legislative body to adopt or substantially amend a general plan, the planning agency shall refer the proposed action to all of the following entities: (1) Any city or county, within or abutting the area covered by the proposed action, as determined by the planning agency. . . (4) Any areawide planning agency whose operations may be significantly affected by the proposed action, as determined by the planning agency." Cypress is both an abutting jurisdiction and a planning agency which may be significantly affected (both in the positive and negative) by the proposed action.

As required under Section 15206(b)(1) of the State CEQA Guidelines, the proposed GPU constitutes a "project of Statewide, regional, or areawide significance." The Lead Agency is required under Section 21083.9(a) of CEQA to hold at least one scoping meeting for any project so designated. As further required under Section 21083.9(b)(1) therein, the Lead Agency shall provide notice of that scoping meeting to "[a] county or city that borders on a county or city within which the project is located, unless otherwise designated annually by agreement between the lead agency and the county or city."

Cypress' receipt of the NOP and notice of scoping meeting provides an opportunity to submit comment to the Lead Agency in response to that notice. Additionally, pursuant to Section 21092.4 of CEQA and Section 15072(e) of the State CEQA Guidelines, "[f]or a project of Statewide, regional, or areawide significance, the lead agency shall consult with transportation planning agencies and public agencies that have transportation facilities within their jurisdictions that could be affected by the project. Cypress is a local planning agency with transportation facilities within its jurisdiction that could be affected by the proposed project.

As indicated in Section 15201 of the State CEQA Guidelines: "Public participation is an essential part of the CEQA process. Each public agency should include provisions in its CEQA procedures for wide public involvement, formal and informal, consistent with its existing activities and procedures, in order to receive and evaluate public reaction to environmental issues related to the agency's activities."

As a professional courtesy, document citations and other references have been included herein. Any unintended errors with regards to those citations and references should not constitute a supportable rationale for the Lead Agency's failure to consider the underlying issue(s) being raised. All the comments presented herein are intended to be illustrative rather than comprehensive. In raising a question or offering a comment with regards to a particular document or section therein, to the extent that same question or comment has potential relevancy elsewhere, the item(s) raised should be assumed to apply universally independent of whether such other documents or such other sections are explicitly referenced.

Previous CEQA Documentation

Pursuant to Section 21166 of CEQA: "When an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required by the lead agency or by any responsible agency, unless one or more of

the following events occur: (a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report. (b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report. (c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available."

As indicated in the Initial Study, "[t]he current Los Alamitos 2010 General Plan was adopted in May 1990" (Initial Study, p. 11). However, the IS/MND identifies the "City of Los Alamitos 2010 General Plan, August 1999" (IS/MND, p. 2). Apparently, in one CEQA document the relevant "City of Los Alamitos General Plan" ("General Plan") is dated "May 1990" but in the other CEQA document the relevant General Plan is dated "August 1999." In addition, the Lead Agency's website presents a third variation, referencing a document entitled the "Los Alamitos 2010 General Plan (2001)" (<http://losalgeneralplan.org/documents/>). This apparent inconsistency relative to the date assigned to the General Plan cannot be reconciled based on the information presented therein, such that it is not possible to know what document is being referenced.

In addition, absent from both the Initial Study and IS/MND is any reference to the 1989 FEIR. The 1989 FEIR is posted on the Lead Agency's website (<http://losalgeneralplan.org/documents/>) and is represented therein as the "Los Alamitos 2010 General Plan EIR (1989)."

The IS/MND identify a document entitled the "City of Los Alamitos 2010 General Plan Initial Study/Negative Declaration (2010 General Plan IS/ND), August 1999" (IS/MND, p. 2). The Lead Agency states that "[t]he [2010] General Plan IS/ND is intended to provide decision-makers and the public with information concerning the environmental effects of implementation of the General Plan Update. The [2010 General Plan] IS/ND evaluates the potential individual and cumulative environmental effects associated with implementation of the policies and programs of the General Plan. The [2010 General Plan] IS/ND concluded that the 2010 General Plan Update would not result in any significant and unavoidable impacts" (IS/MND, p. 2). The 1989 FEIR, however, admits, as it must, that "traffic generated by cumulative projects will result in *significant adverse impacts that are beyond the jurisdiction of the City of Los Alamitos*" (emphasis added) (1989 FEIR, p. 52).

The 2010 General Plan IS/ND is not referenced in the Initial Study and was not made available for review on the Lead Agency's website (<http://losalgeneralplan.org/documents/>). No explanation is provided in either the Initial Study or IS/MND concerning: (1) the nature of the "substantial" amendments to the General Plan addressed in the 2010 General Plan IS/ND (e.g., "substantially amended in 2000," Initial Study, p. 23); (2) how that document relates to the 1989 FEIR (if at all); and (3) what mitigation measures (if any) were adopted by the Lead Agency at that time. It can, however, be concluded that, in order to qualify for a "negative declaration" ("ND"), absent any mitigation, the Lead Agency then (seemingly in August 1999) found that the amendment and implementation of the General Plan would not result in any significant environmental effects.

Conversely, with the release of the Initial Study and NOP, the Lead Agency has concluded that the GPU has the potential to produce significant environmental effects. Based on those different conclusions, the Lead Agency appears to be stating that the GPU is substantively different from the 2010 General Plan and that those differences are substantial enough to

prevent the Lead Agency from reaching a similar conclusion and preventing the Lead Agency from continued reliance upon the 1989 FEIR and 2010 General Plan IS/ND.

The Initial Study notes that “[t]he current general plan, Los Alamitos 2010 General Plan, was adopted in May 1990 - 2010 was the planning horizon when the plan was approved in 1990 and substantially amended in 2000” (Initial Study, p. 23). Although one was likely prepared for its initial adoption and the other for the later amendment, the relationship between the 1989 FEIR and 2010 General Plan IS/ND is never explained, the findings of those separate CEQA documents never summarized, and none of the mitigation measures concurrently adopted by the Lead Agency have been identified and made a part of the proposed project. Additionally, it is unclear whether the 1989 FEIR, the 2010 General Plan IS/ND, or both constitute the CEQA-compliance documentation for the 2010 General Plan. Suggesting that no relationship exists, while the 2010 General Plan IS/ND is incorporated into the Initial Study by reference (Initial Study, p. 2), no reference to the 1989 FEIR is presented therein.

It appears evident that an earlier EIR was prepared by the Lead Agency for the General Plan. Under Section 21166 of CEQA, unless one or more of the stated conditions now exist, no additional EIR would be required and, if required, the document would be either a subsequent or supplemental EIR; however, the upcoming EIR is not represented as either. The Lead Agency should, therefore, state why it believes that Section 21166 of CEQA is not applicable and indicate the precise nature of the “substantial changes” which are proposed with regards to the proposed project, the “substantial changes” with regards to the circumstances under which the project is being undertaken, and/or the “new information” now known to the Lead Agency.

Pursuant to Section 15150(b) of the State CEQA Guidelines, “[t]he EIR or negative declaration shall state where the incorporated documents will be available for inspection. At a minimum, the incorporated documents shall be made available to the public in an office of the lead agency in the county where the project would be carried out or in one or more public buildings such as county offices or public libraries if the lead agency does not have an office in the county.”

The IS/MND states that the 2010 General Plan IS/MND is “incorporated into this document by reference” and is “available for review at the City of Los Alamitos City Hall located at 3191 Katella Avenue, Los Alamitos” (IS/MND, p. 2). On January 6, 2014, a representative of EIS attempted to review the 2010 General Plan IS/ND at the stated location. No such document could, however, be produced for public review, for visual inspection, or for photocopying at that time.

In order to obtain a copy, EIS’ representative was given a “Request for Public Records” which states: “Upon receipt of a request for City Records, the City shall determine within ten days if the records are public and available with the City’s records system and will notify the citizen of such determination.” It is unreasonable for the Lead Agency to deny the public access to the documents which purport to serve as the foundation for the Lead Agency’s CEQA findings and to require that the public complete a Public Records Act request merely to view those documents

Documents which are not readily available to the public cannot be deemed to be “incorporated by reference” (14 CCR 15150) and cannot be used to satisfy the “substantial evidence” requirements of CEQA.

Proposed General Plan Update

No draft General Plan document has been disseminated by the Lead Agency. The single basis upon which the Initial Study appears to be based is a map (Initial Study, Figure 5 [Proposed General Plan Land Use], p. 21) and table (Initial Study, Table 3 [Proposed General Plan Land Use], pp. 19-20) depicting and purportedly describing the “proposed General Plan land use.”

A general plan is, however, much more than a single map and a table. A general plan is a comprehensive, long-term plan for the development of a municipality, including lands located outside its corporate boundaries that the agency believes to be related to its planning (Section 65300, CGC). A general plan consists of a statement of development policies and includes a diagram or diagrams and text setting forth objectives, principals, standards, and plan proposals (Section 65302, CGC). The Initial Study includes a general reference to the existence of the “General Plan Update’s policies and goals” (Initial Study, p. 17) but no policies or goals are actually presented therein.

The general plan must contain seven mandated elements (i.e., land use, circulation, housing, conservation, open space, noise, and safety) and may contain such additional elements as the municipality may choose to adopt (Sections 65302, and 65303, CGC). The general plan serves as the constitution and blueprint for development. Accordingly, all zoning and land-use decisions must conform to the general plan (i.e., vertical consistency) (see *Leshar Communications Inc. v. City of Walnut Creek* [1990]). Also, the terms of each element must be internally consistent (i.e., horizontal consistency) (Section 65300.5, CGC) (see *Sierra Club v. Board of Supervisors* [1981]).

The municipality’s zoning ordinance must be consistent with the general plan and is invalid if inconsistent (Section 65860, CGC) (see *Building Industry Association of San Diego v. City of Oceanside* [1994]). Municipalities may only approve a subdivision map if it is consistent with the general plan and any applicable specific plan and must deny a map if it makes certain specified findings (Section 66474, CGC). Additional conditions of approval may be imposed to ensure the subdivision map is consistent with the general plan and its corresponding zoning.

As such, the local general plan is a critical document in that it will influence the physical form of the agency that adopts it over an extended time period (e.g., until subsequently amended). Notwithstanding the importance of the General Plan not just to Los Alamitos but to the region in which Los Alamitos is located, none of that required information has been included in the Initial Study and no reference to a “draft” General Plan is included either therein or on any of the Lead Agency’s websites.

Since not even a skeleton of that document is provided for public review, the affected public is denied the ability to submit meaningful comments thereupon, to evaluate horizontal and vertical consistency, to independently assess the potential environmental impacts that may result therefrom, to suggest mitigation measures, and/or to offer alternative language relating to individual policies, objectives, principals, standards, and plan proposals.

Policy language presented in a general plan potentially has more significance than a color on a map. Courts recognize that comprehensive plan maps are usually general in nature and are not intended as a precise parcel-specific map (see *Las Virgenes Homeowners Association v. County of Los Angeles* [1987]). However, in *Families Unafraid to Uphold Rural El Dorado*

County v. El Dorado County Board of Supervisors [1998]), in a case involving a challenge to a county's approval of a residential subdivision, while the proposed development was consistent with the land-use map of the county's general plan, the appellate court found that the proposed development was clearly inconsistent with the "fundamental, mandatory, and specific" policies of the land-use element of the county's general plan. From that example, it becomes evident that when the agency's proposed policies, objectives, principals, standards, and plan proposals are not presented, it is not possible to understand the project which is under consideration.

Among other things, an initial study must contain "[a]n identification of the environmental setting" (14 CCR 15063[d][2]) and "[a]n examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls" (14 CCR 15063[d][5]). Because the informational requirements of CEQA have not been complied with, the Lead Agency has failed to proceed in a manner required by law and has thus abused its discretion (Sections 21005[a] and 21168.5, CEQA). A prejudicial abuse of discretion may be found "regardless of whether a different outcome would have resulted if the public agency had complied with those provisions" (Section 21005[a], CEQA).

In *Sierra Club v. State Board of Forestry* (1994), the California Supreme Court concluded that the agency's failure to proceed as required by law was prejudicial because the absence of information "made any meaningful assessment of the potentially significant environmental impacts" of the proposed action "and the development of site-specific mitigation measures impossible."

In recognition of their innate linkages, references to the GPU herein are intended to be inclusive of the totality of the Lead Agency's proposed General Plan Update, inclusive of its HEU.

Impermissible Fragmentation

"Where an individual project is a necessary precedent for action on a larger project, or commits the lead agency to a larger project, with significant environmental effect, an EIR must address itself to the scope of the larger project" (14 CCR 15165). In *Kings County Farm Bureau v. City of Hanford* (1990), the court noted:

We must interpret the Guidelines to afford the fullest possible protection to the environment ([Citation]). One commentator has addressed the purpose of the cumulative impacts analysis: "One of the most important environmental lessons evident from past experience is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant, assuming threatening dimensions only when considered in light of the other sources with which they interact. Perhaps the best example is air pollution, where thousands of relatively small sources of pollution cause a serious environmental health problem. CEQA has responded to this problem of incremental environmental degradation by requiring analysis of cumulative impacts. Because of the critical nature of this concern, courts have been receptive to claims that environmental documents paid insufficient attention to cumulative impacts. For example, in *San Franciscans for Reasonable Growth* [Citation], the court stated that absent meaningful cumulative analysis, there would never be any awareness or control over the speed and manner of downtown development. Without that control, 'piecemeal development would

inevitably cause havoc in virtually every aspect of the urban environment.' This judicial concern often is reinforced by the results of cumulative environmental analysis; the outcome may appear startling once the nature of the cumulative impact problem has been grasped" ([Citation]).

As acknowledged in the Lead Agency's letter to Cypress, dated December 5, 2013, pursuant to CEQA, a "project" is defined to mean "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment" (14 CCR 15378[a]). "The lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect" (14 CCR 15003[h]). "The term 'project' has been interpreted to mean far more than the ordinary dictionary definition of the term" (14 CCR 15002[d]). In Section 15003(h) of the State CEQA Guidelines, the courts have stated that "[t]he lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect." In that context, "[a]ll phases of project planning, implementation, and operation must be considered in the initial study of the project" (emphasis added) (14 CCR 15063[a][1]).

"There exists a real danger in the filing of separate environmental documents for the same project because consideration of the cumulative impact on the environment may never occur (*Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo* (1985) [Citation])" (*City of Santee v. County of San Diego* [1989]). "There is no dispute that CEQA forbids 'piecemeal' review of the significant environmental impacts of a project" (*Keep Jets Over the Bay Committee v. Board of Port Commission* [2001]). CEQA mandates "that environmental considerations do not become submerged by chopping a large project into many little ones - each with a minimal potential impact on the environment - which cumulatively may have disastrous consequences" (*Bozung v. Local Agency Formation Commission* [1975]).

Section 65302 of the CGC states that there are "seven mandated elements in a general plan" (e.g., "The Housing Element is one of the seven required General Plan elements, mandated by State law," HEU, p. 1-2). As indicated under Agenda Item 8(F) (General Plan 2013 Draft Land Use Plan), as presented at the City of Los Alamitos City Council (Council) meeting on September 16, 2013, "[t]he City of Los Alamitos General Plan consists of a collection of nine topical elements that were adopted in May, 1990 and amended at various points since then, including a major amendment in 2000."

In describing the proposed project, the NOP states that "[t]he proposed project is an update to the City of Los Alamitos General Plan. The Los Alamitos General Plan Update is intended to shape development in the City and the unincorporated community of Rossmoor over the next 20-plus years. The Los Alamitos General Plan Update involves reorganization of the current General Plan into the following six required and two optional elements: land use element, circulation and transportation element, open space and recreation element, conservation element, safety element, noise element, economic development element, and growth management element" (NOP, p. 2).

The Initial Study indicates that "[t]he current general plan has nine elements: [1] Land Use, [2] Conservation, [3] Safety, [4] Open Space and Recreation, [5] Circulation and Transportation, [6] Noise, [7] Economic Development, [8] Housing, [9] Growth Management" (Initial Study, p. 11). The Initial Study further states that "[t]he proposed project would replace the current Los

Alamitos General Plan and would modify land use designations in Los Alamitos. The EIR will evaluate the consistency of the General Plan Update with other land use plans, policies, and/or regulations governing Los Alamitos" (Initial Study, p. 55).

Because there exists no further reference to the Lead Agency's "Housing Element" in either the Initial Study or NOP, including no indication of the Lead Agency's intended exclusion therefrom, it is reasonable to conclude that both the GPU and upcoming EIR would logically include that State-mandated but subsequently "reorganized" element. The cover page and table of contents from the "Los Alamitos 2010 General Plan" are presented in Exhibit 1 below and clearly indicate that the Housing Element is an integral part of that document.

Separate and apart from the proposed project, the Lead Agency is separately entitling and processing another CEQA documentation for the HEU. Referencing the IS/MND, the Lead Agency states that "[t]he City of Los Alamitos 2014-2021 Housing Element (Project) comprises one of the seven State of California mandated General Plan Elements" and "[t]he Project consists of an update to the Housing Element of the City of Los Alamitos General Plan" (IS/MND, pp. 1 and 19). As noted, both the Initial Study and IS/MND are dated "December 2013." It is, therefore, apparent that the Lead Agency is preparing and processing the HEU independently from the current GPU and conducting a separate CEQA process for that single General Plan component.

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Pursuant to Section 65300.5 of the CGC, "the Legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency" (e.g., "The Government Code requires internal consistency among the Elements of a General Plan," HEU, p. 1-2). Clearly, that does not appear to be the case here. In what appears to be an internal inconsistency, the IS/MND states: (1) "The Housing Element anticipates the development of 23 residential units" (IS/MND,

pp. 56 and 64); (2) "The Housing Element anticipates the development of 61 residential units" (IS/MND, p. 67); (3) "Specifically, the General Plan would allow for 24 additional dwelling units within Old Town East, 171 additional dwelling units in Old Town West, and 450 additional dwelling units in Apartment Row" (IS/MND, p. 55); and (4) "The potential growth associated with the Housing Element was considered in the General Plan, since additional residential development was assumed in the Apartment Row and Old Town West residential areas" (IS/MND, p. 62).

Repeated reference to "23 residential units" appears to be a carry-over from the previous HEU (Fourth Cycle) and may not be directly related to the current action (e.g., "The proposed Project is the Housing Element for the City of Los Alamitos. The Housing Element is a policy document designed to aid the City in future planning, and provides the policy and regulatory mechanism to allow the market development of 23 residential units for the planning period 2006 to 2014," IS/MND, p. 71). Its repeated inclusion throughout the IS/MND, however, raises concerns as to the adequacy of that document and the quality of the technical detail presented therein.

The following conflicting information is presented in the IS/MND:

- **Apartment Row.** "Based on the development trends in this neighborhood, the remaining single-family residential parcels have a greater likelihood of transitioning to multifamily residential units. Underutilized parcels (parcels currently developed with single-family units) with realistic capacity for additional residential units in the Apartment Row neighborhood are identified in Housing Element Table B-3. These parcels have a total projected capacity of 113 units with a minimum permitted density of 20 du/ac" (IS/MND, p. 7).
- **Old Town West.** "Based on the development trends in this neighborhood, the remaining single-family residential parcels are likely to redevelop with multifamily residential units. Underutilized parcels (parcels currently developed with single-family homes) with realistic capacity for additional residential units in the Old Town West neighborhood are identified in Housing Element Table B-4. These parcels have a total projected net capacity of 123 units with a minimum permitted density of 20 du/ac" (IS/MND, p. 8).
- **Old Town East.** No additional information relating to future housing development in "Old Town East" is presented in the IS/MND. The 1989 FEIR does, however, note that "[a]s Los Alamitos is largely developed, most of this growth will occur in single family neighborhoods that are recycling to higher density residential uses. These areas are known as Old Town West, Old Town East and Apartment Row. An estimated 741 units could be constructed in these areas" (1989 FEIR, p. 33).

The Initial Study states that "[t]he General Plan Update would result in a total of 8,735 residential units" (Initial Study, p. 25; NOP, p. 2); however, the "change from existing conditions" is identified as only 535 units (Initial Study, Table 3, p. 19). Whether it is 23, 61, 236 (113 + 123 = 236), 535, 645 (24 + 171 + 450 = 645), or 8,735 new dwelling units, there exists no clear description of the likely direct and indirect physical changes which the Lead Agency anticipates will occur under the GPU and the resulting "fragmentation" has resulted a GPU that is neither integrated nor internally consistent.

At the January 6, 2014 scoping meeting, representatives of the Lead Agency stated that the General Plan is a "long-term policy document." In contrast, in the HEU, the Lead Agency focuses solely on short-term impacts (i.e., 2014-2021) to the neglect and ignorance of both long-term housing need and the potential impacts relating to the fulfillment of that housing need.

Under CEQA, "effects" and "impacts" include both the "[d]irect or primary effects which are caused by the project and occur at the same time and place" and "[i]ndirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable" (13 CCR 15358). To the extent that the environmental analysis presented in the IS/MND is based on only a fraction of the Lead Agency's projected increase in its housing inventory (e.g., "it is not anticipated that an additional 23 housing units, as identified by the Housing Element, would result in significant impacts," IS/MND, p. 56), the preliminary conclusions presented therein constitute further "fragmentation" of the proposed project and, therefore, both underestimate and misrepresent the potential impacts resulting therefrom.

By inferring that the GPU is inclusive of the totality of the General Plan and by separately processing the HEU and IS/MND without any acknowledgement or declaration of the independence of those two actions, the Initial Study and NOP materially misrepresent the proposed project and, in so doing, adversely affect the ability of the affected public to submit meaningful comments thereupon.

Pending the certification of the EIR and the adoption of the GPU, the existing General Plan serves as the primary planning document for Los Alamitos and the basis upon which all growth and development projections must be derived. It is, therefore, unclear whether the HEU and the housing projections presented therein are based on the plans and policies presented in the 2010 General Plan or the proposed GPU. For example, the IS/MND discusses "future development in accordance with the General Plan Update" (IS/MND, p. 15) but also states that "[t]he [2010] General Plan was utilized throughout this Initial Study as a fundamental planning document governing the proposed Project" (IS/MND, p. 2).

With inconsistent statements (e.g., reference to separate General Plan documents), there exists no meaningful information in the IS/MND which serves to resolve questions relating to which General Plan document was utilized in the assessment of the HEU, how that assessment may be altered under the GPU, and the likely materialization of internal and substantive inconsistencies between General Plan elements based on the utilization of separate land-use plans, policies, and environmental documents.

If reference to the "General Plan Update" in the IS/MND relates to the HEU and not the GPU, then the Lead Agency must expressly acknowledge that it is now concurrently processing separate "General Plan Updates" for what it intended to be an "integrated, internally consistent and compatible statement of policies" built on an internally inconsistent sets of assumptions (e.g., "Implementation of the General Plan Update would involve the alteration, intensification, and redistribution of land uses in Los Alamitos," Initial Study, p. 55).

It is the Lead Agency's adopted policy to "apply appropriate and consistent standards in land use and site plan approvals to achieve continuity and cohesion in the physical development of the City" (2020 General Plan, Land Use Policy 11-3). That policy statement, however, does not appear to be applied to the Lead Agency's processing of the GPU and HEU. As noted in the IS/MND: (1) "The Housing Element articulates the City's General Plan relative to the

maintenance and development of housing to meet the needs of existing and future residents" (IS/MND, p. 1); and (2) "Residential uses account for approximately 68 percent of the City" (IS/MND, p. 3). If the GPU warrants preparation of an EIR based on project-related and/or cumulative environmental effects, then it is inconsistent with CEQA's requirements not to isolate a substantive component thereof as if no linkage between General Plan elements exists and to concurrently process an IS/MND for a single component part and an EIR for the remainder.

The IS/MND contains language acknowledging the linkages between General Plan elements. For example, in addressing the Attorney General's recommended measures to address greenhouse gas (GHG) emissions, the Lead Agency addresses the HEU in the context of the "General Plan Conservation and Circulation Elements" (IS/MND, pp. 21-22). In addition, although the HEU includes no discussion of non-residential development, the following mitigation measure is presented in response to identified project-related impacts: "[N]ew or major renovations of commercial or industrial development (that exceeds a certain square foot minimum) shall incorporate renewable energy generation to provide the maximum feasible amount of the project's energy needs" (IS/MND, Mitigation Measure AQ-3, p. 24). Since "commercial and industrial development" is addressed elsewhere in the GPU, reference thereto in the HEU demonstrates the Lead Agency's acknowledgement that the HEU does not exist in isolation of the GPU.

CEQA mandates that "[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all it reasonably can" (14 CCR 15144). Mistakenly believing that an IS/MND and EIR are equivalent documents, as its rationale for not conducting certain analyses (e.g., "details of these future construction activities are unknown at this time, and therefore, cannot be quantified," IS/MND, p. 20), the Lead Agency erroneously cites CEQA provisions relating to EIR preparation. For example, the Lead Agency notes that "[p]ursuant to CEQA Guidelines Section 15146(b): 'An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow'" (IS/MND, p. 20). Because the above excerpt does not apply to the use of a "mitigated negative declaration" ("MND"), the Lead Agency cannot rely upon a mischaracterization of CEQA authorization as an excuse for its failure to conduct a reasonable analysis of the impacts of its proposed actions.

As yet another example of the many internal inconsistencies between the Initial Study and IS/MND, the Lead Agency states that "details of these future construction activities are unknown at this time, and therefore, cannot be quantified" (IS/MND, p. 20). Conversely, the Initial Study states that "[p]art of this impact assessment will focus on the construction phases of new development accommodated under the General Plan Update" (Initial Study, p. 57). To the extent that the Lead Agency seeks to utilize conflicting methodologies in assessing the potential environmental impacts associated with the adoption and implementation of the GPU and HEU, a factual basis for the use of multiple analytical approaches needs to be presented. No such explanation is, however, provided therein.

With regards to construction emissions, impacts can be readily quantified in accordance with the methodologies provided by the South Coast Air Quality Management District ("SCAQMD"), as included in the SCAQMD's "CEQA Air Quality Handbook" ("Handbook") and updates included on the SCAQMD website. The SCAQMD's "California Emissions Estimator Model" ("CalEEMod") emissions model (Version 2011.1.1), in combination with guidance included in the

SCAQMD's "Final Localized Significance Threshold Methodology," is widely used and accepted in CEQA documentation for determining daily and yearly construction and operational emissions.

Uncertain Baseline

From the information presented, it is not possible to determine the nature of the potential "physical change" resulting from the adoption and implementation of the GPU. As indicated in Exhibit 2 below, as outlined in Table 3 (Proposed General Plan Land Use) in the Initial Study, in addition to the "grand total," the Lead Agency identifies both the "increase from existing conditions" and the "change compared to the current general plan" but does not state which of these three tabulations will serve as the basis for the impact assessment in the upcoming EIR.

Exhibit 2

Change	Acres	Residential Units (unit)	Population (people)	Non-Residential Square Feet (square feet)	Employment (jobs)
Grand Total	3,601	8,735	23,003	8,881,442	18,430
Increase from Existing Conditions	0	535	1,395	903,465	3,722
Change Compared to the Current General Plan	0	-667	-1,741	-104,612	1,787

Without commenting on the accuracy or supportability of the numbers presented, it is readily apparent that the determination of whether the EIR will examine the "grand total" or the "increase from existing conditions" or the "change compared to the current general plan" will substantively influence the form and substance of the Lead Agency's CEQA documentation, the preliminary findings presented in the Initial Study, the environmental analysis which is to be presented in the EIR, the nature of the mitigation measures that may be formulated by the Lead Agency, and the determination concerning whether project-related and/or cumulative impacts can be mitigated to a less-than-significant level.

From the information presented in the Initial Study (e.g., "The General Plan Update would result in a total of 8,735 residential units, a population of 23,003 people, 8,881,442 square feet of nonresidential development, and 18,430 jobs in the City and unincorporated community of Rossmoor," Initial Study, p. 25; "The EIR will evaluate the potential for buildout of the General Plan Update," Initial Study, pp. 39-40; "Buildout of the General Plan Update is estimated to increase population to 23,003 people," Initial Study, p. 58) and NOP (e.g., "The General Plan Update would result in a total of 8,735 residential units, a population of 23,003 people, 8,881,442 square feet of non-residential development, and 18,430 jobs in the City and unincorporated community of Rossmoor," NOP, p. 2), it would appear (but cannot be reasonably ascertained) that the "project" which is to be examined in the EIR will be based on the "grand total" of all development that may occur under the GPU.

With regards to the Lead Agency's declaration of the "project description," both the Initial Study and NOP cite the figures presented under "grand total" in Table 3 (Proposed General Plan Land Use) in the Initial Study. Since the Initial Study remains vague, as a matter of law, as to the nature of the project to be examined (e.g., an increase of 535 or a decrease of 667 "residential units"), it is not possible to know the likely "physical changes" that may result therefrom. As a result, it is neither possible to independently assess the adequacy and appropriateness of the

topic-specific conclusions which have been presented nor to submit meaningful comments thereupon. If the EIR is, however, to be based on either the "increase from existing conditions" or the "change compared to the current general plan," new notice is required because there exists no indication in the NOP that the environmental analysis to be presented in the EIR will be based on those figures.

The purpose in including the "change compared to the current general plan" in the Initial Study is unclear but suggests that the upcoming EIR may be based on the hypothetical "paper" change from one plan to another rather than the difference (delta) between the actual conditions now evident in Los Alamitos and its sphere of influence ("SOI") and the maximum allowable development that could occur under the land-use policies and regulations established under the GPU. In *Sunnyvale West Neighborhood Association v. City of Sunnyvale* (2010), the appellate court noted:

Case law makes clear that "[a]n EIR must focus on impacts to the existing environment, not hypothetical situations. (See *City of Carmel-by-the-Sea v. Board of Supervisors* (1986) [Citation])" (*County of Amador v. El Dorado County Water Agency* [Citation]). "It is only against this baseline that any significant environmental effects can be determined [Citation]" [Citation].

Recently, in *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) [Citation] ("*Communities For A Better Environment*"), the Supreme Court concluded that the South Coast Air Quality Management District abused its discretion in evaluating a petroleum refinery project proposed by ConocoPhillips Company by using a "baseline" of the maximum operating capacity of the equipment under existing permits [Citation]. The district had "treated any additional NOx emissions stemming from increased plant operations within previously permitted levels as part of the baseline measurement for environmental review" [Citation]. The court held that the district had "erred in using the boilers' maximum permitted operational levels as a baseline" because "operation of the boilers simultaneously at their collective maximum was not the norm" [Citation].

The Supreme Court stated: "By comparing the proposed project to what could happen, rather than to what was actually happening, the District set the baseline not according to 'established levels of a particular use,' but by 'merely hypothetical conditions allowable' under the permits (*San Joaquin Raptor Rescue Center v. County of Merced* [Citation]). Like an EIR, an initial study or negative declaration 'must focus on impacts to the existing environment, not hypothetical situations.' (*County of Amador v. El Dorado County Water Agency* [Citation])" [Citation]. It concluded that "the District's use of the maximum capacity levels set in prior boiler permits, rather than the actually existing levels of emissions from the boilers, as a baseline to analyze NOx emissions from the Diesel Project was inconsistent with CEQA and the [State] CEQA Guidelines" [Citation].

The Supreme Court explained: "An approach using hypothetical allowable conditions as the baseline results in 'illusory' comparisons that can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts,' a result at direct odds with CEQA's intent

(Environmental Planning Information Council v. County of El Dorado [Citation])" [Citation]. The court stated: "A long line of Court of Appeal decisions holds, in similar terms, that the impacts of a proposed project are ordinarily to be compared to the actual environmental conditions existing at the time of CEQA analysis, rather than to allowable conditions defined by a plan or regulatory framework. This line of authority includes cases where a plan or regulation allowed for greater development or more intense activity than had so far actually occurred, as well as cases where actual development or activity had, by the time CEQA analysis was begun, already exceeded that allowed under the existing regulations. In each of these decisions, the appellate court concluded the baseline for CEQA analysis must be the 'existing physical conditions in the affected area' (Environmental Planning Information Council v. County of El Dorado [Citation]), that is, the 'real conditions on the ground' (Save Our Peninsula Committee v. Monterey County Bd. of Supervisors [Citation], rather than the level of development or activity that could or should have been present according to a plan or regulation" [Citation].

The Lead Agency's representation of the "increase from existing conditions" is, therefore, of critical importance. Since the methodology through which it was derived is not presented and the data not made available for independent confirmation, the Lead Agency's estimates relating to changes in the number of residential units, population, non-residential square footage, and employment, as presented in Table 3 (Proposed General Plan Land Use) in the Initial Study, cannot be independently validated and, therefore, may misrepresent the actual changes to the existing environmental baseline attributable to the GPU adoption and implementation.

For example, as indicated in the Initial Study, the "change from existing conditions" is identified as 535 units, 903,465 square feet of non-residential development, 3,722 new jobs, and 1,395 additional residents (Initial Study, Table 3, p. 19). The unit-based "sources and assumptions" which were used to derive these estimates are also outlined therein; however, the unit-based assumptions and "change from existing conditions" cannot be reconciled. For example, while existing conditions assume a per unit population of "2.66 persons per household in the City" and "2.75 persons per household in Rossmoor" (Initial Study, Table 1 [Existing Land Use Summary], p. 4), the Lead Agency states that population estimates are based on the assumption of "2.70 persons per household in the City of Los Alamitos" and "2.75 persons per household in Rossmoor" (Initial Study, Table 3, p. 19). Even if it is assumed that all of the 535 new dwelling units will be constructed "in the City of Los Alamitos," the lowest estimated population increase would be 1,446 individuals ($535 \times 2.70 = 1,444.5$) and not the 1,395 additional residents identified by the Lead Agency. It is likely that the differences between these two figures ($1,445 - 1,395 = 50$) represents possible displacement of existing residents attributable to the land-use changes authorized under the GPU.

Although not clearly indicated by the Lead Agency, the "changes from existing conditions" should be based, in part, on the actual changes in the General Plan's land-use designations that are now being proposed. Excluding reference to "Rossmoor" because it was not included in the existing General Plan, as indicated in Exhibit 3 below, in terms of acreage, Los Alamitos' changing land-use pattern can be summarized by comparing Table 2 (Current General Plan Land Use) and Table 3 (Proposed General Plan Land Use) in the Initial Study.

Exhibit 3

	Existing General Plan Land-Use Designations												New			
	Community & Institutional	Community & Institutional/JFTB	Easement	Limited Multi-Family Residential	Multi-Family Residential	Open Area	Planned Industrial	Professional Office	Retail Business	Single Family Residential	Specific Plan	ROW	Suburban Residential	Limited Industrial	Medical Overlay	Mixed Use
Current General Plan Land Use (acres)	150	1,279	4	18	174	82	206	40	55	258	17	336	0	0	0	0
Proposed General Plan Land Use (acres)	152	1,318	4	18	145	82	141	22	86	258	17	336	0	8	13	19
Change (acres)	+2	+29	0	0	-29	0	-65	-18	+31	0	0	0	0	+8	+13	+19

It is noted that the number of "+" (increase in acreage) and the number of "-" (decrease in acreage) do not appear to match, thus suggesting a possible error in tabulation. If the error is not the fault of the commenter, any errors therein need to be addressed by the Lead Agency. Assuming that the only SOI area to be identified in the General Plan is Rossmoor, excluding the "Medical Overlay," other than through either annexation or deannexation, the above numbers should ultimately total zero.

The Initial Study states that "[t]he JFTB [Joint Forces Training Base] is designated Public/Quasi-Public Facility" (Initial Study, p. 7); however, as indicated above, the Lead Agency has indicated that the JFTB is designated "Community & Institutional/JFTB." No explanation is presented by the Lead Agency as to why the Initial Study appears internally inconsistent with regards to that or any other land-use designation.

Referencing the "Environmental Assessment Stationing a U.S. Reserve Black Hawk Helicopter Company at Joint Forces Training Base Los Alamitos, California" (Vernadero Group, March 2011) ("EA"), "JFTB Los Alamitos encompasses approximately 1,300 acres in the City of Los Alamitos, Orange County, California. The Installation accounts for roughly 49 percent of the 2,752 acres that make up the City of Los Alamitos" (EA, p. 11) (e.g., "Approximately 50 percent of the City's total land area is occupied by the Los Alamitos Joint Forces Training Base," Initial Study, p. 1). As further indicated therein:

The 2010 Real Property Development Plan (RPDP) for JFTB was created to address the facility program, site infrastructure, and capital outlay needs. The RPDP establishes a 25-year planning framework for the JFTB and includes goals for construction, aesthetics, infrastructure, land use efficiency, and pedestrian-friendly campus design. Land use at JFTB Los Alamitos includes airfield, airfield operations/support, cantonment/administrative, recreational/open space, and agricultural areas. The airfield occupies approximately 465 acres and includes two northeast/southwest runways and associated taxiways and parking aprons.

Airfield operations/support areas encompass approximately 240 acres and include hangars, fire and rescue infrastructure, and the control tower. Recreational/open space includes 220 acres of undeveloped open space that is used for training activities, athletic fields, a golf course, and a dog park. Approximately 220 acres are designated as cantonment and include administrative and training facilities, assembly areas, dining facilities, and inactive military housing. There are approximately 190 acres of land along the northeastern and southern boundaries of the Installation out-leased for agricultural purposes.

In its meeting on June 6, 2011, as indicated under Council Agenda Item 9(c) (Approval of Professional Service Agreement with The Planning Center/DCE for General Plan Update and Approval of Corresponding Budget Amendments), the Council stated that one of the ten “items” that it wanted to see from the GPU was “[e]stablishing land use within the Los Alamitos Joint Forces Training Base.” Notwithstanding that direction, the Initial Study notes that “[n]o changes are proposed to the land use designations of the Los Alamitos JFTB. The proposed Los Alamitos General Plan Update identifies the JFTB as Community & Institutional/JFTB. The City of Los Alamitos has no jurisdiction or land use authority on this U.S. military installation. Consequently, no changes from existing conditions are assumed within the Los Alamitos JFTB as part of the City’s General Plan Update” (Initial Study, pp. 23 and 25). However, as now proposed, an additional 29 acres within Los Alamitos will be added to the “Community & Institutional/JFTB” land-use designation.

Additionally, one of the “ten opportunity sites” identified by Los Alamitos (i.e., “Opportunity Site No. 9”) is located within the JFTB and a possible General Plan amendment (“GPA”) is now being proposed thereupon. If the Lead Agency has “no jurisdiction or land use authority” over the JFTB, it is unclear why a GPA is now being considered thereupon and how the consideration of one part of the JFTB is somehow different than the consideration of the totality of the base. This contemplated change in both jurisdictional authority and land-use designation likely also has economic implications (including the economic implications relating to changes to Los Alamitos’ tax base) which would then also need to be addressed in the upcoming EIR (e.g., indirect impacts on the delivery of other services and systems).

The concurrent rationalization for the exclusion of the JFTB from the GPU and processing of a GPA thereupon suggests inconsistencies in the Lead Agency’s planning and environmental review processes and only serves to undermine the affected public’s confidence concerning the Lead Agency’s ability to produce a credible GPU and an adequate EIR.

As indicated in Section 65300 of the CGC: “Each planning agency shall prepare and the legislative body of each county and city shall adopt a comprehensive, long-range general plan for the physical development of the county or city, and of *any land outside its boundaries which in the planning agency’s judgment bears relation to its planning*” (emphasis added).

Independent of whether the Lead Agency has “jurisdiction or land use authority” over the JFTB, the Lead Agency can neither ignore the existence of “49 percent” of Los Alamitos’ corporate boundaries nor the current and likely future impacts of that facility’s operation upon the Lead Agency and adjoining communities. As a result, the Lead Agency cannot seek to hide behind that disclaimer as a basis for not including the JFTB and its current and projected future operational impacts in the upcoming EIR (e.g., “There are approximately 190 acres in the City

and SOI that are identified as Prime Farmland on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Department of Conservation. These prime farmlands are on the southern and northeastern corners of the Los Alamitos JFTB property and are currently being cultivated for strawberry production through an out-lease with a commercial farming operation,” Initial Study, p. 38).

Other military facilities in California, including at least two in Orange County (i.e., Tustin Marine Corps Air Station and Marine Corps Air Station, El Toro) have recently closed and been realigned (converted to private use). Responsible planning would suggest that some level of advanced planning be initiated for the JFTB concurrently with the GPU in preparation for that possibility “over the next 20-plus years” (NOP, p. 2).

In what appears to be an inconsistent approach to the manner in which the Lead Agency conducts its CEQA analysis, the “Final Program Environmental Impact Report – Los Alamitos Medical Center Specific Plan, SCH No. 20100041095” (City of Los Alamitos, February 7, 2011) (“Medical Center FPEIR”) included, as a related project producing cumulative impacts, a 469,822 square foot “new headquarters facilities at JFTB” (Medical Center FPEIR, Table 4-1, p. 4-3). The inclusion of that “cumulative project” therein would appear to contradict the Lead Agency’s current position that physical changes within that facility can be ignored as part of an environment review for an area that actually encompasses that facility. Similarly, when Table 2 (Current General Plan Land Use) and Table 3 (Proposed General Plan Land Use) in the Initial Study are compared, the Lead Agency seeks to now assert that only 3,008 square feet ($1,397,993 - 1,394,985 = 3,008$) of new non-residential development within the JFTB will be examined in the upcoming EIR and not the 469,822 square feet of non-residential use examined in the recent Medical Center FPEIR.

Clearly, the Lead Agency was aware of the proposed “new headquarters facilities at JFTB” since the Initial Study expressly references the “Environmental Assessment for Proposed California Army National Guard & U.S. Army Reserve Construction of New Headquarters Facilities at JFTB Los Alamitos, California” (Initial Study, p. 66). Despite that reference, based on the Lead Agency’s own declaration, it appears that the JFTB will be treated as if it does not exist.

The Lead Agency represents that “easements” account for only four acres within Los Alamitos; however, as indicated in the “Katella + Los Alamitos Commercial Corridor Plan” (City of Los Alamitos, June 30, 2010) (“Corridor Plan”), the Lead Agency states that “[a] large portion of land within any city is dedicated for circulation and utility easements. Public streets and easements represent 23 percent of the non-JFTB land area in Los Alamitos” (Corridor Plan, p. 27). From Table 3 (Current General Plan Land Use) in the Initial Study, assuming a total of 1,340 acres ($2,619 - 1,279 = 1,340$) of non-JFTB land, circulation and utility easements would then account for about 308 acres of land and not the 336 acres now represented. Since development projections need to be based on an accurate representation of each land-use designation, the 28-acre difference should be clarified and assigned acreages adjusted accordingly.

Although Exhibit 3 reflects the overall changes in land-use designations now proposed throughout Los Alamitos and SOI, in order to understanding the nature and severity of the likely impacts both with regards to individual properties and Citywide, a much more detailed depiction of the parcels subject to those changes must be presented by the Lead Agency. While adaptive reuse of existing structures is possible, the more likely scenario when General Plan land-use

and zoning designations change is the demolition of existing structures and their subsequent replacement by new construction activities which have been designed to best accommodate the new land use. On those parcels where changes are proposed, assumptions need to be provided relating to demolition or reuse of existing improvements and the likely extent of new construction.

As indicated above, it appears that the Lead Agency seeks to create four (4) new General Plan land-use designations, including "Suburban Residential," "Limited Industrial," "Medical Overlay," and "Mixed Use." These land-use designations do not now exist within the City and, therefore, constitute new and distinct districts, each with their own unique set of development standards. Absent from the Initial Study and NOP, however, is any indication that new General Plan land-use designations will be established and that both Title 17 (Zoning) in the "City of Los Alamitos Municipal Code" ("Zoning Code") and the "Zoning Map of the City of Los Alamitos, California" ("Zoning Map") will also need to be amended to include a depiction of their locations, a description of eligible and conditional eligible land uses therein, and a general overview of the corresponding design and development standards within those newly created zoning districts. No information concerning those locations, eligible and conditionally eligible uses, and/or development standards is, however, presented in the Initial Study and no evidence concerning those items can be found elsewhere in the administrative record.

While, by its inclusion therein, Table 2 (Current General Plan Land Use) in the Initial Study would have you believe so, the geographic area comprising Rossmoor is not included in the existing General Plan (see 2010 General Plan, Land Use Plan, p. 1-2). Similarly, no "Suburban Residential" land-use category is included in the 2010 General Plan (see 2010 General Plan, Background Technical Report, p. 1-4). Referencing the existing General Plan: "The three General Plan categories for residential land use are described below: [1] Single-Family Residential (1-6 du/ac) – detached single-family homes on individual lots and planned-unit developments. [2] Limited Multiple-Family Residential (6-20 du/ac) – single-family residences, duplexes and triplexes. [3] Multiple-Family Residential (20-36 du/ac) – all types of development permitted in less intensive residential categories and multiple dwelling buildings of 4 or more. Other uses such as convalescent hospitals, churches, and mobile home parks are permitted in the Multiple-Family Residential category subject to specific procedures" (2010 General Plan, Background Technical Report, p. 1-4).

In comparison, the following five (5) residential land-use designations are now proposed: "Single Family Residential," "Limited Multi-Family Residential," "Multi-Family Residential," "Suburban Residential," and "Mixed Use" (Initial Study, Table 3 [Proposed General Plan Land Use], p. 19). There exists no reference to the allowable range of authorized development densities for any of these five residential categories.

At the January 6, 2014 scoping meeting, because the Rossmoor area is located in the Lead Agency's SOI and not presently within its corporate boundaries, representatives of the Lead Agency stated that the "Suburban Residential" district constitutes a County land-use designation and that the Lead Agency proposes to adopt the County standards with regards to those lands so designated (i.e., Rossmoor). No such information is presented in the Initial Study. In addition, there is no indication whether the County's standards, if so adopted, will be codified with only minimal variation (e.g., sections renumbered to allow for direct inclusion into the Zoning Code) or undergo wholesale modification.

In Table 3 (Proposed General Plan Land Use) in the Initial Study, the Lead Agency purports to present the assumptions used to derive the estimated number of “residential units,” population, non-residential square footage, and employment projections which are presented therein. With regards to housing, those assumptions included, but were not limited to: (1) Mixed Use – 22 units/acre; (2) Multi-Family Residential – 22 units/acre; (3) Limited Multi-Family Residential – 12 units/acre; (4) Single-Family Residential – 6 units/acre; and (5) Suburban Residential – 5.65 units/acre (Initial Study, Table 3, p. 20). Those assumptions may not actually reflect future development and were not universally applied by the Lead Agency in its derivation of its development assumptions associated with the GPU.

With regards to the “Multi-Family Residential” district, the Lead Agency states that the 145 acres so designated will yield a total of 3,017 “residential units” (Initial Study, Table 3 [Proposed General Plan Land Use], p. 19), or 20.8 dwelling units per acre. The 2010 General Plan, however, authorizes between 20 and 36 dwelling units per acre within the “Multiple-Family Residential” district. If the high-end (36 units/acre) of that authorized density were applied rather than a figure approximating the low end (20 units/acre), a total of 5,220 multiple-family units could be built in Los Alamitos and not the 3,017 units represented in the Initial Study or 2,203 ($5,220 - 3,017 = 2,203$) more units than now assumed in this one residential land-use category alone.

The same problem surfaces under the “Limited Multi-Family Residential” designation where the Lead Agency assumes that the 18 acres so designated will generate only 189 “residential units” (Initial Study, Table 3, p. 19) or 10.5 units per acre. If the maximum allowable density were applied (20 units/acre), a total of 360 limited multi-family units could be built and not the 189 units now being assumed by the Lead Agency. In what appears to be an inconsistent application of methodology, under the “Single-Family Residential” designation, through the application of the maximum allowable density authorized under the 2010 General Plan (6 units/acre), the Initial Study states that the 258 acres of residential use will generate 1,549 units ($258 \times 6 = 1,548$). If the Lead Agency were to apply a consistent methodology, using the lower density authorization (1 unit/acre), only 258 single-family units would be generated and not the 1,549 now being assumed.

As outlined in Exhibit 4 below, excluding both the “Suburban Residential” and “Mixed Use” designations where no current density standards exist in the General Plan and none are specified in the Initial Study, the potential underestimation in Los Alamitos’ housing inventory totals 2,373 units or 27.2 percent ($2,373 \div 8,735 = 0.272$) more new residential development than now being assumed by the Lead Agency. Failure to consider these additional units will likely result in a deficient environmental assessment (e.g., if each unit is assumed to generate 10 daily vehicle trips, a total of 23,730 additional vehicle trips will not be included in the EIR’s traffic analysis, assigned to the regional roadway network, and the resulting congestion will remain unmitigated).

Presently, there exists no “Mixed Use” district in Los Alamitos; however, the Lead Agency asserts that “[c]onsistent with the General Plan, the Housing Element anticipates infill residential and mixed-use development” (IS/MND, p. 23). All that is now known about the “Mixed Use” district (“Opportunity Site No. 6”) is that it will comprise 19 acres (827,640 square feet) and will allow the development of 14 “residential units” and 626,644 square feet of new non-residential development (Initial Study, Table 3 [Proposed General Plan Land Use], p. 19), representing a residential density of 0.7 units/acre and a FAR of 0.76:1. At the January 6, 2014 scoping

meeting, representatives of the Lead Agency also stated that there would be a “slight increase in density” over that authorized under the existing land-use designation; however, because the GPU does not specify allowable density, it is not possible to determine how densities might actually change.

Exhibit 4

	Proposed Residential Land-Use Designations				
	Single-Family	Limited Multi-Family	Multi-Family	Suburban	Mixed Use
Maximum Allowable Density (units/acre)	6	20	36	NA ²	NA
Total Acres Designated (acres) ¹	258	18	145	749	19
Maximum Allowable Development (units)	1,548	360	5,220	NA	NA
Initial Study Assumptions (units)	1,549	189	3,017	3,963	14
Possible Over or Underestimation (units)	+1	-171	-2,203	NA	NA
Total Underestimation (units)	2,373			NA	
Notes:					
1. From <u>Exhibit 3</u> herein.					
2. NA – Not available (neither supplied by the Lead Agency nor derivable from other sources)					

Even the “Suburban Residential” and “Single Family Residential” district appear to allow for 5.65 and 6.0 units/acre, respectively (Initial Study, Table 3 [Proposed General Plan Land Use], p. 19). Absent information concerning the Lead Agency’s intent with regard to the district’s proposed development standards, it is not possible to know how the 14 units and 626,644 square foot assumption was derived.

Based on those assumptions and absence parcel-specific information concerning the proposed change in acreages for individual land use, the corresponding increase or decrease in the number of new dwelling units associated with each of the changes in land-use designation can be independently estimated. As indicated in Exhibit 5, based on the changes in land-use designation and development assumptions identified by the Lead Agency, a decrease of 220 units ($418 - 638 = 220$) would be projected. In contrast, the Lead Agency assumes 14 new “residential units” in the newly established “Mixed-Use” district, an increase of 3,017 “residential units” in the “Multi-Family Residential” district, and an increase of 1,549 “residential units” in the “Single Family Residential” district.

The difference between the Lead Agency’s projection, as presented in the Initial Study ($14 + 3,017 + 1,549 = 4,580$) and the independent projection provided herein is 4,800 units ($220 + 4,580 = 4,800$). With that large of a deviation, it will not be possible for both parties to agree on the nature and severity of the resulting impacts and the measures needed to reduce those impacts to a less-than-significant level. So as to allow for independent confirmation, the Lead Agency needs to provide a reasoned rationale to justify the development assumptions which will be considered in the upcoming EIR.

Exhibit 5

	Existing General Plan Land-Use Designations											New				
	Community & Institutional	Community & Institutional/JFTB	Easement	Limited Multi-Family Residential	Multi-Family Residential	Open Area	Planned Industrial	Professional Office	Retail Business	Single Family Residential	Specific Plan	ROW	Suburban Residential	Limited Industrial	Medical Overlay	Mixed Use
Change (acres)	+2	+29	0	0	-29	0	-65	-18	+31	0	0	0	0	+8	+13	+19
Residential																
Assumption (units/acre)	-	-	-	12	22	-	-	-	-	6	-	-	5.65	-	-	22
Increase or Decrease in Dwelling Units	-	-	-	0	-638	-	-	-	-	0	-	-	0	-	-	418
Non-Residential																
Assumption (FAR)	3:1	2:1	-	-	-	0	3:1	3:1	3:1	-	-	-	-	NA	NA	NA
Increase or Decrease in Square Footage	130,680	2,526,480	-	-	-	-	-8,494,200	-2,352,240	4,051,080	-	-	-	-	NA	NA	NA

With regards to non-residential square feet, both Table 2 (Current General Plan Land Use) and Table 3 (Proposed General Plan Land Use), under the "Specific Plan" heading, identify 582,824 square feet of non-residential use (i.e., "Specific Plan: per assumptions presented in Los Alamitos Medical Center Specific Plan EIR," Initial Study, Table 3 [Proposed General Plan Land Use], p. 20). As indicated in the Medical Center FPEIR, build-out projections for the Los Alamitos Medical Center ("Medical Center") are 582,824 square feet, including a "net increase over existing" of 226,301 square feet (Medical Center FPEIR, Table 3-4, p. 3-9). Since build-out of the Medical Center has not yet occurred (e.g., "Development within the Los Alamitos Medical Center Specific Plan area is expected to occur in three general phases over a 25-year period, Medical Center FPEIR, p. 3-20), it becomes apparent that the Lead Agency's declaration of existing non-residential square footage constitutes something other than existing in-ground conditions (e.g., misrepresentation of the existing physical setting).

All that can be ascertained about the "Limited Industrial" district is that it comprises 8 acres (348,480 square feet) and will allow the development of 106,286 square feet of new non-residential development (Initial Study, Table 3 [Proposed General Plan Land Use], p. 19), representing a floor area ratio ("FAR") of 0.3:1. Excluding parks, from a General Plan perspective, no other non-residential land-use district in Los Alamitos appears to have a FAR of less than 2:1. As a result, absent information concerning the Lead Agency's intent with regard

to the district's proposed development standards, it is not possible to know how the 106,286 square foot assumption was derived.

At the public scoping meeting on January 6, 2014, representatives of the Lead Agency disclosed that the new "Limited Industrial" district ("Opportunity Site No. 2A") was proposed in order to allow commercial recreational uses as a permitted use. Since a commercial-recreational use is more appropriately categorized as a "retail" or "service-orientated" activity rather than an "industrial" use, there exists nothing in the Initial Study that would inform a reader of the City's intent to authorize and/or expand commercial-recreational uses in this district or which would provide a clue to the potential environmental impacts associated with the introduction or expansion of that unique land use.

An "overlay" zone typically does not materially alter the underlying land-use designation but merely establishes a separate set of design and development standards for particular uses. In this case, however, the Lead Agency asserts that the "Medical Overlay" district constitutes a separate land-use designation affecting 13 acres (566,280 square feet) and allowing for the development of an additional 357,255 square feet of development over and above the underlying land use (seemingly "Planned Industrial," as illustrated in Figure 5 [Proposed General Plan Land Use] in the Initial Study). To the extent that development densities can be increased above that otherwise allowable absent that designation, additional traffic and parking-related issues arise that are not acknowledged in the Initial Study.

All that is disclosed about the "Medical Overlay" ("Opportunity Site No. 5") is that this "opportunity site" is a non-residential district that is assumed to create one job for every 250 square feet of floor area (Initial Study, Table 3 [Proposed General Plan Land Use], p. 20). The Lead Agency's Zoning Code does not link development potential on individual properties to the number of jobs being created (e.g., the more jobs created the more intense the development which is then authorized). Absent information concerning the Lead Agency's intended development standards applicable to the "Medical Overlay," it is not possible to ascertain whether the assigned 357,255 square feet of new non-residential development, equating to a FAR of 0.63:1 ($357,255 \div 566,280 = 0.63$), is either a reasonable or rational basis for environmental assessment.

As indicated in the 2010 General Plan, the underlying zoning in the "Planned Industrial" district is "Planned Light Industrial" ("P-M") (2010 General Plan, Figure 1-3 [Zoning], p. 1-16). Referencing Table 2-05 (Commercial/Industrial Zoning Districts General Development Standards) in Section 17.10.030 (Property Development Standards) in Title 17 (Zoning) of the Municipal Code, the allowable FAR in the P-M zone is 0.4:1. An increase from 0.4:1 to 0.63:1 (65 percent) cannot be characterized as a "slight increase" (January 6, 2014 scoping meeting). In the case of this single 13-acre overlay area, the resulting increase is 130,743 square feet ($[566,280 \times 0.63] - [566,280 \times 0.4] = 130,743$).

With the exception of both the four (4) new General Plan land-use designations now proposed by the Lead Agency (for which no development standards are identified in the Initial Study) and the "Medical Center Specific Plan" (as discussed above), floor area ratios ("FARs") for non-residential land uses within Los Alamitos are listed in the 1989 FEIR (1989 FEIR, Table 1 [Land Use Categories], p. 8) and are assumed to correspond to existing public policies. Based on the application of those FARs and the increase or decrease in the acreages under each of the non-residential land-use categories, a reduction of 4,108,280 square feet of gross leasable square

footage can be calculated. In contrast, based solely on the unsubstantiated assumption that non-residential square footage will increase “approximately 10 percent above existing building square footage” (Initial Study, pp. 13 and 20), the Lead Agency assumes an “increase from existing conditions” of 903,465 square feet (Initial Study, Table 3, p. 19). The “approximately 10 percent increase” appears to be an arbitrary and unsubstantiated assumption. Rather than selecting a growth rate arbitrarily, the Lead Agency needs a much more cogent methodology for assessing growth within Los Alamitos over the next “20-plus years” (NOP, p. 2).

The difference between the Lead Agency’s projection (as presented in the Initial Study) and the independent projection provided herein is over 5 million square feet ($4,108,280 + 903,465 = 5,011,745$) of non-residential uses. With that large of a deviation, it will not be possible for both parties to agree on the nature and severity of the resulting impacts and the measures needed to reduce those impacts to a less-than-significant level. So as to allow for independent confirmation, the Lead Agency needs to provide a reasoned rationale to justify the development assumptions which will be considered in the upcoming EIR.

Based on these substantive differences, it is not possible to duplicate even an approximation of the Lead Agency’s residential and non-residential projections. Substantially more detail (e.g., parcel-specific delineation) is, therefore, required in order to substantiate the development projections and methodology to be used in the upcoming EIR.

The accuracy of all of the Lead Agency’s estimates, as presented in Table 3 (Proposed General Plan Land Use) must, therefore, be questioned because they do not appear to be supported by any verifiable information provided by the Lead Agency (i.e., a supportable baseline). By failing to accurately describe both the existing physical setting and the additional residential and non-residential development allowable under the GPU (and the basis for the impact analysis in the upcoming EIR), the EIR can only underestimate the likely environmental impacts that are associated with the proposed action. Since impacts are not likely confined to the Lead Agency’s corporate boundaries, Cypress and other adjoining communities will likely incur substantial environmental costs without reaping any of the purported environmental benefits.

Inadequate Project Description

The State Legislature has declared that an EIR’s purpose is “[t]o provide more meaningful public disclosure” (Section 21002.1[e], CEQA). In addition, “[a]n environmental impact report is an informational document” (Section 21061, CEQA) and “[d]ocuments prepared pursuant to this division [shall] be organized and written in a manner that will be meaningful and useful to decisionmakers and to the public” (Section 21003[b], CEQA).

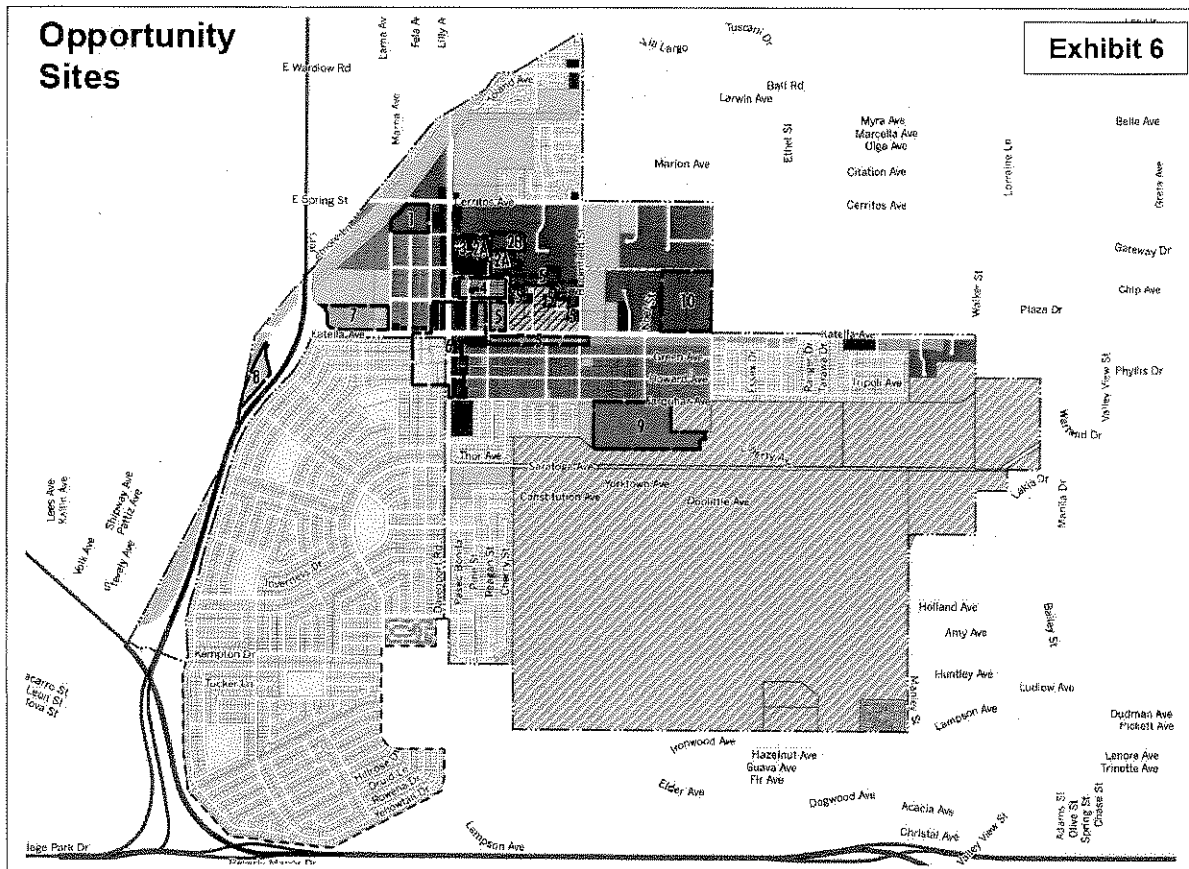
“CEQA contemplates serious and not superficial or pro forma consideration of the potential environmental consequences of a project” and emphasizes “the importance of an accurate project description to fulfilling the goals of CEQA” (*Leonoff v. Monterey County Board of Supervisors* [1990]). The court has stated that a “curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal and weigh other alternatives in the balance. An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR” (*County of Inyo v. City of Los Angeles* [1977]).

The purpose of CEQA "is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made" (*Laurel Heights Improvement Association v. University of California* [1993]). In citing CEQA, the court has stated that "[t]he EIR must contain facts and analysis, not just the bare conclusions of the agency" [Citation]. 'An EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project' [Citations]. 'CEQA requires an EIR to reflect a good faith effort at full disclosure; it does not mandate perfection, nor does it require an analysis to be exhaustive' [Citation]" (*Bakersfield Citizens for Local Control v. City of Bakersfield* [2004] ["*Bakersfield*"]). "Failure to comply with the information disclosure requirements constitutes a prejudicial abuse of discretion when the omission of relevant information has precluded informed decisionmaking and informed public participation, regardless whether a different outcome would have resulted if the public agency had complied with the disclosure requirements [Citations]" (*Bakersfield*, quoting from *Dry Creek Citizens Coalition v. County of Tulare* [1999]).

As indicated under Agenda Item 3(A) (Special Orders of the Day), as presented to the Council on June 17, 2013, "[t]he Land Use Plan will create the basis for the General Plan Land Use map and the proposed project to be analyzed through an Environmental Impact Report under CEQA." On September 16, 2013, the Lead Agency's Community Development Department sought Council authorization to commence the CEQA process for the GPU. As indicated under Agenda Item 8(F) (General Plan 2013 Draft Land Use Plan): "The next step in the General Plan process requires consent of the City Council. Staff is requesting to proceed with an Environmental Impact Report for the Plan as required by the California Environmental Quality Act. During the June study session, an overview of the General Plan progress, and opportunity sites to be studied in the EIR, was presented. A decision tonight locks in what will be studied in the General Plan EIR. . . While this General Plan Update is not a wholesale analysis of each parcel within City limits, ten sites did rise to the level of consideration by either staff, the TAC [Technical Advisory Committee] or the Commissions for changes that will be reflected in the proposed Draft Land Use Plan. This led to the selection of a preferred Land Use Plan as the basis for preparing the Land Use Element."

As further indicated under Agenda Item 3(A), "[t]his next step in the General Plan Update is to lock in the Draft Land Use Plan including ten opportunity sites that may be subject to a land use change." The "opportunity sites to be studied in the EIR" (<http://losalgeneralplan.org/outreach/>), are illustrated and described in Exhibit 6 herein. At least one of the these sites (e.g., Arrowhead Products) directly abuts Cypress and any change in land-use designation or in the development standards contained in the Zoning Code will result in direct and indirect impacts upon Cypress.

Under Agenda Item 3(A), the Lead Agency stated that "[a] decision tonight locks in what will be studied in the General Plan EIR"; however, none of the "ten opportunity sites to be studied in the EIR" are, in fact, identified in the Initial Study and/or NOP. No reference of any kind is made to those sites therein. Since neither the Initial Study nor the NOP state what factors have predicated the Lead Agency to undertake the GPU at this time, it must be assumed that the Lead Agency's election to undertake the proposed action is based on: (1) Los Alamitos' desire or the desires of individual property owners or members of the development community to change the land-use designations for one or more of the above referenced properties; and/or (2) identified housing need that cannot be met based on existing General Plan land-use designations. No linkage between the GPU and HEU is, however, referenced. As a result, both documents and their accompanying CEQA documentation would appear to be fatally flawed.



No.	Name	Acreage	Existing GP	Proposed GP
1	Cerritos & Church (Cottonwood Church/Monty Collins Area)	Not Specified	Planned Industrial (PI)	Multi-Family Residential (R3)
2A	Industrial Area off of Reagan (Limited Industrial)	Not Specified	Planned Industrial (PI)	Limited Industrial
2B	Industrial Area off of Reagan (Post Office and LAUSD Yard)	Not Specified	Planned Industrial (PI)	Community & Institutional (C&I)
3	Vacant/Center Plaza (Vacant former Lew Webb Site on Katella)	Not Specified	Retail Business (RB)	Retail Business (RB)
4	Old Town East	Not Specified	Limited MFR (R2)	Limited MFR (R2)
5	Medical Center Area	Not Specified	Planned Industrial (PI) Professional Office (PO)	Medical Overlay (M) Professional Office (PO) Retail Business (RB)
6	Town Center (Los Alamitos Blvd/Katella Intersection)	Not Specified	Retail Business (RB) Suburban Residential (1B)	Mixed Use (MU) Suburban Residential (1B)
7	Civic Center/SuperMedia Site	Not Specified	Professional Office (PO) Community & Institutional (C&I)	Retail Business (RB)
8	Flood Control Reuse (Open Space along Channel south of Katella)	Not Specified	Open Area (OA)	Open Area (OA)
9	Former Base Housing (Vacant Base Housing along Farquhar)	Not Specified	MRF (R3)	Community & Institutional (CI)
10	Arrowhead Products	Not Specified	Planned Industrial (PI)	Retail Business (RB)

As yet another example of the internal inconsistency between the GPU and the HEU, as reflected in the “ten opportunity sites,” although a number of “changes” in land-use designation are proposed under the GPU (comparing Figure 4 [Current General Plan Land Use] and Figure 5 [Proposed General Plan Land Use], Initial Study), “no General Plan amendment involving existing residential land use designations is proposed by the Housing Element” (IS/MND, p. 17).

Under CEQA: (1) “‘Project’ means an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment” (Section 21065, CEQA); (2) “In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project” (14 CCR 15064[d]); and (3) “Effects analyzed under CEQA must be related to a physical change” (14 CCR 15358[b]). Actions deemed to be exempt from CEQA include those activities that “will not result in a direct or reasonably foreseeable indirect physical change in the environment” (14 CCR 15060[c][2]).

Pursuant to Section 15082(a)(1)(A), the required content of a NOP includes a “description of the project.” In describing the proposed action, the Lead Agency states: “The proposed project is an update to the City of Los Alamitos General Plan. The Los Alamitos General Plan Update is intended to shape development in the City and the unincorporated community of Rossmoor over the next 20-plus years. The Los Alamitos General Plan Update involves reorganization of the current General Plan into the following six required and two optional elements: land use element, circulation and transportation element, open space and recreation element, conservation element, safety element, noise element, economic development element, and growth management element” (NOP, p. 2). By failing to indicate that the proposed action relates, at least in part, to a GPA on those “ten opportunity sites,” the NOP fails to accurately and adequately describe the proposed action.

With regards to the GPU, if, as alleged, the proposed action is merely a “reorganization of the current General Plan,” involving a population reduction of 1,741 residents and 104,612 square feet of non-residential development (Initial Study, Table 3, p. 19), then it would appear that the proper form of CEQA documentation would be a “subsequent EIR” (14 CCR 15162) or “supplemental EIR” (14 CCR 15163) or even a “mitigated negative declaration” (14 CCR 15070) rather than a new EIR. Since the Lead Agency has deemed none of those forms of CEQA documentation to be relevant, the Lead Agency’s own actions demonstrate the substantive nature of the proposed action.

By categorizing the project as merely a “reorganization of the current General Plan” (e.g., “reorganization” does not manifest as a “physical change”), the Lead Agency materially misrepresents the actual nature of the proposed action (e.g., “The proposed project would replace the current Los Alamitos General Plan and would modify land use designations in Los Alamitos,” Initial Study, p. 53) and, in so doing, precludes relevant information from being presented to public agencies and the general public (Section 21005, CEQA). Absent explicit reference to the specific content of the “proposed Draft Land Use Plan” and “preferred Land Use Plan,” the affected public is denied the ability to comment on those components of the upcoming EIR that have the potential to produce a “physical change” to the existing environment.

The 2010 General Plan states that “[t]he City of Los Alamitos encompasses 2,752 acres” (2010 General Plan, p. 1-1). No reference to the community of Rossmoor, which is a California Special District, or to Los Alamitos’ SOI is contained therein. In describing the “current General Plan land use” (Initial Study, Table 2, p. 13), the Lead Agency’s inclusion of Rossmoor therein constitutes a material misrepresentation of the geographic area included in the 2010 General Plan (see 2010 General Plan, Figure 1-2 [General Plan], Figure 1-3 [Zoning], and Figure 1.4 [Location of Residential Neighborhoods]).

In contrast, the GPU is based on an area of 3,601 acres (e.g., “The City of Los Alamitos encompasses 2,619 acres and its SOI extends to the 982-acre unincorporated community of Rossmoor,” Initial Study, p. 1-1). As such, it is disingenuous to both state that, with regards to the Rossmoor area, the “change compared to the current General Plan” is zero (Initial Study, Table 3, p. 19) and to refer to the GPU as merely a “reorganization” when, in fact, it includes an additional 849 acres ($2,601 - 2,752 = 849$) to 982 acres (Initial Study, Table 3, p. 19) of land within its purview.

The Lead Agency states that the purpose of the NOP is “to advise and solicit comments and suggestions regarding the scope and content of the EIR to be prepared for the proposed project” (NOP, p. 1); however, without being informed, at least in general terms, as to the nature of the “physical changes” to the existing environment that would occur should the project be implemented as proposed, stakeholders have been denied the ability to submit meaningful comments on the “scope and content of the EIR.”

The NOP, therefore, does not include the minimum information required to constitute a valid notice. In order to avoid an inadequate EIR, a new NOP must again be disseminated and the affected public and those public agencies required to receive notice must again be provided a new opportunity to submit comments to the Lead Agency relative to both the proposed project and the potential impacts resulting therefrom.

Zoning Code

As stipulated, in part, under Section 65860 of the CGC, “County or city zoning ordinances shall be consistent with the general plan of the county or city.” The California Supreme Court held that a zoning ordinance that is inconsistent with the comprehensive plan at the time it is enacted is “invalid when passed.” In addition, the court noted that zoning and planning consistency requires that local communities amend zoning ordinances to conform to the general plan and not vice versa (“The tail does not wag the dog”) (*Leshar Communications v. City of Walnut Creek* [1990]).

As indicated in Section 17.04.010 (Purpose) in Title 17 (Zoning) of the Municipal Code: “This chapter establishes the zoning districts applied to property within the city. It also determines how the zoning districts are applied on the zoning map, and provides general permit requirements for development and new land uses.”

The Lead Agency proposes the creation of four (4) new General Plan designations, including “Suburban Residential,” “Limited Industrial,” “Medical Overlay,” and “Mixed Use.” However, absent from Title 17 (Zoning) are any comparable zoning districts matching or closely replicating those new General Plan designations. As such, should those districts be established, the Lead Agency would be required to amend its Zoning Code to include corresponding “general permit

requirements" (e.g., design and development standards), including a listing of permitted and conditionally permitted land uses. The new listing of eligible land uses likely differs from those now authorized under existing zoning.

All non-residential land uses are not alike and do not exhibit identical operational characteristics. With regards to non-residential uses, to merely state that the proposed project constitutes a 903,465 square foot "increase from existing conditions" or a 8,881,442 square foot "grand total" (Initial Study, Table 3 [Proposed General Plan Land Use], p. 19) provides no information concerning whether that increase is retail, office, institutional, light industrial, or heavy industrial. Based on operational differences, the placement of non-residential uses adjacent to certain sensitive land uses (e.g., residential, schools, libraries, parks and recreational areas, hospitals and medical facilities, nursing homes, and churches) could possibly result in undisclosed land-use compatibility conflicts based on the different operational characteristics of those uses.

Absent from the Initial Study and NOP is: (1) any acknowledgement that the proposed project includes a substantive amendment to the Zoning Code; and (2) any general or detailed information concerning the nature of that amendment and the standards needed to ensure consistency with the GPU. Because precise development assumptions have been assigned to those new districts (see Initial Study, Table 3 [Proposed General Plan Land Use], p. 19) based on an undisclosed set of standards (e.g., allowable FAR), critical information germane to the environmental assessment has been withheld and the affected public has been denied the ability to both independently validate the level of development so assigned and to comment thereupon (e.g., suggest alternative development standards).

Because the EIR needs to examine the physical changes likely to occur to the existing baseline setting should the proposed project be implemented in the manner now proposed, an accurate assessment of the development that will follow becomes a foundational component of the EIR and one of the most critical variables affected all of the topical issues to be evaluated therein. Zoning is the key bridge linking the General Plan and the parcel-specific and development-specific entitlements that will likely follow the adoption of the GPU.

Inconsistent Project Description and General Plan

In court has stated, in pertinent part, that "[t]he general plan has been aptly described as the 'constitution for all future developments'. . . [T]he propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements. . . The consistency doctrine has been described as 'the linchpin of California's land use and development laws; it is the principle which infuse[s] the concept of planned growth with the force of law' [Citation]" (*Napa County for Honest Government v. Board of Supervisors* [2001]).

As required under the CGC: (1) "In constructing the provisions of this article, the Legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency" (Section 65300.5, CGC); and (2) "Any specific plan or other plan of the city or county that is applicable to the same areas or matters affected by a general plan amendment shall be reviewed and amended as necessary to make the specific or other plan consistent with the general plan" (Section 65359, CGC).

The Lead Agency seeks to concurrently process a MND for the HEU and an EIR for what appears to be the remainder of the GPU. In addition to the issues of “fragmentation” and “piecemealing” raised above, this segmentation results in a document which is neither “integrated” nor “internally consistent.”

For example, as indicated in the IS/MND: “The 1999 General Plan identifies three residential areas within the City with vacant and/or underutilized parcels that would allow for the development of additional housing units. These residential areas include Old Town East, Old Town West, and Apartment Row. According to the General Plan, buildout of these three residential areas could result in 645 additional dwelling units and a population increase of 1,870 persons. Specifically, the [1999] General Plan would allow for 24 additional dwelling units within Old Town East, 171 additional dwelling units in Old Town West, and 450 additional dwelling units in Apartment Row” (IS/MND, pp. 54-55).

In contrast, the Initial Study states that the build-out of the totality of the Lead Agency’s planning area will result in only 535 new dwelling units and 1,395 new residents (e.g., at the January 6, 2014 scoping meeting, representatives of the Lead Agency categorized the GPU as “low growth”). As a result, it is not possible to reconcile the substantive differences between the assumptions and the growth projections internal to the General Plan and the policy documents comprising that blueprint (e.g., “the City’s General Plan serves as the blueprint for future growth and development, IS/MND, p. 2).

As indicated in the Initial Study, “[t]he Los Alamitos General Plan Update is intended to shape development in the City and the unincorporated community of Rossmoor (sphere of influence) over the next 20-plus years” (Initial Study, p. 17). In contrast, the HEU states that “[t]he Housing Element addresses housing opportunities for current and future Los Alamitos residents through 2021” (HEU, p. 1-1). As a result, the Lead Agency’s individual General Plan elements do not even examine the same time period. With the possible exception of the GME (which was not available on the Lead Agency’s website with the rest of the 2010 General Plan), no other General Plan element appears to either have such a limited-term perspective or short-term implementation program.

As mandated under Section 65583 of the CGC: “The housing element shall consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing.” In addition, the element shall contain “[a]n assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs.” As a result, since the General Plan Update encompasses a “20-plus year” horizon, the HEU is not consist with the remainder of the General Plan and does not contain a corresponding needs analysis over that same time period.

As required under Section 65300 of the CGC: “Each planning agency shall prepare and the legislative body of each county and city shall adopt a comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency’s judgment bears relation to its planning.” The GPU includes both the City and its SOI (i.e., “The City’s sphere of influence encompasses the unincorporated community of Rossmoor on the southwest side of the City,” Initial Study, p. 1). In contrast, the HEU excludes Los Alamitos’ SOI, such that the GPU and HEU do not examine the same geographic area.

The HEU states that, in 2011, there were 4,307 “housing units” in Los Alamitos (HEU, Table 2-14, p. 2-13). In contrast, the Initial Study states that there are 5,439 “residential units” in Los Alamitos plus an additional 3,963 units in Rossmoor, for a total of 9,402 units (Initial Study, Table 2, p. 13). Similarly, the HEU states that Los Alamitos’ 2010 population is 11,449 individuals (HEU, Table 2-2, p. 2-2). The Initial Study declares that the Lead Agency’s population is 14,204 individuals plus an additional 10,540 individuals in Rossmoor, for a total population of 24,744 persons.

Also, the HEU states that, in 2010, there are 5,530 jobs in Los Alamitos (HEU, Table 2-6, p. 2-70); however, the Initial Study indicates that there are 16,235 jobs in Los Alamitos plus an additional 408 jobs in Rossmoor, for a total of 16,643 jobs. Because “the City’s population has not increased for over 20 years,” (HEU, p. 2-2), these substantial differences cannot be explained merely based on minimal year-to-year changes in housing inventory and population but are reflective of a much more systemic lack of integration throughout the General Plan.

As indicated in the IS/MND, “[t]he Housing Element anticipates the development of 61 residential units to meet the regional housing needs” (IS/MND, p. 67) and “[t]he Housing Element would promote a range of affordable housing choices” (IS/MND, p. 23). In contrast, the GPU identifies a 667-unit reduction in the Lead Agency’s housing inventory (Initial Study, Table 3, p. 19). Portions of the General Plan describe the need for an expanded and more diverse housing inventory while other portions of the General Plan create a substantial reduction in both that total inventory and, more specifically, in the number of multi-family units in Los Alamitos.

In accordance with the Southern California Association of Governments’ (“SCAG”) final “Regional Housing Needs Assessment” (“RHNA”) “5th Cycle Regional Housing Needs Assessment Final Allocation Plan, 1/1/2014 - 10/1/2021,” Los Alamitos’ fair-share housing need includes 14 “very low income,” 10 “low income,” 11 “moderate income, and 20 “above moderate income” units (<http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf>) (see also HEU, p. 2-24). The Lead Agency notes that in order “[t]o address the City’s needs for very low- and low-income housing, Los Alamitos must demonstrate that it has an adequate supply of land for higher density housing. Although zoning land for higher density development does not guarantee the construction of housing that is affordable to low and moderate income families, without such higher density zoning, the opportunity to provide housing for lower income households is limited” (HEU, p. 6). Under the GPU, lands designated “Multi-Family Residential” will be reduced from 174 to 145 acres (see Initial Study, Table 2 [Current General Plan Land Use] and Table 3 [Proposed General Plan Land Use], pp. 13 and 19).

In *Neighborhood Action Group v. County of Calaveras* (1984), the court held that a finding of consistency based on an inadequate general plan was a legal impossibility. Notwithstanding these substantive geographic and demographic differences, the Lead Agency nonetheless erroneously asserts that the HEU is consistent with the General Plan (e.g., “City staff has reviewed the other Elements of the General Plan and has determined that this Housing Element provides consistency with them,” HEU, p. 1-2). In addition, the IS/MND notes: (1) “Implementation of the Housing Element is consistent with the Land Use Element” (IS/MND, p. 17); (2) “City staff has reviewed the other elements of the General Plan and has determined that the proposed Housing Element provides this necessary consistency” (IS/MND, p. 46); and (3) “Project implementation would be consistent with the analysis presented in the General Plan and would result in no greater impacts than previously identified” (IS/MND, pp. 62 and 63).

Other than the bare conclusion, no consistency analysis or evidence of the precise nature and substance of the "City staff review" is presented therein. Additionally, it is the City's decision-making body and not "City staff" that makes that determination following that body's deliberations and consideration of the totality of the project's administrative record and not prior to those deliberations.

Housing Element Update

As indicated in SCAG's "A RHNA 101 Primer" (SCAG, January 2011): "When a local government fails to adopt an updated Housing Element by the deadline, or adopts an element that does not comply with the law, the city or county is regarded as noncompliant and is subject to penalties. If the General Plan or any element is not in compliance with the law, a petitioner - be it an environmentalist, low income housing advocate or builder - can request a hearing or a trial. If a court finds that the General Plan or any of its mandatory elements do not substantially comply with the law then the court in its order of judgment may specify one or more actions such as the two examples noted below: [1] Suspend authority of the entity to issue building permits or any other related permits for residential housing; [2] Suspend the authority of the entity to grant zoning changes, variances, or both."

Los Alamitos' HEU was "received" by HCD on November 7, 2013 and the "final due date" is January 6, 2014 (<http://www.hcd.ca.gov/hpd/hrc/plan/he/review.pdf>). The Lead Agency's truancy in updating that document cannot now serve as justification in support of and authorization for and acceptance of its CEQA defects. The public interest is not advanced by selective compliance with CEQA.

All elements of a general plan have equal legal status. For example, in *Sierra Club v. Board of Supervisors of Kern County* (1981), a California appellate court struck down a provision in the general plan that stated if there is a conflict between the land-use element and the open space element, the land-use element controls. Recognizing the comprehensive nature of comprehensive planning, the court found that no element is legally subordinate to another.

To the extent that the Lead Agency elects not to avail itself of the authority to prepare either an "EIR as part of a general plan" (14 CCR 15155) or a "program EIR" (14 CCR 15168), because the Lead Agency seeks to only examine a 2014-2021 time period with regards to the HEU and not the "20-plus years" examined in the GPU, the Lead Agency should define the upcoming EIR as a "staged EIR." As indicated in Section 15167(a) of the State CEQA Guidelines, "[w]here a large capital project will require a number of discretionary approvals from government agencies and one of the approvals will occur more than two years before construction will begin, a staged EIR may be prepared covering the entire project in a general form. The staged EIR shall evaluate the proposal in light of current and contemplated plans and produce an informed estimate of the environmental consequences of the entire project. The aspect of the project before the public agency for approval shall be discussed with a greater degree of specificity."

In any event, because significance determinations cannot be made absent an understanding of the "whole of the action" (14 CCR 15378[a]), the Lead Agency needs to project housing need through 2035 (consistent with the GPU) so that potentially significant environmental impacts are not compartmentalized in a manner which minimizes environmental disclosure. CEQA does not allow agencies to consider only "direct or primary effects" (which are caused by the project and occur at the same time and place) while ignoring "indirect or secondary effects" (which are

caused by the project and are later in time or farther removed in distance but are still reasonably foreseeable) (14 CCR 15358).

As indicated in the IS/MND, the “[a]doption of the update to the Housing Element of the City’s General Plan is subject to review and/or approval by the following. . . California Department of Housing and Community Development” (IS/MND, p. 9). In *Nelson v. County of Kern* (2010), the court noted:

CEQA’s conception of a project is broad (see *Friends of the Sierra Railroad v. Tuolumne Park & Recreation Dist.* (2007) [Citation]), and the term is broadly construed and applied in order to maximize protection of the environment (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) [Citation]). This big picture approach to the definition of a project (i.e., including “the whole of an action”) prevents a proponent or a public agency from avoiding CEQA requirements by dividing a project into smaller components which, when considered separately, may not have a significant environmental effect ([Citation] [Citation]). That is, the broad scope of the term “project” prevents “the fallacy of division,” which is the “overlooking [of a project’s] cumulative impact by separately focusing on isolated parts of the whole” (*McQueen v. Board of Directors* (1988) [Citation]). Environmental considerations may not be submerged by chopping a single CEQA project into smaller parts for piecemeal assessment (*Bozung v. Local Agency Formation Com.* (1975) [Citation]). Rather, “the whole of an action” or the entire activity for which the approvals are being sought must be considered by the agency ([Citation]).

[State] CEQA Guidelines further clarify that the term “project” refers to “the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term ‘project’ does not mean each separate governmental approval” ([Citation]). This important elaboration is meant to “ensure that a project proponent does not file separate environmental reports for the same project to different agencies thereby preventing ‘consideration of the cumulative impact on the environment’ [Citation]” ([Citation]). It also serves as a reminder that there may be more than one agency issuing approvals for a particular project and clarifies that the project is not to be confused with each separate governmental approval.

Local and regional housing needs will neither disappear nor dissipate after 2021. If that were the case, the Lead Agency would not need to formulate General Plan policies allowing residential development in excess of 61 dwelling units. If the Lead Agency asserts that Los Alamitos’ total housing need is only 61 units, then further justification is needed to rationalize the City’s promotion of the additional 474 units ($535 - 61 = 474$) anticipated under the GPU (see Table 3 [Proposed General Plan Land Use], p. 19). If the General Plan is intended and designed to response to identified community’s needs, then the Lead Agency’s declared housing need (i.e., 61 units) should dictate land-use policy and the number of new dwelling units that can be constructed in Los Alamitos based on General Plan and Zoning Code authorization. Because no housing needs beyond the 61 units is identified in the HEU, the additional 474 units thus become growth inducing.

Absence SCAG-adopted or other housing need projections formulated by the California Department of Housing and Community Development ("HCD") or another public agency beyond 2021, the Lead Agency has the ability to extrapolate between the 23 units identified during the 2006-2014 planning period (i.e., "The Housing Element is a policy document designed to aid the City in future planning, and provides the policy and regulatory mechanism to allow the market development of 23 residential units for the planning period 2006 to 2014," IS/MND, p. 71) and the 61 units identified during the 2014-2021 planning period as a means of determining housing needs through 2035.

The Lead Agency does not state whether it achieved, exceeded, or fell short of its 2006-2014 (Fourth Cycle) housing goal and/or whether there exists an unfulfilled need that carries over or should carry over from that time period to the next (Fifth Cycle). Assuming that housing need is linear and that 23 units were required between 2006-2014 and that an additional 61 units are required between 2014-2021, projecting that same growth trend forward, between 2021-2028, the Lead Agency's housing need would be an additional 162 units and, between 2028-2035, the Lead Agency's housing need would be an additional 429 units. Assuming no carry-over from the 2006-2014 time period, the resulting 652 units ($61 + 162 + 429 = 652$) exceeds the 535 "residential units" that Los Alamitos projects under the GPU. By adopting a set of land-use policies that discourage new housing development (by reducing the acreage of residentially-designated lands) but promote non-residential development (by increasing the acreage of non-residentially-designated lands), the Lead Agency then exports its unfulfilled housing demand to other communities while concurrently seeking to expand employment opportunities in Los Alamitos.

Referencing Section 21000(g) of CEQA, "it is the intent of the Legislature that all agencies of the State government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while *providing a decent home and satisfying living environment for every Californian*" (emphasis added). As further indicated in Section 21001(d) of CEQA, the State Legislature finds and declares that it is the policy of the State to "[e]nsure that the long-term protection of the environment, consistent with the *provisions of a decent home and suitable living environment for every Californian*, shall be the guiding criterion in public decisions" (emphasis added). Referencing Section 15021(d) of the State CEQA Guidelines, "CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of *providing a decent home and satisfying living environment for every Californian*" (emphasis added).

As indicated in Table 3 (Proposed General Plan Land Use) in the Initial Study, rather than promoting the provision of "decent housing," it appears that the Lead Agency's proposed GPU adversely impacts Los Alamitos' ability to fulfill those State mandates. As indicated therein, the Lead Agency states that the proposed "change compared to the current General Plan" is not the expansion of the local housing inventory but a 667-unit reduction in the number of "residential units" that could be constructed throughout Los Alamitos. In comparison, over the next "20-plus years," the Lead Agency projects that only 535 new units will be constructed throughout Los Alamitos and its SOI.

To put "lipstick on a pig" is a rhetorical expression which is used to convey the message that making superficial or cosmetic changes is a futile attempt to disguise the true nature of an

object. In the case of the GPU and HEU, while likely too broad a characterization, the Lead Agency seeks to replace its existing housing-supportive public policies with a new set of public “community values” which “[m]aximize retail opportunities” and “[o]ffer incentives to preserve and attract business” (Initial Study, p. 17) but do nothing for the production of housing or the retention of the existing housing stock. Not one of the Lead Agency’s declared “community values” relates, either directly or indirectly, to the provision of new housing opportunities within Los Alamitos and its SOI.

To the detriment of housing, it is evident that the intent of the GPU is to promote jobs and revenue-generating land uses. The HEU contains only minimal discussion of the relationship between jobs and housing and what is presented is not supported by the information provided in Table 3 (Proposed General Plan Land Use) in the Initial Study. As indicated in the IS/MND: “The Housing Element contains policies that encourage the development of vacant and underutilized sites at greater intensities to provide higher density residential development (Policy Actions 4.2 and 4.3) and encourages partnerships and coordination with developers and outside agencies to encourage the development of affordable housing (Policy Action 5.5)” (IS/MND, p. 21). However, as indicated in Exhibit 5 herein, the inventory of lands allocated for “Multi-Family Residential” is being reduced by 29 acres (with a corresponding reduction of 638 units).

Referencing SCAG’s “Regional Housing Needs Assessment” (SCAG, October 3, 2012) (<http://www.scag.ca.gov/Documents/scagRHNA2012.pdf>): “California State housing element law enacted in 1980 requires SCAG and other regional councils of government in California to determine the existing and projected regional housing needs for persons at all income levels. SCAG is also required by law to determine each jurisdiction’s share of the regional housing need in the six-county Southern California region. The intention of SB 375 and the RHNA process is to create a better balance of jobs and housing in communities, ensure the availability of decent affordable housing for all income groups and achieve sustainability through long term strategic land use planning.” Municipalities with a jobs-housing ratio of 1.0 are considered to be in balanced or in equilibrium. A ratio greater than 1.0 indicates a net in-commute and a ratio less than 1.0 indicates a net out-commute.

Referencing HCD’s “California’s Inter-Regional Partnership Program - Jobs, Housing and Mobility Strategies” (HCD, June 2005):

Jobs-to-housing ratios are sometimes used to characterize jobs-housing balance, yet identifying an appropriate ratio for use as target is difficult. A crude measure of jobs-housing balance is sometimes presented as a jobs-to-employed residents’ ratio, where a ratio of 1:1 represents one job for each household. Generally, when the ratio is below 1.0 the area is considered to have a jobs deficit and housing surplus. This is a general indication of the need of the community to commute out of the area for employment. When the ratio is above 1.0 the area is considered to have a housing deficit and jobs surplus.

When the National Center for Smart Growth Research and Education analyzed U.S. Census data from 1980, 1990, and 2000, they found that the number of housing units per job was falling each decade. The jobs-housing ratio of the U.S. has grown increasingly larger since 1980, growing from 1.3, to 1.36, to 1.45.

The 1.5 ratio often cited recently in California was based on an observation of the California Department of Finance (the ratio of jobs and housing units created in the decade of the 1990s, a decade lagging in housing construction). This 1.5 ratio reported by DOF was descriptive, and not intended to represent a prescriptive standard. California, as a whole, had in 2000 a ratio of jobs to households of 1.28 and a ratio of jobs to housing units of 1.20, based on 14.7 million jobs per the Employment Development Department 11.5 million households, and 12.0 million non-recreational housing units per the U.S. Census Bureau. Thus, the actual California ratios render impossible a 1.5 ratio in every county, or even a 1.3 ratio. Since those 1.2 and 1.28 ratios from the 2000 data came from a year that was a boom for jobs but extremely low housing vacancy rates, a desirable ratio would have more housing units to allow people to form households as they would wish, and thus a desirable ratio is probably closer to 1.1 jobs to housing units. Depending on the geographic context, use of target ratios larger than 1.3 may mislead users to underestimate the need for housing.

The HEU defines “jobs-housing balance” as “[a] ration [sic] used to describe the adequacy of the housing supply within a defined area to meet the needs of persons working within the same area. The General Plan uses SCAG’s definition which is a job total equal to 1.2 times the number of housing units within the area under consideration” (HEU, p. AD-5). As indicated in Table 1 (Existing Land Use Summary) in the Initial Study, excluding Rossmoor, the Lead Agency’s existing jobs-housing ratio is 3.23 jobs per household (14,265 jobs/4,421 units = 3.23). As further indicated in Table 2 (Current General Plan Land Use) therein, excluding Rossmoor, existing public policies support a jobs-housing ratio of 2.98 (16,235 jobs/5,439 units = 2.98), demonstrating movement toward equilibrium. However, as indicated in Table 3 (Proposed General Plan Land Use) in the Initial Study, excluding Rossmoor, under proposed policies, the jobs-housing ratio will increase to (18,022 jobs/4,772 units = 3.78), demonstrating movement away from equilibrium.

The jobs-housing imbalance in Los Alamitos may actually be worse than suggested in the Initial Study. Referencing the Medical Center FPEIR: “According to SCAG, the jobs/housing ratio for the City of Los Alamitos in 2010 is 4.07:1 in year 2010, and is projected to be 4.03:1 in the year 2035, indicating that the City will continue to be jobs rich” (Medical Center FEIR, p. 7-2).

As it relates to transportation policy, the central concern of jobs-housing balance is the journey to work and the corresponding vehicle miles traveled (“VMT”) associated with that commute. The concept implicitly assumes that workers choose to work as close to home as possible (or that workers choose homes as close to their jobs as possible). If a given area has a much greater concentration of employment than resident workers, workers must be drawn from other areas, leading to longer commutes. Similarly, if resident workers greatly outnumber job opportunities, those workers must seek jobs in other more distant areas.

With all other things being equal, the more balanced the community, the shorter the commute. The Lead Agency’s GPU and HEU, through its deterrents to the development of new housing, actually encourages longer commutes and contributes to increased VMT (including fuel consumption and mobile source air pollutants), thus adversely impacting air quality and public health and adding to congestion on the regional roadway network (including streets in Cypress). With the exception of the unsupported (e.g., no traffic analysis is presented) and erroneous declaration that “[t]he Housing Element would promote a range of affordable housing choices

near jobs, services, and transit, which would inherently reduce sprawl and thus total VMTs" (IS/MND, p. 23), the resulting increase in VMT and the potential traffic and air quality impacts resulting therefrom are not addressed in either the Initial Study or in the IS/MND.

In correspondence to Cypress, dated December 5, 2013, Los Alamitos noted that "[t]raffic is a major concern for the City of Los Alamitos because it is already one of the most significant impacts to the area. Since the City of Cypress and the City of Los Alamitos share arterial streets, we remain concerned that future development has the potential to impact our sections of those roadways and intersections." In what appears to be the "pot calling the kettle black," the Initial Study then acknowledges that "[b]uildout of the General Plan Update would involve changes in land use intensity and additional traffic volumes throughout Los Alamitos and SOI" and "[f]uture development in accordance with the General Plan Update would increase traffic in Los Alamitos" (Initial Study, pp. 39 and 51).

As indicated in the Federal Highway Administration's ("FHWA") "Multi-Pollutant Emissions Benefits of Transportation Strategies, Final Report" (FHWA, November 14, 2006):

Transportation is a major source of air pollutant emissions. Nationally, on-road transportation sources are responsible for 27 percent of VOCs [volatile organic compounds] emissions, 35 percent of NOx [nitrogen oxides] emissions, and 55 percent of CO [carbon monoxide] emissions. . . Strategies that reduce vehicle miles traveled will reduce emissions of all pollutants. Each mile that a vehicle travels, it emits more pollution, so reducing vehicle travel mileage will reduce emissions of all seven gases [CO, particulate matter (PM₁₀ and PM_{2.5}), NO_x, VOCs, sulfur oxides (SO_x), and ammonia (NH₃)].

Section 65583(c)(1) of the CGC requires that local housing elements include a rezone program to make sites available to accommodate the portion of new housing need that could not be accommodated on sites in the land inventory. As stipulated under Section 65583(c)(1)(B) therein, the rezone program must identify sites that can be developed for housing within the five-year planning period addressed in the HEU. Pursuant to Section 65583(c)(1)(A), local governments must complete required rezoning within three years from the earliest of the following dates: (1) 90 days from the date HCD comments on the last draft reviewed before element adoption; or (2) three years from the date of element adoption. Under Section 65583(g), if a local government fails to complete rezoning by the prescribed deadline, a local government may not disapprove a housing development project nor require a conditional use permit, planned unit development permit or other locally imposed discretionary permit or impose a condition that would render the project infeasible, if the housing development project: (1) is proposed to be located on a site required to be rezoned; and (2) complies with applicable objective general plan and zoning standards and criteria, including design review standards, described in the rezone program action. No discussion of the need for that "rezone program" is, however, included in either the Initial Study or IS/MND.

As indicated by HCD (http://www.hcd.ca.gov/hpd/housing_element2/OR_costal.php):

The housing element affects a locality's policies for growth and residential land uses. Among other things, the housing element establishes the locality's housing goals, policies and objectives, identifies sites for new construction and addresses governmental constraints. The goals, policies, and objectives of an updated

housing element should be reviewed in the context of the land-use, circulation, open space elements, zoning, and/or redevelopment and capital improvement plans, especially if these plans or elements have not recently been updated. The general plan is required to be "internally consistent" meaning any and all conflicts between general plan elements should be acknowledged and resolved. Jurisdictions must ensure programs and policies in other elements do not conflict with those of the housing element; in particular the land-use, circulation or conservation elements. For example, the circulation element levels of service (LOS) standards may need to be updated to reflect potential build out capacities proposed in the housing element. Also, realistic development capacity could be impacted by the conservation element policies that require new residential projects to provide large open space corridors or buffer areas. When conflicts exist, the housing element must describe how consistency will be achieved and how the goals of the housing element will be addressed. Many communities attempt to address and resolve conflicts by amending the zoning ordinance and all relevant elements of the general plan concurrent with amendment of the housing element. For example, if densities of particular sites must be increased to identify adequate sites, the attendant amendments to the general plan and zoning ordinance could be proposed and adopted at the same public hearing as the housing element. In addition to resolving inconsistencies among various elements and/or ordinances at the time of updating the housing element, any subsequent amendment to the housing element or other general plan elements, should trigger a review of the entire general plan, especially land-use provisions, to ensure internal consistency is maintained.

From the information presented by the Lead Agency, it is not possible to ascertain the status of either the HEU or its accompanying CEQA documentation. Although there is no evidence of a separate NOP for the HEU, if not released already, both the HEU and the IS/MND appear ready for release. Similarly, it is not possible to know whether the GPU's NOP is also intended to be inclusive of the HEU. At the January 6, 2014 scoping meeting, in describing the existing General Plan, representatives of the Lead Agency both stated and illustrated (by means of a presentation "slide") that the Housing Element was, in fact, a component of the existing General Plan.

In addition, at the scoping meeting, as part of the public presentation, the Lead Agency's representatives presented a "slide" stating that the General Plan "does not focus on short-term action." Because the HEU appears to address only the 2014-2012 time period and nothing beyond that date, it is not possible to understand the context of that statement other than to the extent that it may infer that the "left hand does not know what the right hand is doing" (e.g., the HEU has been separately prepared from the rest of the GPU and is being independently processed therefrom).

The IS/MND states that "[i]f, as a result of the Initial Study, the lead agency finds that there is evidence that any aspect of the [HEU] Project may cause a significant environmental effect, the lead agency shall further find that an Environmental Impact Report is warranted to analyze Project-related and cumulative environmental impacts" (IS/MND, p. 1). The information presented herein constitutes substantial evidence that the HEU will, as an integral component of the General Plan and the anticipated physical changes resulting therefrom, result in one or more significant environmental effects. As a result, the Lead Agency must terminate separate

processing of the HEU, prepare a new Initial Study consolidating the GPU and HEU, conduct an additional scoping meeting, and provide new notice under CEQA.

Representatives of the JFTB attended the scoping meeting and notified the Lead Agency that the "tenant population of the base would be increasing over the short term" both for military preparedness reasons and because the base was California's "emergency support platform" for the region. Independent of whether Los Alamitos has jurisdiction over that facility, the Lead Agency cannot ignore the current and reasonably foreseeable activities that are occurring and which are likely to occur thereupon as if they do not exist. As a result, since there is no on-base housing, Los Alamitos is aware that there may exist additional housing needs in excess of SCAG's fair-share allocation. To ignore those unaccounted housing needs would be to ignore the existence of the JFTB itself.

Pursuant to Section 65584.07(d)(1) of the CGC:

If an annexation of unincorporated land to a city occurs after the council of governments, subregional entity, or the department for areas with no council of governments, has made its final allocation under Section 65584.03, 65584.04, 65584.06, or 65584.08, a portion of the county's allocation may be transferred to the city. The city and county may reach a mutually acceptable agreement for transfer of a portion of the county's allocation to the city, which shall be accepted by the council of governments, subregional entity, or the department, whichever allocated the county's share. If the affected parties cannot reach a mutually acceptable agreement, then either party may submit a written request to the council of governments, subregional entity, or to the department for areas with no council of governments, to consider the facts, data, and methodology presented by both parties and determine the number of units, by income category, that should be transferred from the county's allocation to the city.

For the current planning cycle, the RHNA for the unincorporated County is 5,272 units (SCAG, 5th Cycle Regional Housing Needs Assessment Final Allocation Plan, 1/1/2014 – 10/1/2012). To the extent that it is predicated solely on the Lead Agency's existing corporate boundaries and not the inclusion of the unincorporated community of Rossmoor, Los Alamitos' declared housing need of 61 units (e.g., "The City's adjusted regional housing need for the 2014-2021 planning period is 61 housing units," IS/MND, p. 54) may constitute an underestimation of allocated fair-share need because any allocation applied to unincorporated County areas would then need to be equitably incorporated into the Lead Agency's allocation. There exists no evidence to indicate that any fair-share allocation applicable to the SOI has also been considered by the Lead Agency.

No Factual Basis for Preliminary Conclusions Presented

The State CEQA Guidelines define "a threshold of significance" as "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant" (14 CCR 15064.7[a]).

Pursuant to Section 21000(d) of CEQA: "The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached." As further indicated under Section 15064.7 of the State CEQA Guidelines: "(a) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. (b) Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence."

Referencing Appendix G (Environmental Checklist Form) of the State CEQA Guidelines: "The sample questions in this form are intended to encourage thoughtful assessment of impacts, and do not necessarily represent thresholds of significance." As such, a mere response to the questions raised in the project's "environmental checklist" (Initial Study, p. 28) is not presumptive of either the existence of avoidance of a "significant" environmental effect. If the Lead Agency seeks to make it presumptive, then anything other than a "no impact" determination would constitute a significant or potentially significant environmental effect.

The Initial Study states that "[o]nce the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. 'Potentially Significant Impact' is appropriate if there is substantial evidence that an effect may be significant. If there are one or more 'Potentially Significant Impact' entries when the determination is made, an EIR is required. . . [t]he explanation of each issue should identify: (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measures identified, if any, to reduce the impact to less than significant" (Initial Study, pp. 29-29). By failing to disclose the "significance criteria or threshold" which has been utilized, the Lead Agency does not even comply with its own requirements.

With the single exception of traffic, it is noted that no "thresholds of significance" are presented in the 1989 FEIR, in the Initial Study, or in the IS/MND (i.e., "performance criteria," IS/MND, p. 61). As a result, no factual basis exists to support the Lead Agency's presumption that some impacts will be "less than significant" and, therefore, not further addressed in the upcoming EIR. Words like "significant" (e.g., "impacts would be less than significant" (Initial Study, p. 58) and "substantial" (e.g., "Growth in accordance with the General Plan Update is not expected to displace substantial numbers of people," Initial Study, p. 58) have no meaning because no yardstick is presented against which impacts have or will be judged.

Although "existing structures may need to be demolished prior to construction of new buildings" (IS/MND, p. 36), the Lead Agency asserts that "implementation of the General Plan Update is not expected to displace a substantial amount of existing housing" and "the General Plan Update is not expected to displace a substantial amount of people" (Initial Study, p. 58). Based on the Lead Agency's own figures, a minimum of 50 people (1,445 – 1,395 = 50) will be displaced. If displacing 50 existing residents is neither deemed to be "substantial" nor "significant," the Lead Agency must provide the public with the criteria that it has used in the

derivation of that preliminary conclusion. At what number does the impact become “substantial” and “significant”?

In reality, the potential for displacement is substantially higher. The Initial Study indicates that, with regards to population, the “change between the current General Plan, is the loss of 1,741 residents within Los Alamitos, including 1,753 residents (9,633 – 7,880 = 1,753) within the “Multi-Family Residential” district alone (Initial Study, Table 3, p. 19). In substantive contrast, notwithstanding the substantial reduction in multi-family housing under the GPU, the Housing Element and the IS/MND appear to be based on a conflicting assumption (e.g., “Continued development of higher density residential units, as anticipated with the proposed Housing Element,” IS/MND, p. 13). As further evidence of internal inconsistencies throughout the General Plan, portions of that document seek to reduce multi-family housing while other portions seek the expansion of multi-family housing.

In what now appears to be an erroneous prognosis, the 1989 FEIR concluded that “[i]mplementation of the [2010] General Plan would commit the use of the land to the proposed designation. This would affect land use for the life of the buildings subsequently constructed, approximately 40-50 years. It is unlikely that multiple family uses would later change to less intensive land uses” (1989 FEIR, p. 57).

Webster defines “substantial” as “real, actual, true, not imaginary.” Under that definition, even a single displacement would constitute a “significant” environmental effect (e.g., “future housing development on underutilized sites could displace existing housing and people,” IS/MND, p. 55). In the case of the GPU, the Lead Agency’s own information suggest that 1,753 individuals will likely be displaced by the Lead Agency’s proposed actions.

Alleged Compliance Does Not an Impact Avoidance Strategy Make

“The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data” (14 CCR 15064[b]). Compliance with the law is not enough to support a finding of no significant impact under the CEQA (*Oro Fino Gold Mining Corp. v. County of El Dorado* [1990]).

The Lead Agency repeatedly asserts that compliance with existing laws and regulations constitutes a supportable rationale for its determination that otherwise significant environmental effects would, in fact, be less than significant. As specified in the State CEQA Guidelines, “[e]ffects analyzed under CEQA must relate to a physical change” (14 CCR 15358). A project’s resulting direct and indirect physical changes could be deemed “significant” independent of whether actual or assumed compliance with an adopted plan or policy can be documented or alleged.

In many instances, unspecified General Plan policies are cited as evidence that certain identified impacts will either not manifest at a level of significance or can be reduced to a less-than-significant level through their application (e.g., “Comply with the policies and programs contained in the City’s Water Conservation Ordinance,” IS/MND, Policy 2-1.3, p. 42). Since compliance with applicable local, State, and federal statutes and regulations constitute pre-existing obligations (e.g., “Future residential development would be required to comply with City, State, and Federal noise standards and guidelines,” IS/MND, p. 51), policies or mitigation

measures specifying compliance do not produce any measureable benefits with regards to environmental protection and, therefore, offer no increased efficacy above that which would exist if those policies or mitigation measures were not inclusion therein. Similar measures only appear intended to placate an unsuspecting public whose expectations are that actual mitigation (rather than meaningless platitudes) is being appropriately, fairly, and consistently applied.

Deferred Mitigation

It must be assumed that Los Alamitos is aware of the distinction between a “project-level” and “program-level” EIR having certified the Medical Center FPEIR on February 7, 2011 (Resolution 2011-02) (i.e., “This EIR has been prepared as a Program EIR in accordance with CEQA Guidelines Section 15168,” Medical Center FPEIR, p. 2-1).

It appears that the Lead Agency has made an intentional effort not to categorize the upcoming EIR as either a “project-level” (14 CCR 15161) or “program-level” (14 CCR 15168) document. In light of the level of detail concerning future development which has been established by Los Alamitos (i.e., “ten opportunity sites”), the categorization is important in understanding whether any later environmental review will be undertaken once development applications are submitted on those properties (assuming that none have yet been filed) and the nature of that CEQA documentation. The distinction is also important with regards to the level of detail and analyses that need to be presented by the Lead Agency with regards to the upcoming EIR.

As specified in Section 15146 of the State CEQA Guidelines: “The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy. (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow. ”From the information presented, it is not possible to determine whether the NOP relates only to the GPU (excluding the HEU) or the GPU in combination with the HEU. In that same context, it is not possible to determine from the NOP what the GPU actually entails (e.g., does it include or exclude the HEU). By not explicitly stating the nature of the upcoming EIR, it is not possible for the affected public to ascertain whether the comments submitted in response to the NOP should also address the HEU, focus on the primary of secondary effects of the proposed GPU, relate to the development of the “ten opportunity sites,” or address only Figure 5 (Proposed General Plan Land Use) and Table 3 (Proposed General Plan Land Use) in the Initial Study.

To the extent that the Lead Agency asserts that the GPU and the HEU are internally consistent, then the housing development allowable under the General Plan and supported by the HEU must, therefore, also be consistent. Mitigation measures and/or other mitigating or compensating actions (e.g., “Compliance with General Plan policies and implementation measures would reduce construction-related emissions to a level below “business as usual,” IS/MND, p. 20) presented in the HEU and IS/MND must be sufficient to address the 535 unit “increase from existing conditions” (Initial Study, Table 3, p. 19) and not merely the 61-unit fair-share allocation (e.g., “The City’s adjusted regional housing need for the 2014-2021 planning period is 61 housing units,” IS/MND, p. 54).

Although the Lead Agency asserts that “new development projects would undergo environmental review pursuant to CEQA on a project-by-project basis” (IS/MND, pp. 13 and 14), CEQA contains provisions for permit streamlining and exemptions for qualifying housing and “infill” projects (Sections 21094.5 and 21159.21, CEQA) consistent with applicable general and specific plans. As a result, with the demonstration of eligibility for permit streamlining, there exists reasonable likelihood that later residential projects within Los Alamitos will either not be subject to further environmental analysis or, if required, might be confined to only a consistency review.

Neither the environmental analysis nor the mitigation presented in the IS/MND are, however, sufficient to mitigate the potential impacts of that anticipated development. For example, the Lead Agency notes that “the potential exists that some housing developments may be located on or near hazardous materials sites. Through the City’s environmental review process, it would be determined if a Phase 1 Environmental Site Assessment would be needed to assess whether hazardous materials, on or within the vicinity of the future residential sites, would pose any significant hazards to the public or the environment. If necessary, mitigation would be required to reduce potential hazardous materials impacts to a less than significant level. . .No mitigation is required” (IS/MND, p. 37). Since no mitigation is identified and no actual requirements imposed that later development applications either include a “Phase 1 Environmental Site Assessment” or comply with specified performance standards, future housing within Los Alamitos may be constructed on contaminated and non-remediated sites. Similarly, the Lead Agency states that “future residential development would require individual assessments of potential impacts from project-related noise sources. If necessary, mitigation would be required to reduce potential impacts to a less than significant level” (IS/MND, p. 51); however, there exists no assurance that subsequent residential development will be conditioned on the submittal of an acoustical analysis.

Similarly, the Lead Agency states that development “proposals could require individual assessments of potential impacts to traffic and circulation” (IS/MND, p. 63). “Could” does not bind the Lead Agency to any obligation to conduct project-specific traffic studies or to mitigate the traffic-related impacts of its actions either within Los Alamitos or within adjoining municipalities. With the possible exceptions of cultural resources, geology and soils, and public services (IS/MND, pp. 72-73), rather than formulating specific mitigation measures, the Lead Agency defers the preparation of mitigation measures to a later date (e.g., “Adopt feasible mitigation measures throughout the land use decision-making process to reduce impacts of new or expanded uses on existing residential neighborhoods,” IS/MND, Policy 1.1-2, pp. 14 and 47). Absent specific mitigation measures herein and/or reasonable assurance that adequate and appropriate mitigation will be imposed during later project-specific review, in recognition of the potential impacts identified in the Initial Study, the Lead Agency has failed to demonstrate that potential environmental impacts will, in fact, be reduced to a less-than-significant level.

Mitigation plans must be sufficiently specific to assure that they will reduce potentially significant impacts to a less-than-significant level. In lieu of actual mitigation, as rationale provided in support of its conclusion that impacts will be less than significant, the Lead Agency shall, at an unspecified date and through an unspecified process, “[e]mploy accepted planning and engineering standards and practices as the basis for determining the compatibility of new land uses with existing uses” (IS/MND, Policy 1.1.1, pp. 14 and 47). The term “acceptable planning and engineering standards,” the party or parties responsible for ascertaining acceptability, and the timing of such employment have neither been defined nor specified. Similarly, since no

quantitative, qualitative, prescriptive, and/or specific (with discretion limited) performance standards are specified (14 CCR 15126.4[a][1][B]), the efficacy of such nebulous actions cannot be demonstrated.

CEQA states that “[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can” (14 CCR 15144). That is clearly not the case herein.

With regards to greenhouse gas (“GHG”) emissions, the SCAQMD’s Working Group has recommended an annual CEQA-based threshold of 3,000 metric tons of carbon dioxide (“CO₂”) equivalent (“MTCO₂e”) for both new commercial and residential development projects (<http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/ghgmtg15-web.pdf>). Asserting that “details of these future construction activities are unknown at this time, and therefore, cannot be quantified” (IS/MND, p. 20) and alleging that “no established quantitative thresholds of significance or methodologies are in place to analyze and determine the significance of global climate change” (IS/MND, p. 23), the Lead Agency has made no attempt to quantify construction-related and operational GHG emissions and/or to compare those emission estimates against the SCAQMD’s recommended threshold standards. This failure appears more the product of lack of diligence than lack of information. The SCAQMD’s CalEEMod emissions model, Version 2011.1.1 utilizes “default values” such that the input variable are often limited only to the number of dwelling units and/or square footage of non-residential use that is being proposed. Available tools do exist and are widely used within the SCAQMD region to quantify emission levels for both criteria pollutants and greenhouse gases. The Lead Agency has just not gone to the effort to available itself of those readily available tools.

With regards to construction noise, the Lead Agency states that “[c]onstruction activities have the potential to expose adjacent land uses to noise levels between 70 and 90 decibels at 50 feet from the noise source” (IS/MND, p. 51). Reasonable quantitative assumptions relating to construction (and other) impacts can and have, therefore, been made by the Lead Agency. Los Alamitos cannot seek to hide behind an assertion that a potential construction impact is not knowable while at the same time analyzing the construction impacts of that same activity under other topical headings.

Purportedly as mitigation for anticipated construction-related GHG emissions (e.g., “Construction of future residential new and infill development projects would result in greenhouse gas emissions from the use of construction equipment,” IS/MND, p. 20), the Lead Agency identifies the following mitigation measure: “For projects that may exceed daily construction emissions established by the South Coast Air Quality Management District, Best Available Control Measures shall be incorporated to reduce construction emissions to below daily emission standards established by the South Coast Air Quality Management District” (IS/MND, Mitigation Measure A-1, p. 23). The SCAQMD, however, has not established “daily construction emission” limitations for GHGs. As such, the Lead Agency’s suggested measure would appear to be meaningless in the context of GHG emissions and, therefore, cannot demonstrate that the measure’s application will have its intended effect.

More egregious than deferred mitigation are measures which masquerade as mitigation but have no actual effect at all. For example, as part of its alleged “mitigation program,” the Lead Agency states that “[t]he City of Los Alamitos shall consider adopting a Climate Protection Action Plan, which would establish a Citywide inventory of greenhouse gasses for Existing,

General Plan Buildout and Year 1990 conditions” (IS/MND, Mitigation Measure A-2, p. 23). In addition, as mitigation of potential traffic impacts, the Lead Agency seeks to implement the following implementation program: “Consider alternative designs for rights-of-way improvements which would accommodate pedestrians and non-motorized vehicles, paying special attention to the configuration of bicycle path/roadway intersections, the possible inclusion of bicycle lanes and routes, the need for wheelchair accessibility, and the importance of maintaining lines-of-sight at alley/sidewalk intersections” (IS/MND, Implementation Program 5-4.4.6, p. 65). Since the terms “shall consider” and “consider” are not synonymous with “shall adopt and implement,” mere consideration without subsequent and effective action neither constitute mitigation under CEQA nor represent any binding obligation for subsequent project-specific conditioning.

Similarly, as part of its alleged “mitigation program,” it shall be the Lead Agency’s policy to “[t]ake appropriate steps to protect new and existing development from flooding” (IS/MND, Policy 3-3.1, pp. 42, 43, 44, and 45). The Lead Agency has neither sought to clarify the nature of those “appropriate steps” nor to specify the level of “protection” which Los Alamitos seeks to mandate. Also, as part of its “mitigation program, the Lead Agency, states that “[n]oise mitigation measures for future development should comply with the standards included in the City of Los Alamitos Noise Element” (IS/MND, Policy 6-1.1, pp. 52 and 53) and “[p]otential noise impacts due to stationary sources should be mitigated in the planning stage” (IS/MND, Policy 6.1-2, p. 52). Under CEQA, because “should” identifies only guidance and not an obligatory obligation (14 CCR 15005), no mitigation is actually being presented.

Corridor Plan

Although the Lead Agency asserts consistency (e.g., “Implementation of the Housing Element is consistent with the City of Los Alamitos’ General Plan,” IS/MND, p. 17; “the proposed Housing Element would remain generally consistent with the General Plan,” IS/MND, p. 55), there exists substantial evidence suggesting otherwise.

Referencing the Lead Agency’s Corridor Plan, two properties are expressly identified as candidates for reuse. As indicated therein: “The Arrowhead Products [“Opportunity Site No. 10”] property, at 28 acres, is one of the largest areas of land dedicated for private use in the City. Some may view the property as an ideal site for new big box commercial development. The proximity to the new commercial development in Cypress does offer the attraction of a large subregional draw. . . . The second site [“Opportunity Site No. 7”] consists of just over 13 acres of City properties (City Hall, Police Department, and City Yard), other public and quasi-public buildings, and SuperMedia (on the western 10 acres). Private development interest, along with the City’s willingness to relocate its own facilities, indicate that this area could support a variety of uses, including a theater, hotel, or senior housing. The area is also near Los Alamitos Boulevard and could serve as a southern anchor with additional redevelopment along Katella Avenue” (Corridor Plan, p. 47).

Surprisingly, as if it had no relevancy to the proposed project, the Initial Study includes no reference to the Corridor Plan. In describing “next steps” therein, the first step listed by the Lead Agency is to “incorporate the Corridors Report into the General Plan Update” (Corridor Plan, p. 109). As further described in the Corridor Plan:

The City of Los Alamitos will initiate a general plan update in the fall of 2010. The principles and concepts contained in this report should be incorporated into

the update process, specifically regarding the Citywide vision, policies, and land use and circulation plan. The stakeholders interviewed as part of this report should be considered as possible members of a general plan advisory committee (or similar entity) for the general plan update. Technical studies supporting the general plan update should include: [1] A traffic study that can provide more precise roadway design direction for Los Alamitos Boulevard given the expected buildout of the City, including Los Alamitos Medical Center. [2] A non-motorized vehicle circulation analysis that confirms and augments this report's recommended bikeway and pedestrian improvements. [3] A parking study to provide direction on parking demand, supply, and assessment strategies for the corridor. The parking study should also considered revisiting the City's parking standards, particularly regarding outdoor dining requirements.

In the Corridor Plan, the Lead Agency made the representation that the Corridor Plan would be incorporated into the GPU and that the GPU would include a "traffic study," a "non-motorized vehicle circulation analysis," and a "parking study." With the exception of the "traffic study," absent from the Initial Study are any statements declaring the Lead Agency's intent to include those analyses herein. Failing to do so serves to further demonstrate the failure of the Lead Agency to prepare "integrated, internally consistent and compatible statement of policies" (Section 65300.5, CGC).

Initial Study and Mitigated Negative Declaration (Housing Element Update)

As indicated in the HEU, it is the policy of the Lead Agency to "[m]aintain consistency among General Plan Policies and Programs, the Zoning Code, and related development regulations" (IS/MND, Policy 1.1-3, p. 47). As evidenced herein, "consistency" appears to be such a broadly defined term that the substantial inconsistencies that exist between the GPU and HEU are not sufficient for the Lead Agency to deem those gapping chasms to be inconsistent.

In Section 3.3 (Environmental Factors Potentially Affected), the Lead Agency identifies the following three topical issues that constitute either "potentially significant impacts" or "potentially significant unless mitigation incorporated": (1) cultural resources; (2) geology and soils; and (3) public services (i.e., "The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" or a "Potentially Significant Unless Mitigation Incorporated," IS/MND, p. 12). Notwithstanding that declaration, none of the issues addressed under "cultural resources" or "public services" were so categorized; however, "air quality" was identified as "potentially significant unless mitigation incorporated" (IS/MND, pp. 17 and 24). As a result, the IS/MND is internally inconsistent, such that it is not even possible to ascertain which impacts the Lead Agency deemed to be "significant" or "potentially significant" and which impacts thus may necessitated mitigation.

Under the analysis of "cultural resources," the Lead Agency states that "[n]o mitigation is required" (IS/MND, pp. 28 and 29). Under the analysis of "public services," the Lead Agency states that "[n]o further mitigation is required beyond compliance with the following General Plan Goal, Policy, and Implementation Programs" (IS/MND, pp. 56, 57, and 58). Similarly, under "public services," the Lead Agency concludes that all impacts are "less than significant" (IS/MND, pp. 56-59). Since "[m]itigation measures are not required for effects which are not found to be significant" (14 CCR 15126.4[a][3]), it is uncertain why the Lead Agency has included specific mitigation measures for both "cultural resources" (IS/MND, p. 72) and "public

services" (IS/MND, p. 73). As a result, not only is the IS/MND internally inconsistent but also there exists no consistency with regards to the Lead Agency's inclusion of exclusion of mitigation measures therein.

Absence any factual analysis, the Lead Agency asserts that "[c]ompliance with General Plan policies and implementation measures would reduce construction-related emissions to a level below 'business as usual'" (IS/MND, p. 20). No specific "General Plan policies" and/or "implementation measures" are, however, identified and no analysis is provided how such measures will, in fact, "reduce construction-related emissions." Additionally, no evidence has been presented that "business as usual" ("BAU") is a supportable threshold and, if supportable, no analysis has been presented demonstrating attainment. The Lead Agency's analysis and conclusions are based on the false assumption that unverifiable "compliance with the Attorney General's recommendations" constitutes a valid and supportable threshold standard (e.g., "the proposed Project would be in compliance with the recommended measures and strategies identified by the Attorney General's Office," IS/MND, p. 23).

With regards to GHG, in the IS/MND, the Lead Agency's CEQA "checklist" does even not contain the information stipulated under the State CEQA Guidelines. As indicated in Appendix G (Environmental Checklist Form) therein, areas of inquire include a determination whether the project would: "(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? [and/or] (b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?" (State CEQA Guidelines, Appendix G, Paragraph VII [Greenhouse Gas Emissions]). In contrast, while excluded from the IS/MND, those same items have been included in the Initial Study (see Initial Study, p. 32). As a result, the CEQA analysis for the GPU and the HEU do not even use the same "environmental checklist form."

Although they are components of the same "integrated" document and, therefore, inseparable therefrom, the Lead Agency draws entirely different conclusions with regards to both the GPU and HEU. As indicated in Section 2.2 (Environmental Factors Potentially Affected) of the Initial Study, as compared to only three such impacts identified for the HEU in the IS/MND, the Lead Agency identifies thirteen topical issues that constitute either "potentially significant impacts" or "potentially significant unless mitigation incorporated" for the GPU, including: (1) aesthetics; (2) air quality; (3) cultural resources; (4) greenhouse gas emissions; (5) hazards and hazardous materials; (6) land use/planning; (7) noise; (8) population/housing; (9) public services; (10) recreation; (11) transportation/traffic; (12) utilities/service systems; and (13) mandatory findings of significance (Initial Study, p. 27).

While determined to be "potentially significant unless mitigation" in the IS/MND, "geology and soils" was conversely and inconsistently categorized as "less than significant" in the Initial Study. Except through "fragmentation" and/or the application of inconsistent threshold of significance criteria, recognizing that both documents are dated December 2013 and both address housing development in Los Alamitos, there exists no rationale that the adoption and implementation of one component of the GPU would produce such substantively different impacts that the adoption and implementation of another component.

In *San Bernardino Valley Audubon Society v. Metropolitan Water District* (1999), the court ruled that "an agency may adopt a negative declaration only if there is no substantial evidence that the project 'may have a significant effect on the environment' [Citations]." "The negative

declaration is inappropriate where the agency has failed either to provide an accurate project description or to gather information and undertake an adequate environmental analysis [Citation].” As evidenced herein, based on the inseparable linkage between the GPU and HEU, because the Lead Agency has already concluded that the GPU has the potential to produce significant unavoidable adverse impacts, the Lead Agency must suspend processing the IS/MND, provide new notice, and integrate the GPU and HEU into a single EIR.

Initial Study and NOP (General Plan Update)

With regards to the NOP, since no dissemination list is provided by the Lead Agency, it is not possible to comment on the adequacy of the Lead Agency's outreach efforts or even to determine whether the NOP was forwarded to the Governor's Office of Planning and Research, in that agency's role as State Clearinghouse (14 CCR 15082 ad 15166[b]).

An accurate and complete project description is necessary for an intelligent evaluation of the potential environmental impacts of the agency's action. The NOP is inadequate, in part, because it fails to include a description of the project to be analyzed (14 CCR 15082[a][1][A]). The Lead Agency's provision of notice means that adequate and accurate information about the proposed project is provided so that the affected public can be informed of the project's potential environmental effects and derive independent conclusions with regards to those impacts and the Lead Agency's rationale for their inclusion or rejection. Absent a sufficient project description, the public is prevented from providing meaningful comments on the NOP and opportunities for effective public participation have thus been thwarted.

As indicated in Section 15004(b) of the State CEQA Guidelines, “[c]hoosing the precise time for CEQA compliance involves a balancing of competing factors. EIRs and negative declarations should be prepared as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment.”

As indicated on the Lead Agency's website (<http://losalgeneralplan.org/project-team/>): “In June 2011, the Los Alamitos City Council selected a consultant team. . .to assist in the comprehensive update of the City's General Plan, including an Environmental Impact Report. This consultant team assembled a highly experienced group with a long-standing history of successful general plan work and local knowledge.” Eighteen months have now passed during which the GPU would have taken shape. As evidenced by the purported precision of the acreage, unit count, square footages of non-residential development, and number of jobs presented in Table 3 (Proposed General Plan Land Use) in the Initial Study, detailed information has been developed and, one would suspect, a “draft” General Plan has taken material form. That draft document, however, was neither disseminated with the NOP nor is there any reference therein where that document can be examined.

On the Lead Agency's website (<http://losalgeneralplan.org/documents/>), under the heading “General Plan Elements and Technical Reports,” no links to any “elements” or “technical reports” are provided and no other documents are presented or referenced therein, only the statement “Coming in the first half of 2013.” The website does, however, state that “[a]dditional information can be found on the City's website - especially the Planning Division's webpage. Info includes: [1] Zoning Code; [2] Housing Element; [3] Los Alamitos Medical Center Specific Plan and EIR.” As a result, the website (<http://losalgeneralplan.org/documents/>) links readers to

the Planning Division's website (http://cityoflosalamitos.org/?page_id=1308) and to both the HEU and IS/MND. Reminiscent of Joni Mitchell's song "Circle Game" ("We can't return we can only look behind from where we came and go round and round and round in the circle game"), the Planning Division's website then links the reader back to the General Plan website (<http://losalgeneralplan.org/>) without providing any "additional information."

On January 6, 2014, a representative of EIS attempted to review the text, graphics, and technical documents comprising the draft GPU (or any component part thereof) at the offices of the Lead Agency. No such document(s) could, however, be produced for visual inspection at that time. Los Alamitos' staff indicated that neither the GPU's text nor any of its accompanying technical studies would be made available to the public at the present time and no later time for such access was specified. Rather than providing the affected public access to the GPU, only a single graphic (Initial Study, Figure 5 [Proposed General Plan Land Use], p. 21) and single table (Initial Study, Table 3 [Proposed General Plan Land Use], pp. 19-20) constitutes the totality of what now purports to be the GPU and the confines of the information upon which the public is left to comment.

As described in Agenda Item 9(c) at the Council's June 6, 2011 meeting, the following ten items were included within the "scope" of the GPU: (1) retooling of existing elements; (2) updating the Background Report to reflect current conditions; (3) inclusion of the City's Sphere of Influence into the General Plan; (4) incorporation of Los Alamitos Medical Center Specific Plan; (5) incorporation of LACE Boundary Changes implemented in 2010; (6) establishing Land Use within the Los Alamitos Joint Forces Training Base; (7) incorporate principals of Compass Blueprint Corridor Study including area plan or specific plan; (8) provide a basis for establishment of Business Improvement Districts and Assessment Districts; (9) develop new digitized General Plan map; and (10) provide, update, and manage an informative dedicated website. With the single exception of a lone General Plan graphic, none of those items have been presented for the public's consideration. Even the document links indicated on the Lead Agency's website were not fully functional for portions of the NOP comment period and required a series of emails between representatives of EIS and Los Alamitos to remedy, thus further limiting opportunities for public comment.

While acknowledging the efforts that have gone into the preparation of the Initial Study, it is apparent that the Initial Study does not provide the information, evidence, or analysis required under CEQA. The Initial Study fails to fulfill its critical role as mandated by CEQA in educating the public and other governmental entities generally as to the potential environmental significance of the proposed project so that meaningful comments can be presented to the Lead Agency.

An initial study that fails to provide all of the information, analysis, and evidence required under CEQA may be deemed to be inadequate and not a valid basis for CEQA review or project approval. In *City of Redlands v. County of San Bernardino* (2002), the court invalidated the county's proposed general plan amendments because of a deficient initial study, stating that "the initial threshold study is inadequate because it fails to provide sufficient evidence or analysis of the potential environmental effects of the amendments." The importance of providing an accurate and informative project description in an initial study was re-emphasized in *Nelson v. County of Kern* (2010). As noted therein, "[t]he scope of the environmental review conducted for the initial study must include the entire project" (*Tuolumne County Citizens for Responsible Growth, Inc. v. City of Sonora* (2007) [Citation]). Thus, a correct determination of

the nature and scope of the project is a critical step in complying with the mandates of CEQA [Citation].”

The failure of the Initial Study and NOP to provide an accurate, complete, and coherent description of the “project” is a fundamental deficiency which permeates the entire document. The absence of a clear description of the proposed project (14 CCR 15124) inherently prevents the Initial Study and NOP from facilitating meaningful review and analysis of the proposed GPU and thereby violates the disclosure requirements of CEQA.

General Plan Community Values

As indicated in the Initial Study, the GPU is “guided by a set of community values and priorities developed by the Los Alamitos City Council and Commissions with input from the community in Los Alamitos and Rossmoor. The following values are integrated into the General Plan Update’s policies and goals” (Initial Study, p. 17). Among other things, Webster defines “value” as “that which is desirable or worthy of esteem for its own sake” and “priority” as “something given prior attention.” As a result, some or all of the listed “community values and priorities” may be action-forcing and may directly, indirectly, or ultimately manifest as a physical change to the existing environmental setting. In a CEQA context, these “community values” constitute tangible actions or activities that must become part of the project description and integrated into the EIR.

Although no “policies and goals” have been identified, one of the stated “community values” is to “[m]aximize retail opportunities along Katella Avenue” (*Ibid.*). Absent from the Initial Study is any information concerning how that or other “community values” will be realized.

As indicated at the January 6, 2014 scoping meeting, representatives of the Lead Agency stated that existing medical facilities now extend along Katella Avenue, often a substantial distance from the Los Alamitos Medical Center (“Medical Center”). The creation and proposed location of the “Medical Overlay” is intended to promote the siting of additional medical-related uses in closer proximity to the Medical Center, potentially freeing up leasable space along Katella Avenue which is now occupied by functioning medical-related businesses. Absent from the Initial Study is either a discussion of that intent or any reference to the potential secondary impacts that a change in land-use designation in one geographic area could have on other contiguous and non-contiguous geographic areas (e.g., less office and more retail uses with a corresponding increase in the number of vehicle trips along Katella Avenue).

With regards to the Arrowhead Products’ site (“Opportunity Site No. 10”), in lieu of a “Retail Business (RB)” land-use designation, as indicated at the January 6, 2014 scoping meeting, the Lead Agency’s representatives stated that the Lead Agency also considered a “retail overlay” designation. No reference to or discussion of a “retail overlay” is, however, presented in the Initial Study. Whether through a change in General Plan designation from industrial to commercial or through the application of an overlay, it is the Lead Agency’s goal to change the use of that property in a substantive way.

By signifying the Lead Agency’s desire and willingness to support an alternative land use, a change in a site’s General Plan designation has the potential to stimulate and/or alter the timing of a property’s transition from one use to another. As in the case of “Opportunity Site No. 10,” a change from a heavy industrial use to a retail commercial use would change not only the physical characteristics of the site but would also have a number of additional direct and indirect

economic consequences. For example, highly skilled and relatively well-paid workers would be displaced and replaced by less-skilled and lower-waged retail personnel. As a result, under CEQA, where displacement activities may occur as a result of an agency-initiated change in a site's land-use designation, the Lead Agency needs to evaluate the potential socioeconomic implications of that change in the context of jobs and public and private revenues (e.g., effects on property valuation and property and sales tax revenues).

In addition, relative to "Opportunity Site No. 10," at the scoping meeting, the Lead Agency's representatives stated that an existing "settlement agreement" prevented or would otherwise limit opportunities for potential street and intersection improvements at an adjoining intersection. Any such social or economic constraints need to be identified and their implications relative to development or mitigation analyzed in the upcoming EIR.

As specified in the State CEQA Guidelines, "[t]he degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity" (14 CCR 15146).

The Initial Study states that one of the Lead Agency's "community values" is to "[r]elocate City Hall" (Initial Study, p. 17). During the January 6, 2014 scoping meeting, as a related component of the Lead Agency's "community value" to "maximize retail opportunities along Katella Avenue," the Lead Agency's representatives stated that the Lead Agency was considering the relocation of City Hall from its Katella Avenue frontage to an industrial site which now includes a United States Post Office and Los Angeles Unified School District Maintenance Yard ("Opportunity Site No. 2B"). Unlike private development where the public agency may lack the ability to influence a specific action, in this case, the Lead Agency is also the project proponent and the party which will directly benefit from that GPA. By identifying a specific development project, delineating a precise project site, amending the General Plan to accommodate that use, and possessing the ability to effectuate that relocation, the level of detail required under CEQA no longer become programmatic but moves toward a project-level analysis (e.g., a precise future use can be assigned to a specified location and the impacts of that use analyzed in greater detail).

By relocating City Hall to "Opportunity Site No. 2B," the project-specific and site-specific impacts associated with the demolition of existing facilities on "Opportunity Site No. 2B" and the construction and operation of a new City Hall complex needs to be analyzed. In addition, the impacts associated with the demolition of existing facilities and the construction and operation of new retail uses on the vacated site ("Opportunity Site No. 7") must also be considered.

Under the Lead Agency's methodology (to the extent that it can be deciphered from the information presented), it would appear that: (1) demolition and site preparation activities will not be considered based on the Lead Agency's assertion that such impacts "cannot be quantified" (e.g., "details of these future construction activities are unknown at this time, and therefore, cannot be quantified," IS/MND, p. 20); (2) development impacts will be examined at the "gross" level absent site-specific considerations; and (3) by focusing only on the intensification of the receiving site (e.g., "Opportunity Site No. 2B"), since the vacated site (e.g., "Opportunity Site No. 7") will still be credited as having specified square footage and an assigned land use, either no change in use and/or no increase in site intensification will be considered or, if considered, only an incremental rather than a wholesale change will be evaluated in the upcoming EIR.

As further indicated at the scoping meeting, because the local housing market is defined as "strong," the development community has expressed repeated interest in constructing new

housing within Los Alamitos. Although development interest has been expressed in a number of "opportunity sites" (e.g., "Opportunity Site No. 7"), the City nevertheless seeks to promote a non-residential use thereupon. Two issues are thus raised: (1) demand (as evidenced by the marketplace) for new housing within Los Alamitos exceeds the short-term projections identified in the HEU; and (2) a residential alternative constitutes a viable optional use for many if not all of the "ten opportunity sites" identified by the Lead Agency. Since CEQA mandates that EIR's consider a reasonable range of alternatives (14 CCR 15126.6), alternative land uses (substantively different from those that are now proposed) need to be considered on each of those sites.

Absent from the Initial Study and NOP is any information concerning the manner in which the Lead Agency will address alternatives. In the absence of information concerning the range of alternatives to be examined, with the exception of a higher-density residential alternative, it is not possible to submit any meaningful comments concerning other land-use options that the Lead Agency should consider in the upcoming EIR.

In addition, the upcoming EIR needs to introduce and discuss "tiering" (Section 21093, CEQA; 14 CCR 15152) and describe how the information, analysis, and mitigation measure presented in the EIR will or may have direct relevancy for later project-level activities undertaken in furtherance of the program. As specified, "[a] program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible" (14 CCR 15168[c][5]).

Although stated in the context of a specific plan rather than a general plan, the court has noted that "'tiering' is not a device for deferring the identification of significant environmental impacts that the adoption of a specific plan can be expected to cause" (*Stanislaus Natural Heritage Project v. Diablo Grande Limited Partnership* [1996]). In the event that "tiering" were to be deemed to be applicable herein, the Lead Agency is precluding from failing to reasonably analyze the proposed project's potential environmental effect and to defer substantive environmental assessment to later site-specific activities.

Growth Management Element

The Lead Agency states that the 2010 General Plan is "incorporated by reference" (IS/MND, p. 2); however, under the heading "Los Alamitos 2010 General Plan (2001)," the Lead Agency's "Growth Management Element" ("GME") was not included among the General Plan documents available for review on the Lead Agency's website (http://cityoflosalamitos.org/?wpfb_dl=311). The GME could not be located based on a search of the Lead Agency's general website (<http://cityoflosalamitos.org/>). As a result, it is not possible to comment thereupon because access to that document has not been readily made available for public review.

"Growth management" does not mean unbridled growth. The Lead Agency, therefore, needs to present its plans for the monitoring of that growth in order to ensure that future development does not exceed the assumptions which form the basis for the EIR. That document is not a carte blanche authorization for unlimited and unrestrained growth but only growth up to the limits presented therein. As a result, subsequent development consistent with the GPU must be effectively monitored and a mechanism put into place in order to curtail future growth in excess of those assumptions. Since no monitoring plan is presently proposed, the Lead Agency will not

know when those limits are reached and appears to have no plan in place to initiate further environmental review for growth in excess of the EIR's projections.

Public Participation

As a California court has explained, ultimately, public participation is not an end in itself but the means to the larger ends of self-government and the accountability of public servants to the citizenry they serve. Full and faithful compliance with CEQA is required in order to enable the public to "determine the environmental and economic values of their elected and appointed officials, thus allowing for appropriate action come election day should a majority of the voters disagree" (*People v. County of Kern* [1974]).

One of CEQA's central purposes is to provide for informed self-government through public participation. The inclusion of the public in the environmental review process is the cornerstone of CEQA and its federal counterpart, the National Environmental Policy Act ("NEPA"). The State CEQA Guidelines makes clear that "[t]he basic purposes of CEQA are to: (1) Inform governmental decisionmakers and the public about the potential, significant environmental effects of proposed activities. . . (4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved" (14 CCR 15002[a]). These requirements enable officials and members of the public to make an "independent, reasoned judgment" about the proposed project and its potential impacts on the environment (*Santiago County Water District v. County of Orange* [1981]). For this reason, the courts have consistently interpreted CEQA to call for the fullest possible participation by the public (e.g., "[T]he 'privileged position' that members of the public hold in the CEQA process. . . is based on a belief that citizens can make important contributions to environmental protection and on notions of democratic decision-making," *Concerned Citizens of Costa Mesa, Inc. v. 32d District Agricultural Association* [1986]).

The 30-day comment period established by the NOP commenced on December 18, 2013 and ends on January 17, 2014. With regards to public outreach, it would appear that the Lead Agency did a disservice to the community it represents. Late December and early January is a time period when many people, including public officials, divert their attention from business-related activities to family, holiday-fare, vacations, and religious endeavors. Most students are on extended recess, collegiate and professional football fans are attending games or inseparable from their televisions, and holiday shoppers and bargain hunters are taking advantage of year-end sales.

Even the January 6, 2014 scoping meeting coincided with the last Bowl Championship Series' (BCS) National Championship Game pitting the nation's two top college teams (Florida State vs. Auburn) and being played in Pasadena (literally only a few miles from the location of the scoping meeting) and scheduled to start at 5:30 PM (almost concurrently with the scheduled start of the 5:00 PM scoping meeting). Drawing from a sports analogy, when it comes to governmental affairs, many individuals who might otherwise actively engage in such an important undertaking as the GPU and HEU just will not have their "eye on the ball." In selecting that time period, in contravention to CEQA, the Lead Agency appears to have intentionally endeavored to minimize public participation in its planning and environmental processes.

Steven Mendoza, Director

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It is the typical practice of public agencies to include within the body of EIRs those written comments received in response to the agency's public notice of its intent to commence the preparation of an EIR. By their submittal within the time period specified in the NOP, it is intended that these comments become a part of the CEQA-compliance record for both the GPU and the HEU.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Lewandowski". The signature is written in a cursive, flowing style.

Peter Lewandowski
Principal

Attachment: Curriculum Vitae



Statement of Qualifications

Planning and Environmental Consultant

ENVIRONMENTAL IMPACT SCIENCES

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Environmental Impact Sciences (EIS) is a planning and environmental consulting firm with extensive experience in preparing and processing planning, environmental, and other entitlement documents for both public and private-sector projects located throughout the southern California area.

Recent projects have including the preparation of specific plans and environmental documents for residential, commercial, and mixed-use projects; transit-oriented development; regional commercial centers; hotels and other overnight accommodations; street improvement projects; energy facilities; infrastructure systems; and other capital improvement programs. EIS has prepared general plan amendments; zone changes; conditional use permits; variances; and drafted municipal ordinances and resolutions for adoption by local municipalities.

Environmental compliance activities are conducted in compliance with the provisions of the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and State and Federal Endangered Species Acts (ESA) and include:

- (1) CEQA/NEPA documentation;
- (2) Focused technical studies;
- (3) Mitigation reporting and monitoring;
- (4) Permit processing;
- (5) Regulatory compliance; and
- (6) Third-party peer reviews.

State and federal statutory and regulatory requirements have become more detailed and individual projects are subject to a greater level of scrutiny. The general public and special interest groups have become more sophisticated relative to project challenges and

each project must be conducted in a fashion that best represents and protects our client's immediate and long-term interests and which ensures reasonable defense against possible litigation and other challenges.

Delegating management responsibilities to junior staff allows other firms to accept a greater workload but generally does not best serve a client's interests relative to goals attainment, project advancement, and the quality of professional representation.

EIS' principal possesses over 30-years of experience as a planning and environmental professional, receiving U.S. Congressional Recognition for NEPA Compliance activities.

Consulting services and client representations are conducted using a "hands-on" approach involving the direct management/supervision of all work assignments by the firm's principal. While seeking economies relative to the use of support staff and subcontractors, this oversight produces the highest professional standards in the industry and results in the production of high-quality reports, publications, and other compliance documents. In that fashion, our planning and environmental documents exhibit a consistently high quality and success rate.

EIS provides each project with the personal attention that our clients deserve and with the senior-level management required to ensure the greatest level of client support. Based on each project's permitting needs, EIS augments its project team with specifically selected professionals possessing the expertise to solve the problems impeding the attainment of our clients' goals and objectives.

For our private-sector clients, EIS recognizes that the goal of any planning and environmental process is not document preparation but project approval, including expedited entitlements and lower front-end costs. By formulating innovative and cost-effective solutions, EIS works closely with our clients to best meet their development and financial needs. We strive to be a valued



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member of each project team by bringing tangible cost-benefits to each project.

EIS' goal is to secure local entitlements and to minimize front-end investment and back-end costs to ensure the profitability of our client's development projects. EIS recognizes that it is our objective to:

- (1) Add value, reduce entitlement costs, and improve each project's profitability;
- (2) Develop cost-effective solutions to potential project impediments;
- (3) Deliver on-time and within budgets;
- (4) Pursue expedited processing options;
- (5) Seek early buy-ins from regulators;
- (6) Reduce mitigation costs through reasonable and feasible measures;
- (7) Promote project benefits; and
- (8) Avoid duplication and find efficiencies wherever possible.

With regards to our public-sector clients, EIS' goal is to fully support and professionally assist governmental efforts to advance local land-use and sustainable development objectives and other public policies, including environmental protection, enhancement of quality of life, and economic generation. In addition to timely performance, for our public-sector clients, it is EIS' objective to:

- (1) Serve as an extension of agency staff;
- (2) Minimize public costs;
- (3) Maximize public benefits;
- (4) Protect and defend the credibility of agency staff before local officials and the general public;
- (5) Respond to community concerns; and
- (6) Maintain high ethical and professional standards so as to ensure the defensibility of all steps in the entitlement process.

The goals of private developers and public agencies are often at odds. EIS has a proven record in reconciling those divergent goals and creating a win-win environment promoting economic development and demonstrating reasonable environmental protection.

EIS provides its diverse client-base with a wide variety of professional and technical services, including the preparation and processing of planning and environmental documents, preparation of technical studies addressing a wide range of scientific and engineering-related disciplines, and the processing of local, State, and federal entitlements. Some of the consulting services EIS offers its clients are briefly outlined below.

PLANNING

For each assignment, EIS works cooperatively with members of the project team to maximize the value of our clients' real property holdings and, through close communication and hands-on involvement with governmental agency representatives, seeks to minimize potential delays. This "team approach" is an important element of our work effort since specific plans and other planning documents must draw upon architectural, engineering, and other studies addressing various technical and design-related considerations

Specific Plans

Specific plans: (1) allow for the provision of amenities, design flexibility, and development standards beyond those otherwise attainable under a conventional development approach; (2) define and direct all aspects of future development, including the siting and distribution of uses, the establishment of development standards, the location and size of supporting infrastructure, and the financing of capital improvements; and (3) provide the basis for amending and/or implementing an agency's general plan by creating a bridge between existing public policies and the applicant's development proposal. Since the goal of any plan extends beyond the plan itself, the resulting document must pave the path for later entitlements. Planning and environmental documents are typically prepared concurrently so as to reduce delays and minimize costs.

For the City of La Quinta, EIS prepared a specific plan for a 988-acre, 1,020-unit mixed-use project including three Pete Dye-designed



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golf courses adjacent to the 1,650-acre PGA West (Country Club of the Desert) and, for the City of Diamond Bar and the Walnut Valley Unified School District, a 30-acre mixed-use project involving 202 units and 156,000 square feet of commercial use (Site D Specific Plan).

Land-Use Studies

EIS performs detailed land-use compatible analyses assessing the feasibility and/or document the impacts resulting from the conversion of specific sites from one use to another. This is particularly important where land uses exhibit different operational characteristics or when sites are subjected to specific environmental or other physical constraints. This analysis can be conducted either in concert with or independent of CEQA/NEPA documentation.

For the City of Covina, EIS conducted a detailed land-use analysis for the 160-acre downtown core area authorizing 800 new units and 490,000 square feet of non-residential uses (Town Center Specific Plan). For the City of Ontario, EIS performed a safe distance separation assessment between proposed housing development (Mercy House) and existing above-ground petroleum storage tanks.

Other Planning-Related Activities

EIS is often called upon to prepare technical studies to resolve specific environmental issues, address public policy issues, and assess opportunities and constraints affecting a site's development as a precursor to a site's acquisition or the formulation of detailed development plans.

For the Cities of Dana Point, La Habra, and Glendale, EIS completed detailed lighting studies for the purpose of establishing standards for public parks. In order to obtain discretionary federal funds, EIS analyzed public transit ridership and travel patterns for the City of Thousand Oaks (Intermodal Transit Facility).

ENVIRONMENTAL COMPLIANCE

EIS provides public and private-sector clients a broad array of entitlement services, including the preparation and processing of CEQA/NEPA documents. Environmental consulting services include, but not limited to, compliance determinations, community outreach, scoping activities, litigation support, mitigation reporting and monitoring program preparation and implementation, opportunities and constraints analysis, environmental monitoring, regulatory compliance, and third-party reviews.

EIS works with local agency staffs, resource agencies, builders' representatives, and legal counsels to create high-quality environmental documents that fulfill statutory and regulatory requirements and provide decision makers with an informed basis for sound action.

In addition to the need to prepare documents that can successfully withstand legal challenge and peer review, the successful completion of the entitlement process is dependent upon strict compliance with specific noticing and related disclosure and outreach requirements. An agency's failure to fully comply with those obligations can result in successful litigation, produce delays, and increase up-front costs.

EIS recognizes that since procedural defects can often derail the environmental process, compliance with all statutory and regulatory requirements is as important as the quality of the documents themselves.

Comprehensive environmental impact reports conducted for major development projects have included: (1) Lytle Creek Ranch Specific Plan (City of Rialto); (2) Site D Specific Plan (Walnut Valley Unified School District); (3) Park Place/Tick Canyon (County of Los Angeles); (4) Lytle Creek North Master Plan (County of San Bernardino); (5) Town Center Specific Plan (City of Covina); (6) South Pointe West Specific Plan (City of Diamond Bar); and (7) Walnut Hills Mixed-Use (City of Walnut).



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In accordance with the Los Angeles County Department of Public Works' (LACDPW) "Guidelines for Overbuilding and Air Rights," a number of projects have involved improvements to or the receipt of leasehold interests authorizing the overbuilding, air rights transference, and use of lands atop County Flood Control District (LACFCD) facilities.

TECHNICAL ANALYSES

Focused technical studies prepared as part of those analyses include, but are not limited to:

Acoustical Analysis.

Based on information obtained through the performance of field surveys, traffic studies, and long-term monitoring, existing noise conditions can be documented and project-induced impacts to the ambient noise environment can be projected using a variety of sophisticated computer models, such as the Federal Highway Administration's Highway (FHWA) Traffic Noise Prediction Model. Mitigation for noise impacts, such as freeway proximity, can be formulated to demonstrate compliance with applicable noise ordinance and general plan requirements.

Acoustical studies have included: (1) big-box retail centers (City of Huntington Beach/Lowe's); (2) solid waste transfer stations (City of Azusa/Azusa Waste Transfer Station); (3) public water systems (Elsinore Valley Water District/Machado Groundwater Wells); (4) park improvement projects (City of Glendale/La Bonita, Montrose, and Verdugo Parks); (5) improvements to major public facilities (City of Glendale/Civic Auditorium); and (6) school expansion projects (City of Los Angeles/Palisades High School).

Air Quality and Greenhouse Gases

Air quality assessments and greenhouse gas (GHG) emissions analyses are conducted to determine baseline conditions, quantifying project-related and cumulative impacts, and evaluate the net change in criteria and GHG emissions resulting from a project's or a

facility's construction and operation. Studies routinely include the characterization of the project setting, quantification of construction and operational emissions, identification of mitigation measures and conditions of project approval, consistency assessments with applicable air quality management plans, and determinations of environmental significance.

Stand-alone air quality analyses have included: (1) residential development projects (Cities of Diamond Bar and Rialto); (2) big-box retail projects (City of Huntington Beach); and (3) federally assisted housing projects (Cities of Compton and Ontario).

Biological Resource Assessment

In order to demonstrate compliance with State and federal Endangered Species Acts (ESA), consulting biologists conduct general and focused studies to identify existing biotic resources, assess terrestrial and aquatic ecosystems, develop mitigation strategies, formulate project alternatives, consult with State and federal regulators, and prepare and process State and federal permits. Biological assessments include field surveys to fully characterize existing resources, identify the presence of vegetation communities, and determine the presence/absence of sensitive species and natural communities, and wildlife movement corridors. If sensitive habitat areas are identified, further surveys are conducted to evaluate quality, composition, viability, and extent. EIS has managed general biological and habitat assessments, springtime surveys, focused species-specific surveys, and the delineation of jurisdictional waters.

Biological resource assessments have included residential (Cities of Diamond Bar and Rialto); and (2) federal hydroelectric projects (City of Escondido, County of San Diego, County of Riverside).

Cultural and Historic Resources

Cultural resource assessments are performed to identify the presence/absence and to assess the significance of historic, prehistoric, and



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paleontological resources, to demonstrate compliance with National Historic Preservation Act (NHPA), and to determine project eligibility under the National Register of Historic Places (HRHP). These studies routinely include records searches and field studies to identify the presence of known resources and the potential sensitivity of the project site.

For projects located in culturally significant areas, impacts are identified and mitigation measures developed. During construction, EIS performs monitoring to ensure avoidance and facilitate salvage.

Cultural resource investigations have included: (1) a NRHP eligibility assessment for the City of Yorba Linda (Colonel Evans Residence); (2) a historic building demolition assessment for the City of Whittier (Puente Romano Hotel); (3) a grade separation project for the City of Montclair (Ramona Avenue); (4) a transit facility project for the City of Covina (Covina Transit Plaza); and (5) numerous park improvements projects for the City of Glendale (Deukmejian Wilderness Park).

In accordance with Senate Bill 18 and the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," EIS conducts consultation with the Native American Heritage Commission and applicable tribal organization. Projects requiring SB18 consultation have included: (1) Site D Specific Plan and South Pointe West Specific Plan (City of Diamond Bar); and (2) Francesca Mixed-Use Project Specific Plan (City of Walnut).

Traffic Engineering

EIS' consulting traffic engineers offers public and private-sector clients a comprehensive range of traffic engineering services, including the preparation of traffic impact assessments (TIA) conducted in accordance with the applicable "Congestion Management Program" (CMP) TIA guidelines and recent CEQA-related court rulings. In addition, EIS performs traffic and transportation modeling, prepares traffic counts, conducts transportation surveys,

prepares parking demand studies, and assesses parking adequacy. At a project level, EIS evaluates internal circulation patterns and parking layouts from an operational perspective. Many traffic studies also include neighborhood traffic intrusion planning and transportation demand management (TDM).

Virtually every project involves some level of traffic engineering. Those studies are either conducted by in-house personnel or by other traffic engineers managed by EIS. Detailed traffic studies have included: (1) Site D Specific Plan (City of Diamond Bar); and (2) Covina Transit Plaza (Foothill Transit)

Visual Resource Analysis

EIS prepares aesthetic analyses and visual resource assessment to assess project-induced changes to existing natural and altered landscapes. Photometric surveys can be performed and computer-simulations presented. Studies have been performed to determine the intensity of lighting required for specific tasks and to evaluate the adequacy of ambient lighting relative to the nature of proposed activities. EIS has contributed technical analysis to facility design and layout and establish operational parameters and lighting levels to minimize potential safety risk.

Visual resource studies have included: (1) large-scale residential projects (Cities of Azusa, Rialto, and Walnut); and (2) lighting study for recreational facilities (Cities of Dana Point, Glendale, and Los Angeles).

ENVIRONMENTAL PERMITTING

EIS has extensive experience working with a broad array of State and federal agencies to obtain discretionary project-level permits and approvals, including water quality permits, endangered species "take" authorizations, and oak tree permits. At minimum, most projects will require some level of consultation with State and federal resource agencies, including consultation and coordination as part of a project's CEQA/NEPA compliance program.



THIRD-PARTY PEER REVIEWS

EIS is often called upon to conduct detailed technical reviews of environmental compliance documents prepared by other consulting firms. Third-party reviews are conducted to assist public agencies demonstrate their independent judgment relative to information submitted by project proponents, to identify and correct potential deficiencies with those documents, to supplement the work performed by other consultants, and to support legal challenges to environmental compliance activities conducted either by other jurisdictions or by the agency in which our clients have vested interests.

Third-party peer reviews have included: (1) freeway widening projects (City of Seal Beach); (2) high-voltage transmission facilities (City of Jurupa Valley); (3) transit-oriented developments (Northrop Grumman); (4) senior housing and congregate care facilities (Foothill Community Association); and (5) an NFL stadium (Cities of Diamond Bar and Walnut).

REPRESENTATIVE PROJECTS

EIS has a proven track record in preparing and processing planning studies and environmental documents for major planning, development, and infrastructure improvement projects. A representative sampling is presented below.

Park Place Specific Plan

For Los Angeles County (Brookfield Homes), within the unincorporated area of the Santa Clarita Valley, EIS prepared environmental documents for a 522-acre specific plan project. The project site was located within a designated critical habitat area (Riversidean Sage Scrub) for a federally listed endangered species (coastal California gnatcatcher).

The project was located about one-mile north of the Antelope Valley (SR-14) Freeway, less than 0.5 miles south of the Angeles National Forest, adjacent to the corporate boundaries of the City of Santa Clarita, and within the City's adopted Sphere of Influence. The project

included 492 single-family units, a 34-acre neighborhood park, two above-ground potable water storage reservoirs and the off-site extension of a "secondary highway."

Project implementation included the approval of a vesting tentative tract map, issuance of a conditional use permit and oak tree permit, annexation into a County maintenance district, and the formation of a County lighting and landscape maintenance district for the maintenance of lighting, open space, and recreational areas. In addition, the project included amendments to the "Los Angeles County General Plan" and "Santa Clarita Valley Area Plan" and changes to the County's "General Development Policy Map," the "Land Use Policy Map" and the "Land Use Policy Map." Additional permits and approvals were also required from the United States Army Corps of Engineers, United States Fish and Wildlife Service, Regional Water Quality Control Board, State Water Resources Control Board, California Departments of Fish and Game and Transportation, William S. Hart Union School District, the Sulfur Springs Union School District, Local Agency Formation Commission, and City of Santa Clarita.

County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012
(213) 974-6461

Lytle Creek Ranch Specific Plan

For the City of Rialto (Lytle Development Company), EIS prepared planning and environmental documents for a 2,447-acre specific plan located, in part, in unincorporated San Bernardino County, authorizing 8,400 units, 850,000 square feet of commercial, office, and light industrial development, public recreational facilities, elementary and middle school sites, open space and biological resource conservation areas, and associated infrastructure facilities. The project includes the construction of revetments along Lytle Creek, spanning a distance of seven miles.



Statement of Qualifications

Planning and Environmental Consultant

Lytle Development Company
2050 Main Street, Suite 252
Irvine, California 92614
(909) 973-5985

Lytle Creek North Master Plan

For the County of San Bernardino (Lytle Development), EIS prepared planning and environmental documents for a 650-acre master plan authorizing the construction of 2,466 units, 678,500 square feet of commercial and light industrial use, and 5-million gallon/day wastewater treatment plant near the community of Devore, including improvements to existing freeway ramping.

County of San Bernardino
Land User Services Department
385 N. Arrowhead Avenue, Third Floor
San Bernardino, California 92415-0182
(909) 387-4124

Mountain Cove

For the City of Azusa (Standard Pacific), EIS prepared planning and environmental documents for a 260-acre master plan, including associated entitlements authorizing 350 units adjacent to the San Gabriel River and located within the inundation areas for Cogswell, Morris, and San Gabriel Reservoirs. The project included construction of two new bridge crossings, new flood control facilities, a 1-million gallon water reservoir, and two sewer pump stations. EIS' studies were subsequently used in the preparation of an update to the "City of Azusa General Plan."

City of Azusa
Community Development Department
213 E. Foothill Boulevard
Azusa, California 91702
(626) 812-5247

Walnut Hills

For the City of Walnut (Standard Pacific), EIS prepared planning and environmental documents for a 550-acre master-plan, authorizing the development of 268 dwelling units, 18-hole golf course, and 1-million gallon

reservoir. The project included major landform alterations to accommodate the proposed use.

Standard Pacific Homes
15326 Alton Parkway
Irvine, California 92618
(949) 789-1600

Town Center Specific Plan

For the City of Covina, EIS prepared planning and environmental documents for a 60-acre downtown core area specific plan project. The specific plan resulted in the creation of six new zoning districts designed to promote mixed-use and transit-oriented development. In the absence of specific uses, a "trip budget" was established allowing for the development of an equivalent to 800 dwelling units and 490,000 square feet of mixed commercial, office, and light industrial development. The trip budget establishes an overall "trip cap" offering developers and local officials the flexibility to determine individual site-specific land uses, within the limits of that budget, thus allowing market forces to dictate how and where the trips would ultimately be assigned.

City of Covina
Community Development Department
125 East College Street
Covina, California 91723-2199
(626) 858-7231

Walnut Specific Plans

In accordance with City requirements, projects including affordable housings must be processed through the preparation of a specific plan. In accordance therewith, for the City of Walnut, EIS has prepared separate planning and environmental documents for a number of specific plan projects, including: (1) a 3-acre senior facility authorizing 78 dwelling units (San Jose Hills Senior Housing Specific Plan); (2) a 2-acre mixed-use project for 42 dwelling units and about 2,000 square feet of neighborhood commercial use (808 Francesca Drive Specific Plan); and (3) a residential development on a 2-acre site authorizing 44 units (780 Francesca Drive Specific Plan).



Statement of Qualifications

Planning and Environmental Consultant

City of Walnut
Community Development Department
21201 La Puente Road
Walnut, California 91789-2018
(909) 595-7543

IKEA Covina

For the City of Covina (IKEA), EIS prepared planning and environmental documents for a 330,000 square foot multi-level retail store and warehouse facility, operated as a furniture and home accessories store and including an on-site restaurant. The project involved the demolition of an existing 180,000 square foot facility, allowing the project to be defined as the net physical change between the cessation of impacts attributable to one use and the new impacts attributable to the proposed use. The project included a detailed traffic study addressing on-site circulation patterns and impacts to local streets and freeway segments.

City of Covina
Community Development Department
848 South Barranca Avenue
Covina, California 91723-2199
(626) 858-7214

El Toro Reservoir

EIS prepared CEQA documentation for a dam enlargement project, increasing the existing 233-million gallon capacity of the El Toro Reservoir (Mission Viejo) by 52 million gallons. The project included the installation of an impervious linear system, replacement of the existing floating cover with a new impervious geo-membrane liner system, and the upsizing of the existing outlet system and transmission pipeline, including outlet facilities, a 4,200-foot 24-inch pipeline, disinfection chemical injection pumps, and a new 24-inch pipeline from the inlet/outlet facility to a point of connection with the Santa Margarita Water District's pipeline booster station.

El Toro Water District
24251 Los Alisos Boulevard
Lake Forest, California 92630
(949) 837-7050

Park and Recreational Facilities

For the City of Glendale (Parks, Recreation and Community Services Department), EIS has prepared numerous planning and environmental documents for both new and for expanded park facilities. Recent projects have included the formulation of noise mitigation for planned improvements to the Glendale Civic Auditorium, permitting of a new skateboard park, improvements to existing major park facilities. Additional activities performed by EIS have included the preparation of historic resource assessments, monitoring, and recovery of historic and pre-historic resources.

City of Glendale
Parks, Recreation and Community Services
1621 Canada Boulevard
Glendale, California 91206-4393
(818) 548-6421

PERSONNEL RESOURCES

EIS' Principal (Lewandowski) is broadly recognized as an expert in the areas of planning and environmental compliance and is often called upon by public agencies and attorneys to both prepare and assess the adequacy of technical documents. Unlike other consulting firms that assign junior staff to the project management role, the firm's Principal will remain personally responsible for the management of all projects, will provide senior-level quality control, and will serve as the primary client liaison.

EIS recognizes that every project is different and requires unique talents and experience in order to provide the requisite analysis. As a result, our firm's staffing approach is to first understand the needs of our clients and then to determine the precise nature of those issues that need to be addressed in order to deliver to our clients the best possible work products. EIS believes in providing its clients with the highest quality resources available. Based on specific project needs, EIS marshals those engineers, scientists, and other professionals possessing the requisite experience and qualifications to accomplish the assigned task.



Statement of Qualifications

Planning and Environmental Consultant

REFERENCES

The following individuals can be contacted to obtain comments regarding the quality of our work products, professionalism of client representations, ability to overcome obstacles and formulate cost-effective solutions, and on-time and on-budget performance.

James DeStefano, City Manager
City of Diamond Bar
21810 E. Copley Drive
Diamond Bar, CA 91765-4178
(909) 860-2489

Sean Crumby, Assistant City Manager
City of Seal Beach
211 Eight Street
Seal Beach, CA 90740
(562) 431-2527

Roy Stephenson, City Engineer
City of Jurupa Valley
8304 Limonite Avenue, Suite M
Jurupa Valley, CA 92509
(951) 322-6464

Robert Neiuber, Director
City of Covina
848 South Barranca Avenue
Covina, California 91723-2199
(626) 858-7214

Greg Gubman, Planning Director
City of Diamond Bar
21810 E. Copley Drive
Diamond Bar, CA 91765-4178
(909) 860-2489

M. Katherine Jenson, Atty.
Rutan & Tucker
611 Anton Boulevard, Suite 1400
Costa Mesa, CA 92626-1998
(714) 641-3413

Susan Hori, Atty.
Manatt, Phelps & Phillips, LLC
695 Town Center Drive, 14th Floor
Costa Mesa, CA 92626
(714) 371-2528

Michelle Ouellette, Atty.
Best Best & Krieger
3390 University Avenue, 5th Floor
Riverside, CA 92501
(951) 826-8373

Hardy Strozier, Principal
The Planning Associates
495 E. Rincon Street, Suite 212
Corona, CA 92879
(951) 444-5600

Geoffrey Smith, Project Manager
Lennar
25 Enterprise, Suite 300
Aliso Viejo, CA 92656
(949) 349-8285

Mark Rogers, Principal
TRG Land, Inc.
898 Production Place
Newport Beach, CA 92663
(949) 722-0634

Jan Dabney, Lead Consultant
Lytle Development Company
2050 Main Street, Suite 252
Irvine, CA 92614
(909) 973-5985

STANDARD RATE SCHEDULE

<u>Position</u>	<u>Rates</u>
Principal	\$185.00
Senior Engineer	165.00
Senior Planner/Scientist	150.00
Associate Engineer	125.00
Associated Planner/Scientist	100.00
Assistant Planner/Scientist	75.00
Word Processor	65.00
Technician	50.00

All direct costs will be billed at cost-plus ten percent. Automobile mileage will be billed at a rate of \$0.52 per mile and travel time for personnel will be billed at the designated rate. Expert witness services will be billed at twice the standard rate.



Statement of Qualifications

Planning and Environmental Consultant

CURRICULUM VITAE

PETER LEWANDOWSKI, PRINCIPAL

Education:

Masters Program, Architecture
California State University, Pomona
Masters Degree, Urban Planning
California State University, Pomona
Bachelors Degree, Social Ecology
University of California, Irvine
Certificate Program, Construct. Management
University of California, Irvine

Experience:

Mr. Lewandowski is a widely recognized and awarded planning/environmental consultant. With 30 years of experience, Mr. Lewandowski possesses a detailed understanding of planning, engineering, and environmental compliance and demonstrated experience in preparing general and specific plans for major residential and non-residential projects. Mr. Lewandowski is often called upon by major law firms. In addition to work with individual and corporate attorneys, clients have included Latham & Watkins; Rutan & Tucker; Brown Winfield Canzoneri; Sheppard, Mullin, Richter & Hampton; Oliver, Vose, Sandifer, Murphy & Lee; and Buchalter Nemer Fields & Younger.

Principal

Environmental Impact Sciences

(1998-present)

Mr. Lewandowski was responsible for preparing planning/environmental documents and for the development of compliance strategies for both public and private-sector clients and for the management of and shepherding major development projects through the entitlement process.

Principal

Ultrasonics Environmental, Inc.

(1994-1998)

Mr. Lewandowski was responsible for the preparation of planning studies and comprehensive environmental documents for general, specific, and master plan projects, community facility districts, infrastructure

improvement projects, school facilities, community recreational facilities, office buildings, major residential and commercial projects, and energy facilities.

Director of Planning/Environmental

LG&E Power Engineers, Inc.

(1987-1994)

For a Fortune 500 company, Mr. Lewandowski managed the preparation of planning and environmental documents; prepared and processed general plan amendments, zone changes, and tentative maps; conducted presentations before Boards, Councils, and Commissions; and processed development applications for large-scale residential, commercial, institutional, industrial, and mixed-use projects.

Relevant project experience includes:

- Project Manager for major specific plan projects, including: (1) Downtown Covina Specific Plan (Covina); (2) Lytle Creek Ranch Specific Plan (Rialto); (3) Lytle Creek North Master Plan (San Bernardino County); (4) South Pointe Master Plan (Diamond Bar); and (5) Walnut Hills Master Plan (Walnut).
- Project Manager for numerous residential development projects, including: (1) Park Place (Los Angeles County); (2) Compton Senior Housing Project (Compton); (3) Puente Romano Mixed-Use Project (Whittier); and (4) Diamond Ridge/Sandstone Canyon (Diamond Bar)
- Project Manager for major commercial development projects, including IKEA (Covina), Target (Diamond Bar), Lowe's (Huntington Beach), Anaheim Festival Center (Anaheim), and Citrus Plaza Regional Mall (San Bernardino County).
- Project Manager responsible for major infrastructure projects, including the Wildomar Community Facilities District (Riverside County), involving over 10-miles of new water and wastewater facilities.

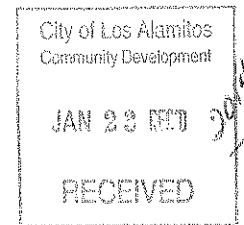


AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.5178

January 17, 2014



Steven Mendoza, Director
Community Development
City of Los Alamitos
3191 Katella Ave.
Los Alamitos, CA 90720

Subject: NOP of a DEIR for the City of Los Alamitos General Plan Update

Dear Mr. Mendoza:

Thank you for the opportunity to review the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the City of Los Alamitos General Plan Update in the context of the *Airport Environs Land Use Plan (AELUP) for Joint Forces Training Base (JFTB), Los Alamitos* and the *AELUP for Heliports*. We wish to offer the following comments and respectfully request consideration of these comments as you proceed with the preparation of your DEIR and General Plan (GP) Update

The City of Los Alamitos falls within the airport planning area for JFTB Los Alamitos. Public Resources Code, Section 21096 requires that, when preparing an environmental impact report for any project situated within an airport influence area as defined in an Airport Land Use Commission (ALUC) compatibility plan (or if a compatibility plan has not been adopted, within two nautical miles of a public-use airport), lead agencies shall utilize the California Airport Land Use Planning Handbook as a technical resource with respect to airport noise and safety compatibility issues. We suggest consulting the Handbook for assistance in formulating airport land use compatibility policies.

The City of Los Alamitos is located within the AELUP Notification Area JFTB, Los Alamitos. The DEIR and GP Update should address height restrictions and imaginary surfaces by discussing the Federal Aviation Administration (FAA) Federal Aviation Regulation (FAR) Part 77 as the criteria for determining height restrictions for projects located within the airport planning area. Per the *AELUP for JFTB Los Alamitos*, all building height restrictions will have as their ultimate limits the imaginary surfaces as applicable and as defined in Part FAR Part 77. Including policy language in the General Plan and a mitigation measure in the EIR, that states that no buildings will be allowed to penetrate the FAR Part 77 imaginary surfaces for FMA, would ensure the protection of its airspace. The DEIR and GP Update should also consider that

buildings that rise to the height of the Horizontal Surface (150 feet AGL) for JFTB Los Alamitos will violate the established approach criteria for the primary runway at JFTB.

Also with respect to building heights, development proposals within the City, which include the construction or alteration of structures more than 200 feet above ground level, require filing with the FAA and notification of the ALUC. Projects meeting this threshold must comply with procedures provided by Federal and State law, and with all conditions of approval imposed or recommended by FAA and ALUC including filing a Notice of Proposed Construction or Alteration (FAA Form 7460-1). Depending on the maximum building heights that will be allowed within the General Plan, the City may wish to consider a mitigation and condition of approval specifying this 200 feet above ground level height threshold. In addition, any project that penetrates the Notification Surface for JFTB, Los Alamitos is required to file FAA Form 7460-1.

Portions of the City of Los Alamitos fall within the 60 and 65 dB(A) CNEL noise contours for JFTB, Los Alamitos. The DEIR and GP Update should include policies and mitigations for development within these contours, especially if residential development is permitted. Per the *AELUP for JFTB Los Alamitos*, all residential units within the 65 db CNEL contour are inconsistent in this area unless it can be shown conclusively that such units are sufficiently sound attenuated for present and projected noise exposure so as not to exceed an interior standard of 45 dB CNEL. However, the ALUC recommends that residential uses not be permitted within the 65 dB CNEL contour. As for residential development within the 60 db CNEL contour, the ALUC would not find residential units incompatible in this area, but would strongly recommend that residential units be limited or excluded from this area unless sufficiently sound attenuated not to exceed an interior level of 45 dB.

We also recommend that the DEIR and the GP Update identify if the development of heliports is allowed within your jurisdiction. Should the development of heliports occur within your jurisdiction, proposals to develop new heliports may be submitted through the City to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Proposed heliport projects must comply fully with the state permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the ALUC for Orange County and by Caltrans/Division of Aeronautics.

To address consistency with the *AELUP for Heliports* we suggest adding the following language to your GP Update and inclusion as a mitigation measure in the EIR:

“The City will ensure that development proposals including the construction or operation of a heliport or helistop comply fully with permit procedures under State law, including referral of the project to the ALUC by the applicant, and with all conditions of approval imposed or recommended by the Federal Aviation Administration (FAA), ALUC, and Caltrans, including the filing of a Form 7480-1 (Notice of Landing Area Proposal) with the FAA. This requirement shall be in addition to all other City development requirements.”

Section 21676(b) of the PUC requires that prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the Airport Land Use Commission pursuant to Section 21675, the local agency shall first refer the proposed action to the ALUC. To ensure land use compatibility with JFTB, Los Alamitos, we recommend that the City include policy in its General Plan and a mitigation measure in the EIR, that states that the City shall refer projects to the Airport Land Use Commission (ALUC) for Orange County as required by Section 21676 of the California Public Utilities Code to determine consistency of projects with the *AELUP for JFTB, Los Alamitos*.

With respect to project submittals, please note that the Commission wants such referrals to be submitted to the ALUC for a determination, between the Local Agency's expected Planning Commission and City Council hearings. Since the ALUC meets on the third Thursday afternoon of each month, submittals must be received in the ALUC office by the first of the month to ensure sufficient time for review, analysis, and agendaizing.

Thank you again for the opportunity to comment on the proposed GP Update and initial study for the DEIR. Please contact Lea Choum at (949) 252-5123 or via email at lchoum@ocair.com should any questions arise.

Sincerely,

A handwritten signature in black ink, appearing to read "Kari A. Rigoni".

Kari A. Rigoni
Executive Officer

Los Alamitos Unified School District

AUXILIARY and SUPPORT SERVICES

10293 Bloomfield Street • Los Alamitos, California 90720-2200
(562) 799-4700 • Fax (562) 799-4730

Sherry Kropp, Ed.D.
Superintendent



January 17, 2014

Steven Mendoza
City of Los Alamitos
Community Development
3191 Katella Avenue
Los Alamitos, CA 90720

Certified Mail

Re: **Notice of Preparation – City of Los Alamitos General Plan Update**

Dear Mr. Mendoza:

The Los Alamitos Unified School District ("District"), appreciates the opportunity to comment on the City of Los Alamitos ("City") Notice of Preparation ("NOP") for the 2014 General Plan Update ("Project"). The NOP contains an Initial Study ("IS") that describes the Project and the City's preliminary analysis of the Project's potential impacts on the environment including an identification of the impacts to be addressed in the draft Environmental Impact Report ("DEIR").

We trust the City is planning an EIR that makes a comprehensive evaluation of the Project and its potential impacts on the environment, including many special studies. The District is particularly interested in seeing that the analysis in the DEIR adequately addresses the potentially significant impacts that the Project may have on schools, such as the rezoning of industrial areas to residential which could impact school capacities, changing of height limits on buildings which could cause shade and shadow impacts to schools, or other zone changes that could cause incompatible uses next to schools, etc. As you know, the District is legally responsible for providing a high quality public education to the K-12 students generated by the Project and these additional Project studies could impact school facilities. The District has four schools within the City of Los Alamitos. These schools and their locations are:

- 1) Los Alamitos Elementary, 10862 Bloomfield Street
- 2) Los Alamitos High School, 3591 Cerritos Avenue
- 3) McAuliffe Middle School, 4112 Cerritos Avenue
- 4) Oak Middle School, 10821 Oak Street

From the District's perspective, the DEIR can best address the impact of the Project on school facilities by including a detailed and thorough analysis of all potential impacts to existing schools, the potential need for future schools, and what funding mechanisms would be made available to meet these needs. In addition to addressing the potential impacts the Project may have on the District's school facilities, the District requests that the DEIR also consider specific changes to zoning next to schools and/or ordinances, CUP conditions, etc. that could protect incompatible uses adjacent to or near schools.

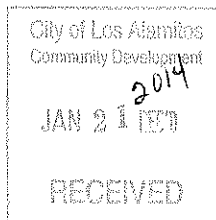
Board of Education: Jeffrey Barke • David Boyer • Megan Cutuli • Diana D. Hill • Karen Russell

Once again, the District thanks the City for the opportunity to comment on the NOP. The District formally requests to be included on the distribution list for the DEIR, as well as all other City projects. We look forward to reviewing the DEIR and trust that our participation in the environmental review of the Project will ensure that the Project's impacts on the environment, as well as the District schools, are adequately addressed. You may contact me at (562) 799-4700 ext. 80448 to discuss these comments further. The District would be happy to meet with the City to discuss the Project.

Thank you,

A handwritten signature in black ink, appearing to read 'Patricia Meyer', written over a horizontal line.

PATRICIA MEYER
Deputy Superintendent



BOARD OF DIRECTORS

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Chairman

Shawn Nelson
Vice Chairman

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Director

Todd Spitzer
Director

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Director

Ryan Chamberlain
Ex-Officio Member

CHIEF EXECUTIVE OFFICE

Darrell Johnson
Chief Executive Officer

January 17, 2014

Mr. Steven A. Mendoza
Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720

**Subject: Notice of Preparation of Initial Study for the City of Los Alamitos
General Plan Update**

Dear Mr. Mendoza:

The Orange County Transportation Authority (OCTA) has reviewed the above referenced document. The following comments are provided for your consideration:

In regards to Master Plan of Arterial Highways (MPAH) and Congestion Management Program (CMP), 3.16 – *Transportation/Traffic*:

- Section 3.16.a - If the City of Los Alamitos envisions modifications to any MPAH facilities, please coordinate with OCTA as soon as possible in order to initiate the MPAH amendment process.
- Section 3.16.b - OCTA acknowledges that a CMP analysis will be provided in the Environmental Impact Report. The CMP has been updated and adopted on November 25th, 2013. We recommend that any CMP analysis use the latest CMP report guidelines.

If you have any questions or comments, please contact me by phone at (714) 560-5907 or by email at dphu@octa.net.

Sincerely,

Dan Phu
Section Manager, Environmental Programs

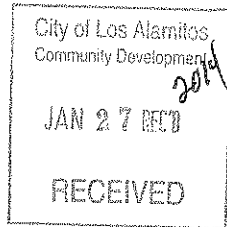


COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN



January 23, 2014

Steven Mendoza, Director
City of Los Alamitos
Community Development
3191 Katella Avenue
Los Alamitos, CA 90720

Dear Mr. Mendoza:

PREPARATION, "LOS ALAMITOS GENERAL PLAN UPDATE," THE UPATED PLAN IS INTENDED TO SHAPE DEVELOPMENT IN THE CITY AND THE UNINCORPORATED COMMUNITY OF ROSSMOOR OVER THE NEXT 20 PLUS YEARS, CITYWIDE, LOS ALAMITOS (FFER #201400003)

The Preparation has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1. The subject property is entirely within the City of Los Alamitos, which is not a part of the emergency response area of the Los Angeles County Fire Department (also known as the Consolidated Fire Protection District of Los Angeles County). Therefore, this project does not appear to have any impact on the emergency responsibilities of this Department.

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS
ARTESIA
AZUSA
BALDWIN PARK
BELL
BELL GARDENS
BELLFLOWER
BRADBURY

CALABASAS
CARSON
CERRITOS
CLAREMONT
COMMERCE
COVINA
CUDAHY

DIAMOND BAR
DUARTE
EL MONTE
GARDENA
GLENDALE
HAWAIIAN GARDENS
HAWTHORNE

HIDDEN HILLS
HUNTINGTON PARK
INDUSTRY
INGLEWOOD
IRVINDALE
LA CANADA FLINTRIDGE
LA HABRA

LA MIRADA
LA PUENTE
LAKEWOOD
LANCASTER
LAWDALE
LOMITA
LYNWOOD

MALIBU
MAYWOOD
NORWALK
PALMDALE
PALOS VERDES ESTATES
PARAMOUNT
PICO RIVERA

POMONA
RANCHO PALOS VERDES
ROLLING HILLS
ROLLING HILLS ESTATES
ROSEMEAD
SAN DIMAS
SANTA CLARITA

SIGNAL HILL
SOUTH EL MONTE
SOUTH GATE
TEMPLE CITY
WALNUT
WEST HOLLYWOOD
WESTLAKE VILLAGE
WHITTIER

LAND DEVELOPMENT UNIT:

1. This project is located entirely in the City of Los Alamitos. Therefore, the Orange County Fire Authority has jurisdiction concerning this project and will be setting conditions. This project is located in close proximity to the jurisdictional area of the Los Angeles County Fire Department. However, this project is unlikely to have an impact that necessitates a comment concerning general requirements from the Land Development Unit of the Los Angeles County Fire Department.
2. The statutory responsibilities of the County of Los Angeles Fire Department, Land Development Unit, are the review of, and comment on all projects within the unincorporated areas of the County of Los Angeles. Our emphasis is on the availability of sufficient water supplies for firefighting operations and local/regional access issues. However, we review all projects for issues that may have a significant impact on the County of Los Angeles Fire Department. We are responsible for the review of all projects within contract cities (cities that contract with the County of Los Angeles Fire Department for fire protection services). We are responsible for all County facilities, located within non-contract cities. The County of Los Angeles Fire Department, Land Development Unit, may also comment on conditions that may be imposed on a project by the Fire Prevention Division, which may create a potentially significant impact to the environment.
3. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department, Land Development Unit Inspector, Claudia Soiza, at (323) 890-4243.
4. The County of Los Angeles Fire Department, Land Development Unit, appreciates the opportunity to comment on this project.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Fire Hazard Severity Zones, Archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed in the Draft Environmental Impact Report

Steven Mendoza, Director
January 23, 2014
Page 3

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division has no objection to the proposed project.

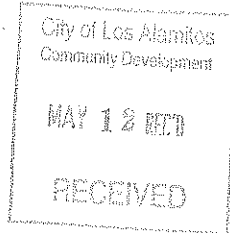
If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

A handwritten signature in black ink, appearing to read "Frank Vidales", written in a cursive style.

FRANK VIDALES, CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

FV:jl



May 8, 2014

Steven Mendoza
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA

Re: General Plan Update and Environmental Impact Report

Dear Mr. Mendoza:

I would like to be placed on the notification list to receive all public notices regarding the General Plan Update, the Environmental Impact Report being prepared for the General Plan Update ("EIR"), and any public meetings and hearings on the General Plan Update and EIR. We understand that the City will be releasing its Draft EIR on the General Plan Update shortly, and would like to receive, among other notices, a copy of the Notice of Availability of the Draft EIR for the General Plan Update and information on where we can obtain a copy of the Draft EIR.

Thank you very much for your attention to this matter.

Very truly yours,

Manatt, Phelps & Phillips, LLP

A handwritten signature in black ink, appearing to read "Susan K. Hori".

Susan K. Hori

Appendices

Appendix C Air Quality and GHG Modeling

Appendices

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Criteria Air Pollutant and GHG Emissions Worksheets

LOS ALAMITOS - GHG EMISSIONS INVENTORY

Forecasting SCAQMD's GHG Target

Year	2020	2050	2035
MTCO ₂ e/SP:	6.6	1.3	4.0
Target Based on:	BAAQMD AB 32	S-03-05	Interpolated*
% Reduction for Year:	0%	80%	40%
Target:	1990 Levels	80% Below 1990 Levels	40% Below 1990 Levels
Based on Inventory			

	MTCO ₂ e/Year							
	Percent of		Percent of		Percent of		Percent of	
SECTORS	Existing 2013	Total	2020	Total	Project 2035	Total	Current GP	Total
Transportation	163,283	59%	187,401	61%	210,980	61%	210,012	62%
Residential (Natural Gas and Electricity)	40,338	15%	41,171	13%	42,954	13%	46,234	14%
Nonresidential (Natural Gas and Electricity)	61,113	22%	66,113	22%	76,829	22%	69,379	21%
Waste	2,089	1%	2,184	1%	2,386	1%	2,383	1%
Water/Wastewater	6,665	2%	6,458	2%	7,057	2%	7,049	2%
Other - Offroad Equipment	2,745	1%	2,847	1%	3,065	1%	2,985	1%
Total Community Emissions	276,233	100%	306,174	100%	343,271	100%	338,044	100%
Service Population	36,278		37,918		41,433		41,387	
MTCO ₂ e/SP	7.6		8.1		8.3		8.2	
SCAQMD GHG GP Threshold (PLAN LEVEL)	NA		6.6		3.1		3.1	
	MTCO ₂ e/Year							
		MTCO ₂ e Adjusted BAU						
		Percent of		Percent of		Percent of		
SECTORS		2020	Total	Project 2035	Total	Current GP	Total	
Transportation		143,170	58%	147,579	56%	147,416	57%	
Residential (Natural Gas and Electricity)		36,609	15%	38,195	15%	41,112	16%	
Nonresidential (Natural Gas and Electricity)		56,470	23%	65,623	25%	59,260	23%	
Waste		2,184	1%	2,386	1%	2,383	1%	
Water/Wastewater		5,401	2%	5,901	2%	5,895	2%	
Other - Offroad Equipment		2,562	1%	2,758	1%	2,687	1%	
Total Community Emissions		246,396	100%	262,443	100%	258,752	100%	
Service Population	37,918		41,433		41,387			
MTCO ₂ e/SP		6.5		6.3		6.3		
SCAQMD GHG GP Threshold (PLAN LEVEL)		6.6		3.1		3.1		

LOS ALAMITOS - GHG EMISSIONS INVENTORY

		Change from 2013 MTCO ₂ e compared to the Adjusted BAU					
SECTORS		Delta 2020	Percent Change	Delta 2035	Percent Change	Delta Current GP	Percent Change
Transportation		-20,113	-12%	-15,703	-10%	-15,867	-10%
Residential (Natural Gas and Electricity)		-3,729	-9%	-2,143	-5%	774	2%
Nonresidential* (Natural Gas and Electricity)		-4,642	-8%	4,510	7%	-1,853	-3%
Waste		94	5%	297	14%	294	14%
Water/Wastewater		-1,264	-19%	-763	-11%	-770	-12%
Other - Offroad Equipment		-183	-7%	13	0%	-58	-2%
Total Community Emissions		-29,836	-11%	-13,789	-5%	-17,480	-6%
		Change from BAU MTCO ₂ e					
SECTORS		Delta 2020	Percent Change	Delta 2035	Percent Change	Delta Current GP	Percent Change
Transportation		-44,231	-24%	-63,401	-30%	-62,597	-30%
Residential (Natural Gas and Electricity)		-4,561	-11%	-4,759	-11%	-5,122	-11%
Nonresidential (Natural Gas and Electricity)		-9,643	-15%	-11,206	-15%	-10,119	-15%
Waste		0	0%	0	0%	0	0%
Water/Wastewater		-1,058	-16%	-1,156	-16%	-1,155	-16%
Other - Offroad Equipment		-285	-10%	-306	-10%	-299	-10%
Total Community Emissions		-59,777	-20%	-80,828	-24%	-79,292	-23%

Notes:

Emissions forecasts for the non-transportation sectors are based on changes in housing units (residential energy), population (area sources,) employment (nonresidential energy, area sources), or service population (waste, water/wastewater).

Transportation. EMFAC2011 and Fehr & Peers using the OCTA model.

Energy. Energy use based on a two year (2011-2012) average provided by SCE and a three year (2011 to 2013) average provided by SoCalGas. SCE energy based on the WCI carbon intensity for the WECC Region.

Water/Wastewater. Includes fugitive emissions from wastewater processing and energy associated with water/wastewater treatment and conveyance. Water use is estimated based on generation rates identified in the Golden State Water Company's 2010 Urban Water Management Plan.

Waste. CARB Landfill Emissions Tool Version 1_2013 and CalRecycle. Waste generation based on three year average (2010-2012) waste commitment for the City of Los Alamitos obtained from CalRecycle. Assumes 75 percent of fugitive GHG emissions are captured within the landfill's Landfill Gas Capture System with a landfill gas capture efficiency of 75%. The Landfill gas capture efficiency is based on the California Air Resources Board's (CARB) Local Government Operations Protocol (LGOP), Version 1.1.

Other Sources. OFFROAD2007. Estimated based on population (Landscaping), employment (Light Commercial Equipment), and construction building permits (Construction) for Los Alamitos as a percentage of Orange County. Excludes SCAQMD permitted sources. Daily construction emissions multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays.

Adjusted BAU includes reductions identified in the Scoping Plan associated with Transportation (Pavely+LCFS), Energy & Water/Wastewater (RPS target for SCE), and Other (LCFS). The current inventory does not account for reductions in building energy use from Title 24 cycle updates.

Lifecycle: Life cycle emissions are not included in this analysis because not enough information is available for the proposed Project, and therefore life cycle GHG emissions would be speculative.

GHG emissions associated with the Los Alamitos Joint Forces Training Base (JFTB) are excluded from this inventory because emissions are under Federal jurisdiction. Furthermore, no information on GHG emissions associated with base activities is available from the U.S. military institution. Therefore, in accordance with California protocols for communitywide inventories, GHG emissions are not a part of the City's communitywide GHG inventory.

GHG emissions are based on the global warming potentials (GWPs) contained within the Intergovernmental Panel on Climate Change's (IPCC) Second and Third Assessment Reports. The IPCC has since come out with updated GWPs in their Fourth (2007) and Fifth (2013) Assessment Reports. However, GHG emissions thresholds are based on the targets developed for AB 32 and the State emissions inventory that uses the GWPs in the Second Assessment Report. Likewise, SCAQMD's significance criteria is based on the older GWPs. Consequently, to maintain consistency with the modeling and thresholds currently used for CEQA assessments, this inventory utilizes the GWPs in IPCC's Second and Third Assessment Reports.

LOS ALAMITOS - TRAJECTORY FOR INTERIM GHG TARGET

CARB 2008 Scoping Plan (MMTCO ₂ e)			CARB 2014 Inventory Update (MMTCO ₂ e)		
	Second Assessment Report GWP	Reduction to 1990		Fourth Assessment Report GWP	Reduction to 1990
1990	433.29	Not Applicable		431	Not Applicable
2000	457.29	5%		466.32	8%
2001	473.49	8%		481.23	10%
2002	468.54	8%		480.32	10%
2003	467.42	7%		483.05	11%
2004	484.40	11%		492.86	13%
2005	491.40	12%		485.13	11%
2006	498.40	13%		482.52	11%
2007	505.40	14%		489.16	12%
2008	512.40	15%		487.1	12%
2009	Not Available			458.44	6%
2010	Not Available			453.06	5%
2011	Not Available			450.94	4%
2012	Not Available			458.68	6%
2013	Not Available			Not Available	
	Statewide Forecast Targets	Reduction to Target from 2008		Statewide Forecast Targets	Reduction to Target from 2012
2035	259.97	49%		258.60	44%
2050	86.66	49%		86.20	81%
Recommended Target from "Existing" in 2008 Scoping Plan			Adjusted Target from "Existing" based on 2014 Inventory		
					MTCO ₂ 3
				Target for Los Alamitos	155,738
				Reduction from 2013	120,495

CUPERTINO - CRITERIA AIR POLLUTANT INVENTORY

	2013 - lbs/day					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	153	1,163	4,544	12	145	67
Energy - Residential (Natural Gas)	8	66	28	0	5	5
Energy - Nonresidential (Natural Gas)	5	42	35	0	3	3
Area Sources (Consumer Products)	461	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	106	73	1,685	0	9	8
Other (Construction Equipment)	8	56	51	0	3	3
Total	741	1,399	6,343	13	165	87
	2013 - tons/year					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	27	202	788	2	25	12
Energy - Residential (Natural Gas)	1	12	5	0	1	1
Energy - Nonresidential (Natural Gas)	1	8	6	0	1	1
Area Sources (Consumer Products)	84	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	19	13	308	0	2	2
Other (Construction Equipment)	1	10	9	0	1	1
Total	134	244	1,116	2	29	15

CUPERTINO - CRITERIA AIR POLLUTANT INVENTORY

	2035 Existing Land Uses - lbs/day					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	53	381	1,738	12	139	60
Energy - Residential (Natural Gas)	8	66	28	0	5	5
Energy - Nonresidential (Natural Gas)	5	42	35	0	3	3
Area Sources (Consumer Products)	461	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	106	73	1,685	0	9	8
Other (Construction Equipment)	8	56	51	0	3	3
Total	641	617	3,538	13	159	81
	2035 - tons/year					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	9	66	302	2	24	10
Energy - Residential (Natural Gas)	1	12	5	0	1	1
Energy - Nonresidential (Natural Gas)	1	8	6	0	1	1
Area Sources (Consumer Products)	84	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	19	13	308	0	2	2
Other (Construction Equipment)	1	10	9	0	1	1
Total	116	109	630	2	28	14

	2035 Project Land Uses - lbs/day					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	66	473	2,160	15	173	75
Energy - Residential (Natural Gas)	8	70	30	0	6	6
Energy - Nonresidential (Natural Gas)	6	53	44	0	4	4
Area Sources (Consumer Products)	506	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	118	88	1,927	0	10	10
Other (Construction Equipment)	8	56	51	0	3	3
Total	712	740	4,212	16	196	98
Change from 2013 Land Uses	71	631	3,582	14	168	84
	2035- tons/year					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	12	82	375	3	30	13
Energy - Residential (Natural Gas)	1	13	5	0	1	1
Energy - Nonresidential (Natural Gas)	1	10	8	0	1	1
Area Sources (Consumer Products)	92	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	22	16	352	0	2	2
Other (Construction Equipment)	1	10	9	0	1	1
Total	129	130	749	3	34	17
Change from 2013 Land Uses	13	21	119	1	6	3

CUPERTINO - CRITERIA AIR POLLUTANT INVENTORY

	Current General Plan Land Uses - lbs/day					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	66	473	2,157	15	173	75
Energy - Residential (Natural Gas)	9	75	32	0	6	6
Energy - Nonresidential (Natural Gas)	5	48	40	0	4	4
Area Sources (Consumer Products)	541	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	121	83	1,922	0	10	10
Other (Construction Equipment)	8	56	51	0	3	3
Total	751	735	4,203	16	195	98
Change from 2013 Land Uses	110	626	3,573	14	168	83

	2035 - tons/year					
SECTORS	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Transportation	12	82	374	3	30	13
Energy - Residential (Natural Gas)	2	14	6	0	1	1
Energy - Nonresidential (Natural Gas)	1	9	7	0	1	1
Area Sources (Consumer Products)	99	-	-	-	-	-
Area Sources (Landscaping, Light Commercial Equipment)	22	15	351	0	2	2
Other (Construction Equipment)	1	10	9	0	1	1
Total	136	129	747	3	34	17
Change from 2013 Land Uses	20	21	118	1	6	3

Notes:

Emissions forecasts for the non-transportation sectors are based on changes in housing units (residential energy), population (area sources), or employment (nonresidential energy, area sources).

Transportation. EMFAC2011 (exhaust) and Fehr and Peers 2014. Transportation sector includes the full trip length. Daily emissions multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Energy. Based on three-year average (2011-2013) of energy use provided by SoCalGas.

Area Sources. OFFROAD2007. Estimated based on population (Landscaping) and employment (Light Commercial Equipment) for Los Alamitos as a percentage of Orange County. Excludes SCAQMD permitted sources. Does not include emissions from wood-burning fireplaces.

Other Sources. OFFROAD2007. Estimated based on construction building permits (Construction) for Los Alamitos as a percentage of Orange County. Daily construction emissions multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays.

Criteria air pollutant emissions associated with the Los Alamitos Joint Forces Training Base (JFTB) are excluded from this inventory because emissions are under Federal jurisdiction. Furthermore, no information on emissions associated with base activities is available from the U.S. military institution. Therefore, in accordance with California protocols for communitywide inventories, emissions are not a part of the City's communitywide inventory.

Model Inputs for the Cupertino General Plan

	forecast					
	CEQA Baseline 2013			Proposed Project	AB 32 Target Year	No Project Scenario
	City	SOI	2013	2035	2020	Current GP
Housing Units	4,424	3,779	8,203	8,735	8,372	9,402
Non-Residential SQFT	7,569,720	408,257	7,977,977	8,881,442	8,265,443	8,989,054
Population	11,384	10,234	21,618	23,003	22,059	24,744
Employment	14,265	395	14,660	18,430	15,860	16,643
Service Population	25,649	10,629	36,278	41,433	37,918	41,387

Growth Rates from Baseline

	SOI + City	2040	2020	Current GP
Housing Growth Rate	1.85	1.06	1.02	1.15
Population Growth Rate	1.90	1.06	1.02	1.14
Employment Growth Rate	1.03	1.26	1.08	1.14
Service Population Growth Rate	1.41	1.14	1.05	1.14

Electricity Use

	City	SOI	2013	Proposed Project	2020	Current GP
Residential Electricity (Kwh) ¹	30,904,601	26,398,844	57,303,445	61,019,821	58,485,929	65,679,263
Commercial + Industrial Electricity (Kwh) ²	111,208,871	3,079,390	114,288,261	143,678,898	123,639,827	129,747,580
Total Electricity (Kwh)	142,113,472	29,478,235	171,591,706	204,698,720	182,125,756	195,426,843

Source

1 Provided by SCE. Projected based on increase in housing units. 2013 Based on a two-year average of 2010 to 2012 data.

2 Provided by SCE. Projected based on increase in employment. 2013 Based on a two-year average of 2010 to 2012 data.

Natural Gas Use

	City	SOI	2013	Proposed Project	2020	Current GP
Residential Natural Gas (Therms) ¹	1,405,380	1,200,482	2,605,862	2,774,864	2,659,635	2,986,751
Commercial+Industrial Natural Gas (Therms) ²	1,517,035	42,007	1,559,042	1,959,969	1,686,610	1,769,928
Total Natural Gas (Therms)	2,922,416	1,242,489	4,164,905	4,734,833	4,346,245	4,756,679

Source

1 Provided by SoCalGas. Projected based on increase in housing units. 2013 Based on a three-year average of 2011 to 2013 data.

2 Provided by SoCalGas. Projected based on increase in employment. 2013 Based on a three-year average of 2011 to 2013 data.

On-Road Transportation

	CEQA Baseline	Proposed Project	2020	Current GP
VMT/day	1,181,503	1,467,916	1,272,634	1,466,286

Source

1 VMT provided by Fehr & Peers based on the OCTA model for 2010.

2 2020 Forecast based on the anticipated growth due to the Project and 2013 conditions

Model Inputs for the Cupertino General Plan

forecast

	CEQA Baseline 2013			Proposed Project	AB 32 Target Year	No Project Scenario
	City	SOI	2013	2035	2020	Current GP
Housing Units	4,424	3,779	8,203	8,735	8,372	9,402
Non-Residential SQFT	7,569,720	408,257	7,977,977	8,881,442	8,265,443	8,989,054
Population	11,384	10,234	21,618	23,003	22,059	24,744
Employment	14,265	395	14,660	18,430	15,860	16,643
Service Population	25,649	10,629	36,278	41,433	37,918	41,387

Growth Rates from Baseline

Housing Growth Rate
Population Growth Rate
Employment Growth Rate
Service Population Growth Rate

SOI + City	2040	2020	Current GP
1.85	1.06	1.02	1.15
1.90	1.06	1.02	1.14
1.03	1.26	1.08	1.14
1.41	1.14	1.05	1.14

Water Conveyance

Water (AF/year)
Water (gallons/year)

2013	Proposed Project	2020	Current GP
3,657	3,872	3,543	3,868
1,191,476,070	1,261,651,639	1,154,625,385	1,260,250,920

Source

Total water generation for Los Alamitos is based on the Golden State Water Company's 2010 Urban Water Management Plan SBX7-7. Forecasts are adjusted for increases in population and employment and are based on the Target per capita SBx7-7 based on residential 1 and non-residential growth.

Wastewater Treatment

Wastewater (gallons/year)
Wastewater (gallons/day)

2013	Proposed Project	2020	Current GP
834,033,249	883,156,147	808,237,770	882,175,644
2,285,023	2,419,606	2,214,350	2,416,920

Source

¹ Indoor water use is 100 percent wastewater. Indoor water use is approximately 70% of total demand. This is consistent with the California Department of Water Resources' 20x2020 Water Conservation Plan. Figure 5 for indoor/outdoor water use for Hydrologic Region 4.

Solid Waste Generation

Waste Generation (tons/year)
Waste Generation ADC (tons/year)
Total Waste Disposal (tons/year)

City	SOI	2013	Proposed Project	2020	Current GP
17,580	7,285	24,865	28,398	25,989	28,366
944	391	1,335	1,525	1,396	1,524
18,524	7,676	26,200	29,923	27,385	29,890

Source

CalRecycle. Disposal Reporting System (DRS): Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility. Accessed May 2014. <http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx>. 2013 is based on an average 2010-2012 disposal rates.
¹ Projected based on Service Population.



Facility Information Detail (FIND)

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Emissions

Facility ID 58876
Company Name INDUSTRIAL MFG CO LLC DBA ARROWHEAD PROD
Address 4411 KATELLA AVE
LOS ALAMITOS, CA 90720
Select AER Year: ▼

Criteria Pollutants (Tons per Year):

Pollutant ID	Pollutant Description	Annual Emissions
CO	Carbon Monoxide	0.426
NOX	Nitrogen Oxides	0.252
ROG	Reactive Organic Gases	4.712
SOX	Sulfur Oxides	0.003
TSP	Total Suspended Particulates	0.038

Toxic Pollutants (Pounds per Year):

Pollutant ID	Pollutant Description	Annual Emissions
7664417	Ammonia	182.880
71432	Benzene	0.081
50000	Formaldehyde	0.172
91203	Naphthalene	0.003
1151	PAHs, total, with components not reported	0.001

Note - Data for 2007 represents the six-month transitional period, July through December 2007, when the rules requiring annual emissions reporting changed from a fiscal year to a calendar year basis.

Criteria Air Pollutant and GHG Emissions

Water/Wastewater

Water and Wastewater

Water Demand Calculations Derived from the Urban Water Management Plan

Golden State Water Company - West Orange System

	Per capita	Adjusted for SP	
Gallons Per Capita Per Day (gpcd) ²	151	90	gallons per SP per Day
Gallons Per Capita Per Day 2020 Target (gpcd) ²	140	83	gallons per SP per Day

Source:

- Golden State Water Company., 2011, August. Final Report, 2010 Urban Water Management Plan, West Orange. Per Capita used in UWMP based on population only. The SBX7-7 efficiency metric is adjusted to account for both population and employment in the City.
-

Los Alamitos

Gallons Per Day	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
Residential	1,945,202	1,919,043	1,840,262	2,064,287
Non-Residential	1,319,116	1,537,537	1,323,095	1,388,455
Total	3,264,318	3,456,580	3,163,357	3,452,742
AFY	3,657	3,872	3,543	3,868
Change from 2013		215	-113	211

Source:

- Modeling assumes that 70 percent of water use is indoor water use (30% outdoor) and would require wastewater treatment.
- Water Demand of the alternatives adjusted for Service Population

Water and Wastewater

Fugitive Emissions - Process Emissions from WWTP with Nitrification/Denitrification

CH₄ - Microorganisms can biodegrade soluble organic material in wastewater under aerobic (presence of oxygen) or anaerobic (absence of oxygen) conditions. Anaerobic conditions result in the production of CH₄.

N₂O - Treatment of domestic wastewater during both nitrification and denitrification of the nitrogen present leads to the formation of N₂O, usually in the form of urea, ammonia, and proteins. These compounds are converted to nitrate through the aerobic process of nitrification. Denitrification occurs under anoxic conditions (without free oxygen), and involves the biological conversion of nitrate into dinitrogen. N₂O can be an intermediate product of both processes, but more often is associated with denitrification.

Notes: Waste discharge facilities in compliance with the United States Environmental Protection Agency's Clean Water Standards do not typically result in CH₄ emissions. However, poorly-operated aerobic wastewater treatment systems can result in the generation of CH₄. Because wastewater treatment systems are assumed to operate in compliance with state and federal laws pertaining to water quality, CH₄ emissions from centralized aerobic treatments are not included in the inventory.

Fugitive Emissions - Process Emissions from WWTP with Nitrification/Denitrification

LGOP Version 1.1. Equation 10.9.

$$N_2O = \text{Wastewater} \times 10^{-6} \times \text{Nload} \times \text{EF effluent} \times 10^{-3}$$

	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
wastewater (Liters)=	3,156,815,847	3,342,746,017	3,059,179,958	3,339,034,813
10 ⁻⁶ =	1.00E-06	conversion factor; kg/mg		
N Load	40.00	mg/L of wastewater USEPA 2008		
EF effluent	0.01	kg/N ₂ O/kg N		
10 ⁻³ =	1.00E-03	conversion factor: MTons/kg		

	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
	MTons			
N₂O	0.63	0.67	0.61	0.67
CO₂e	196	207	190	207

Source: California Air Resources Board (CARB). 2010, May. Local Government Operations Protocol (LGOP), Version 1.1. The LGOP protocol provides default values for all the terms except the Nitrogen Load, which is assumed to be 40 mg of N per Liter of wastewater effluent based on USEPA methodology outlined in the CalEEMod program manual. South Coast Air Quality Management District (SCAQMD). 2011. California Emissions Estimator Model (CalEEMod), Version 2011.1.1. User's Manual. USEPA. 2008. Page 8-12. USEPA cites Metcalf & Eddy, Inc., 1991, "Wastewater Engineering: Treatment Disposal, and Reuse," 3rd Ed. McGraw Hill Publishing.

Water and Wastewater

Energy for Water Conveyance, Treatment, Distribution, and Wastewater Treatment (Southern California)

Water Supply and Conveyance	Water Treatment kWhr/million gallons	Water Distribution	Total Water	Wastewater Treatment ²
9,727	111	1,272	11,110	909

Source: California Energy Commission (CEC). 2006, December. Refining Estimates of Water-Related Energy Use in California. CEC-500-2006-118. Prepared by Navigant Consulting, Inc. Based on the electricity use for Southern California.

Source 2: Orange County Sanitation District. Wastewater Service Questionnaire Response. February, 14, 2014.

SCE				CO ₂ e
2008	Intensity factor			MTons/MWh
	CO ₂ MTons/MWh ¹	CH ₄ MTons/MWh ²	N ₂ O MTons/MWh ²	0.462
	0.460	0.000013	0.000005	

Source 1: California Public Utilities Commission. 2010, September 13. WCI Final Default Emission Factor Calculator 2008 Data, Version 2. WECC Region.

Source 2: CH₄ and N₂O intensity based on California E-Grid data (CH₄ = 0.029 lbs/MWh; N₂O = 0.011 lbs/MWh) identified in the LGOP

ABAU Carbon Intensity for SCE Energy

	2010	2020	CO ₂ e
Assumed Percent Renewable	19.4%	33%	MTons/MWh
CO ₂ e MTons/Mwh without Renewable	0.573		0.384

Based on the SCE's 2010 RPS.

Source: California Public Utilities Commission (CPUC). California RPS Procurement Summary 2003-20010. <http://www.cpuc.ca.gov/PUC/energy/Renewables/index.htm>

GHG Emissions from Energy Associated with Water/Wastewater

Energy Associated with Water Use	CEQA Baseline MWh/Year	Proposed Project 2035	AB 32 Target Year 2020	No Project Scenario 2035
Water	13,237	14,017	12,828	14,001
Wastewater	758	803	735	802
Total Water/Wastewater	13,995	14,820	13,563	14,803

GHG Emissions from Energy Associated with Water Use/Wastewater Generation	CEQA Baseline MTCO ₂ e/Year	Proposed Project 2035	AB 32 Target Year 2020	No Project Scenario 2035
Water	6,118	6,479	5,929	6,472
Wastewater	350	371	340	371
Total Water/Wastewater	6,469	6,850	6,269	6,842

Total GHGs

GHG Emissions from Water/Wastewater Use	CEQA Baseline MTCO ₂ e/Year	Proposed Project 2035	AB 32 Target Year 2020	No Project Scenario 2035
Water	6,118	6,479	5,929	6,472
Wastewater	546	578	529	578
Total Water/Wastewater	6,665	7,057	6,458	7,049

GHG Emissions from Energy Use - Adjusted for Lower Carbon Intensity in 2020

GHG Emissions from Water/Wastewater Use	Proposed Project 2035	AB 32 Target Year 2020	No Project Scenario 2035
Water	5,386	4,929	5,380
Wastewater	308	282	308
Total Water/Wastewater	5,694	5,211	5,688

Total GHGs ABAU

GHG Emissions from Water/Wastewater Use	CEQA Baseline MTCO ₂ e/Year	Proposed Project 2035	AB 32 Target Year 2020	No Project Scenario 2035
Water	0	5,593	5,118	5,587
Wastewater	0	308	282	308
Total Water/Wastewater	0	5,901	5,401	5,895

Water and Wastewater

General Conversion Factors

	Global Warming Potentials (GWP)
CO ₂	1
CH ₄	21
N ₂ O	310

Source: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2001.

gallons to Liters	3.785
kilowatt hrs to megawatt hrs	0.001
gallons to AF	325851.4290
Tons to MTon	0.9071847

Criteria Air Pollutant and GHG Emissions

Solid Waste

Solid Waste Disposal

Source: CalRecycle Disposal By Facility - City of Los Alamitos (Disposal Reporting System)

Waste Generated Within City Limits

Year	Interstate Tons + Transform Tons	ADC+AIC
2012	16,004	827
2011	17,519	980
2010	19,216	1,025
Average 2012-2010	17,580	944

Average 3-year disposal used to forecast waste disposal in 2020, 2035, and Post-2035

Source: CalRecycle, 2014, Disposal Reporting System, Jurisdiction Reporting by Facility, <http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx>

Landfill Emission Tool (version 1.3) Model Results

	CH ₄ Tons	MTCO ₂ e w/LFG Capture	MTCO ₂ e w/LFG Capture	MTCO ₂ e w/LFG Capture	MTCO ₂ e w/LFG Capture
	2013 Disposal	2013 Disposal	2035 Disposal	2020 Disposal	Current GP Disposal
2012	222	1,059	1,209	1,106	1,208
2013	439	2,089	2,386	2,184	2,383
2014	430	2,048	2,339	2,140	2,336
2015	421	2,007	2,293	2,098	2,290
2016	413	1,968	2,247	2,057	2,245
2017	405	1,929	2,203	2,016	2,200
2018	397	1,890	2,159	1,976	2,157
2019	389	1,853	2,116	1,937	2,114
2020	381	1,816	2,074	1,898	2,072

Waste. Landfill Emissions Tool Version 1.3 and CalRecycle. Biogenic CO₂ emissions are not included.

Notes

LFG capture

Efficiency 0.75 CH₄ GWP 21 Tons to metric Tons 0.9071847

Waste generation based on three year average (2010-2012) waste commitment for the City of Los Alamitos obtained from CalRecycle.

Significant CH₄ production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. Consequently, the highest CH₄ emissions from waste disposal in a given year are reported.

Decomposition based on an average annual rainfall of 12.01 inches per year average (anaerobic decomposition factor (k) of 0.02) (WRCC 2014).

The Landfill Gas Estimator only includes the landfill gas (LFG) capture in the landfill gas heat output and therefore the reduction and emissions from landfill gas capture are calculated. Biogenic CO₂ emissions are not included.

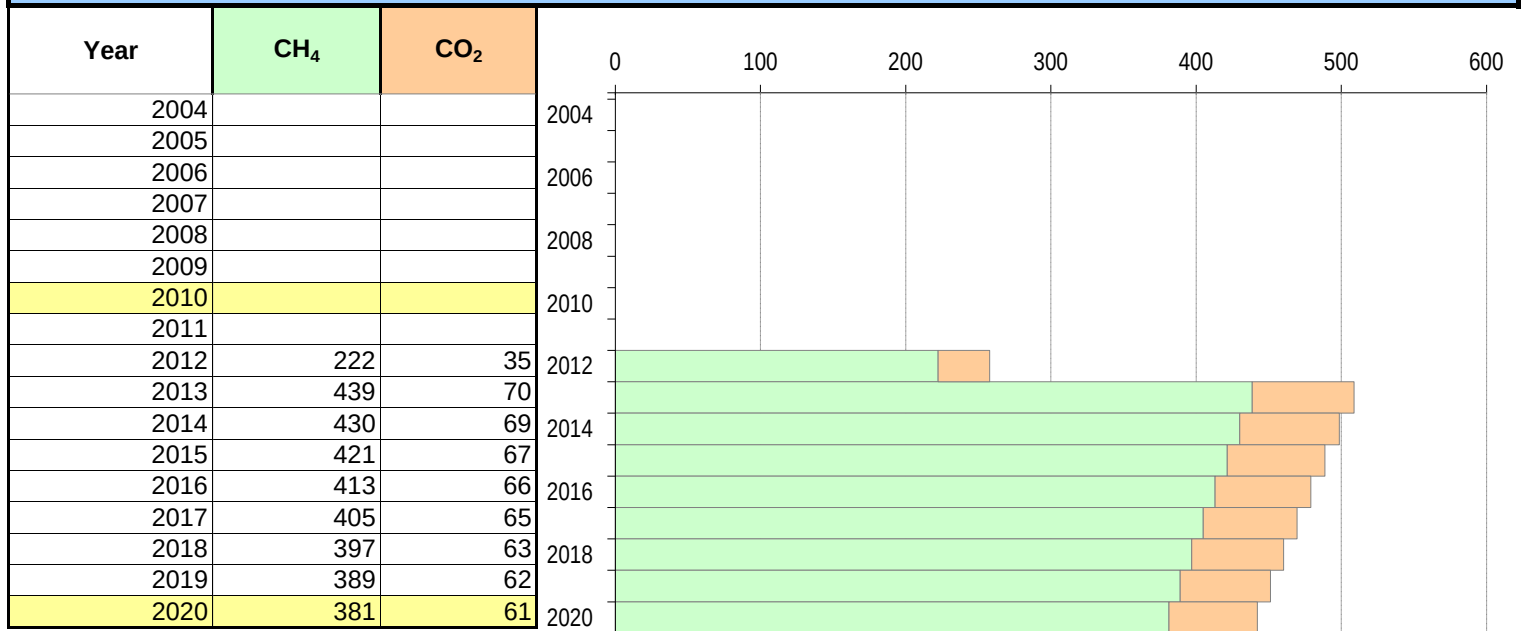
Model Output: Landfill Characteristics

Landfill Name: Bowerman/Oliver
State: CA
City/County: Orange

Year Opened:
If Closed, Year:

k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO₂ equivalent)



Jurisdiction Disposal By Facility

With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC)

Disposal during 2012 for Los Alamitos

Destination Facility	SWISNo	Qtr	Instate Ton	Transform Ton	Export Ton	Total ADC	Total AIC
Azusa Land Reclamation Co. Landfill	19-AA-0013		6				
Chiquita Canyon Sanitary Landfill	19-AA-0052		52				
Commerce Refuse-To-Energy Facility	19-AA-0506						
El Sobrante Landfill	33-AA-0217		10				
Frank R. Bowerman Sanitary LF	30-AB-0360		5,265			8	
Olinda Alpha Sanitary Landfill	30-AB-0035		9,875			809	
Prima Deshecha Sanitary Landfill	30-AB-0019		751			7	
Puente Hills Landfill	19-AA-0053		33			1	
Simi Valley Landfill & Recycling Center	56-AA-0007		13				
Southeast Resource Recovery Facility	19-AK-0083			2			
Yearly Totals:			16,004.19.	2.31.	..	824.95.	..

Notes:

1. Disposal tonnage is subject to change due to revisions. Report is based upon information provided by County disposal reports.

2. AIC information was not collected prior to 2006.

Print Date: 5/20/2014 9:02:20 AM

Jurisdiction Disposal By Facility

With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC)

Disposal during 2011 for Los Alamitos

Destination Facility	SWISNo	Qtr	Instate Ton	Transform Ton	Export Ton	Total ADC	Total AIC
Azusa Land Reclamation Co. Landfill	19-AA-0013		62			81	
Chiquita Canyon Sanitary Landfill	19-AA-0052		19				
Commerce Refuse-To-Energy Facility	19-AA-0506			13			
El Sobrante Landfill	33-AA-0217		45				
Frank R. Bowerman Sanitary LF	30-AB-0360		6,568				
Olinda Alpha Sanitary Landfill	30-AB-0035		10,592			882	
Prima Deshecha Sanitary Landfill	30-AB-0019		174				
Puente Hills Landfill	19-AA-0053		55				
Simi Valley Landfill & Recycling Center	56-AA-0007		4				
Southeast Resource Recovery Facility	19-AK-0083			3			
Sunshine Canyon City/County Landfill	19-AA-2000						
Yearly Totals:			17,519.06.	16.66.	..	963.53.	..

Notes:

1. Disposal tonnage is subject to change due to revisions. Report is based upon information provided by County disposal reports.
2. AIC information was not collected prior to 2006.

Print Date: 5/20/2014 9:03:06 AM

Jurisdiction Disposal By Facility

With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC)

Disposal during 2010 for Los Alamitos

Destination Facility	SWISNo	Qtr	Instate Ton	Transform Ton	Export Ton	Total ADC	Total AIC
Azusa Land Reclamation Co. Landfill	19-AA-0013		71				
Bakersfield Metropolitan (Bena) SLF	15-AA-0273						
Chiquita Canyon Sanitary Landfill	19-AA-0052		12				
Commerce Refuse-To-Energy Facility	19-AA-0506						
Frank R. Bowerman Sanitary LF	30-AB-0360		8,662			2	
Lancaster Landfill and Recycling Center	19-AA-0050		4				
Olinda Alpha Sanitary Landfill	30-AB-0035		10,410			1,018	
Prima Deshecha Sanitary Landfill	30-AB-0019		11			3	
Puente Hills Landfill	19-AA-0053		13			1	
Simi Valley Landfill & Recycling Center	56-AA-0007		27				
Sunshine Canyon City/County Landfill	19-AA-2000		6				
Yearly Totals:			19,215.62.	.14.	..	1,024.94.	..

Notes:

1. Disposal tonnage is subject to change due to revisions. Report is based upon information provided by County disposal reports.

2. AIC information was not collected prior to 2006.

Print Date: 5/20/2014 9:03:49 AM

LONG BEACH WSCMO, CALIFORNIA

Period of Record General Climate Summary - Temperature

Station:(045085) LONG BEACH WSCMO													
From Year=1958 To Year=2012													
	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Day
January	67.1	45.6	56.3	93	31/2003	25	13/1963	62.0	2003	52.4	2001	0.1	0.
February	67.2	47.3	57.2	91	12/1971	33	12/1965	61.8	1995	52.5	2001	0.1	0.
March	68.4	49.7	59.1	98	25/1988	33	08/1964	64.0	1978	53.6	1962	0.3	0.
April	71.7	52.4	62.0	105	05/1989	38	07/1975	67.2	1992	54.5	1967	0.9	0.
May	73.5	56.8	65.2	104	03/2004	40	07/1964	71.2	1997	59.5	1964	0.9	0.
June	76.9	60.3	68.6	109	16/1981	47	02/1967	75.1	1981	63.1	1964	1.4	0.
July	82.2	63.7	73.0	107	01/1985	51	15/1960	77.5	2006	68.2	1965	3.5	0.
August	83.9	64.9	74.4	105	30/1967	55	24/1978	80.1	1998	70.1	2002	5.4	0.
September	82.3	62.9	72.6	111	27/2010	50	30/1965	79.1	1984	67.4	1964	5.5	0.
October	77.9	57.9	67.9	111	15/1961	39	31/1972	72.2	1976	63.9	2002	3.1	0.
November	72.2	50.5	61.3	101	01/1966	34	17/1958	66.4	1977	56.1	1964	0.8	0.
December	67.0	45.3	56.1	92	03/1958	28	22/1990	61.1	1977	52.6	1971	0.0	0.
Annual	74.2	54.8	64.5	111	19611015	25	19630113	66.7	1997	61.2	1964	22.0	0.
Winter	67.1	46.1	56.6	93	20030131	25	19630113	59.3	1980	53.5	1962	0.2	0.
Spring	71.2	53.0	62.1	105	19890405	33	19640308	65.6	1997	58.1	1964	2.1	0.
Summer	81.0	63.0	72.0	109	19810616	47	19670602	75.6	1981	68.0	1964	10.3	0.
Fall	77.5	57.1	67.3	111	19611015	34	19581117	71.4	1997	63.7	1964	9.4	0.

Table updated on Oct 31, 2012

For monthly and annual means, thresholds, and sums:

Months with 5 or more missing days are not considered

Years with 1 or more missing months are not considered

Seasons are climatological not calendar seasons

Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May

Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

LONG BEACH WSCMO, CALIFORNIA (045085)

Period of Record Monthly Climate Summary

Period of Record : 4/ 1/1958 to 3/31/2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	67.1	67.2	68.4	71.7	73.5	76.9	82.2	83.9	82.3	77.9	72.2	67.0	74.2
Average Min. Temperature (F)	45.6	47.3	49.7	52.4	56.8	60.3	63.7	64.9	62.9	57.9	50.5	45.3	54.8
Average Total Precipitation (in.)	2.63	2.90	1.83	0.70	0.20	0.06	0.02	0.06	0.19	0.42	1.21	1.80	12.01
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 100% Min. Temp.: 100% Precipitation: 100% Snowfall: 90% Snow Depth: 90.4%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

Criteria Air Pollutant and GHG Emissions Energy

Electricity Use Report for Los Alamitos - Purchased Electricity

Prepared by Southern California Edison (SCE), Version 5.0. March 27, 2014.

2012-2013 average	Not Available	2012 Annual KWH	2013 Annual KWH	Kwh 2-yr Avg
Residential		30,867,016	30,942,186	30,904,601
Non-Residential		110,370,278	112,047,463	111,208,871
Total		141,237,294	142,989,649	142,113,472

Electricity Use Report for Los Alamitos - Natural Gas

Provided by Southern California Gas Company (SoCalGas), June 9, 2013.

2010-2012 average	2011 Annual Therms	2012 Annual Therms	2013 Annual Therms	Therms 3-yr Avg
Residential	1469982	1,345,809	1400350	1,405,380
Non-Residential	1689622	1,427,601	1433883	1,517,035
Total	3159604	2,773,410	2,834,233	2,922,416

Disclaimer. The 15/15 Rule is intended to protect customer confidentiality by reducing the possibility of identifying customers through the release of usage information. SCE and SoCalGas apply the 15/15 Rule in releasing aggregated customer information. The rule was initially implemented by the California Public Utilities Commission during Direct Access proceedings in 1997 and was adopted through D. 97-10-031. The 15/15 rule requires that any aggregated information provided by the Utilities must be made up of at least 15 customers, and a customer's load must be less than 15% of an assigned category. If the number of customers in the compiled data is below 15, or if a single customer's load is more than 15% of the total data, categories (e.g., rate classes) must be combined before the information is released. The rule further requires that if the 15/15 rule is triggered for a second time after the data has been screened once already using the 15/15 rule, then the customer is dropped from the information provided.

1 Approximately 12 homes east of the Los Alamitos Channel are served by Long Beach Gas and Oil.

Energy

Energy Emission Factors

Natural Gas	Intensity factor				CO ₂ e
	lbs CO ₂ /Therm	MTons CO ₂ /Therm	CH ₄ MTons/Therm	N ₂ O MTons/Therm	MTons/Therm
All Years	11.7	0.00530	5.E-07	1.E-08	0.00532
Source: CO ₂ , CH ₄ and N ₂ O intensity based on Table G.3 of the LGOP for residential and non-residential (CO ₂ : 53.02 kg/Mmbtu; CH ₄ : 0.005 kg/MMBtu; N ₂ O: 0.0001 kg/MMBtu)					

SCE

	Intensity factor			CO ₂ e
	CO ₂ MTons/MWH ¹	CH ₄ MTons/MWH ²	N ₂ O MTons/MWH ²	MTons/MWh
2008	0.460	0.000013	0.000005	0.462
Source 1: California Public Utilities Commission. 2010, September 13. WCI Final Default Emission Factor Calculator 2008 Data, Version 2. WECC Region. Source 2: CH ₄ and N ₂ O intensity based on California E-Grid data (CH ₄ = 0.029 lbs/MWH; N ₂ O = 0.011 lbs/MWH) identified in the LGOP				

ABAU Carbon Intensity for SCE Energy

	2010	2020	CO ₂ e
			MTons/MWh
Assumed Percent Renewable	19.4%	33%	
CO ₂ e MTons/Mwh without Renewable	0.573		0.384

Based on the SCE's 2010 RPS.

Source: California Public Utilities Commission (CPUC). California RPS Procurement Summary 2003-20010. <http://www.cpuc.ca.gov/PUC/energy/Renewables/index.htm>

GHG Emissions from Energy Use

	MTCO ₂ e/Year			
	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
Electricity	2013	2035	2020	Current GP
Residential Electricity	26,486	28,204	27,033	30,358
Commercial + Industrial	52,826	66,410	57,148	59,971
Total	79,312	94,614	84,181	90,329

	MTCO ₂ e/Year			
	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
Natural Gas	2013	2035	2020	Current GP
Residential Electricity	13,852	14,750	14,138	15,876
Commercial + Industrial	8,287	10,418	8,965	9,408
Total	22,139	25,168	23,103	25,285

	MTCO ₂ e/Year			
	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
Summary	2013	2035	2020	Current GP
Residential Total	40,338	42,954	41,171	46,234
Commercial + Industrial Total	61,113	76,829	66,113	69,379
Total	101,451	119,783	107,284	115,613

GHG Emissions from Energy Use - Adjusted for Lower Carbon Intensity in 2020

	MTCO ₂ e/Year			
		Proposed Project	AB 32 Target Year	No Project Scenario
Electricity		2035	2020	Current GP
Residential Electricity		23,445	22,472	25,235
Commercial + Industrial		55,205	47,505	49,852
Total		78,650	69,977	75,087

	MTCO ₂ e/Year			
		Proposed Project	AB 32 Target Year	No Project Scenario
Summary		2035	2020	Current GP
Residential Total		38,195	36,609	41,112
Commercial + Industrial Total		65,623	56,470	59,260
Total		103,818	93,080	100,372

General Conversion Factors

lbs to kg	0.4536
kg to MTons	0.001
Mmbtu to Therm	0.1
kilowatt hrs to megawatt hrs	0.001
lbs to Tons	2000
Tons to MTon	0.9071847

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Global Warming Potentials (GWP)

CO ₂	1
CH ₄	21
N ₂ O	310

Source: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2001.

Therms to kwh	29.30711111

Criteria Air Pollutants from Natural Gas

Rate	lbs/MBTU					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Natural Gas						
Residential	0.01078431	0.09215686	0.03921569	0.00058824	0.00745098	0.00745098
Non-Residential	0.01078431	0.09803922	0.08235294	0.00058824	0.00745098	0.00745098

Source: CalEEMod Version 2011.1.1.

Natural Gas	2013 lbs/day					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Residential	8	66	28	0	5	5
Commercial + Industrial	5	42	35	0	3	3
Total	12	108	63	1	9	9

Natural Gas	2035 Project lbs/day					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Residential	8	70	30	0	6	6
Commercial + Industrial	6	53	44	0	4	4
Total	14	123	74	1	10	10
Increase from Baseline	2	15	11	0	1	1

Natural Gas	Current General Plan Project lbs/day					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Residential	9	75	32	0	6	6
Commercial + Industrial	5	48	40	0	4	4
Total	14	123	72	1	10	10
Increase from Baseline	2	15	9	0	1	1

General Conversion Factors

Mmbtu to Therm	0.1
lbs to Tons	2000
Tons to MTon	0.9071847

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

2008 Default Emission Factor Pivot Table

Default Factor (metric tons CO2/MWh)

0.46039

Transmission Loss Factor

8%

Capacity Factor Threshold for Marginal Plants

60%

NERC Region	WECC
Marginal	Y
Capped Jurisdiction	N

		Primary Fuel			
State or Province	Data	DFO	NG	SUB	Grand Total
AB	Sum of Metric Tons CO2		1,184,359	1,039,187	2,223,546
	Sum of Net Generation, MWh		3,543,530	719,541	4,263,070
	Sum of Emission Factor		0.334	1.444	0.522
AZ	Sum of Metric Tons CO2	1,129	12,250,641		12,251,770
	Sum of Net Generation, MWh	966	30,285,859		30,286,825
	Sum of Emission Factor	1.168	0.405		0.405
CO	Sum of Metric Tons CO2	6,771	5,090,012		5,096,783
	Sum of Net Generation, MWh	7,507	11,961,465		11,968,972
	Sum of Emission Factor	0.902	0.426		0.426
ID	Sum of Metric Tons CO2	110	639,648		639,758
	Sum of Net Generation, MWh	120	1,599,718		1,599,838
	Sum of Emission Factor	0.916	0.400		0.400
MT	Sum of Metric Tons CO2		23,881		23,881
	Sum of Net Generation, MWh		49,108		49,108
	Sum of Emission Factor		0.486		0.486
NV	Sum of Metric Tons CO2		7,810,593		7,810,593
	Sum of Net Generation, MWh		18,529,250		18,529,250
	Sum of Emission Factor		0.422		0.422
OR	Sum of Metric Tons CO2		92,327		92,327
	Sum of Net Generation, MWh		157,303		157,303
	Sum of Emission Factor		0.587		0.587
SD	Sum of Metric Tons CO2		17,514	171,626	189,140
	Sum of Net Generation, MWh		27,283	120,570	147,853
	Sum of Emission Factor		0.642	1.423	1.279
TX	Sum of Metric Tons CO2	57	1,105,192		1,105,249
	Sum of Net Generation, MWh	92	1,942,152		1,942,244
	Sum of Emission Factor	0.623	0.569		0.569
UT	Sum of Metric Tons CO2	18,193	2,965,018		2,983,211
	Sum of Net Generation, MWh	25,764	7,093,902		7,119,666
	Sum of Emission Factor	0.706	0.418		0.419
WA	Sum of Metric Tons CO2	283	2,641,860		2,642,143
	Sum of Net Generation, MWh	361	6,736,012		6,736,373
	Sum of Emission Factor	0.784	0.392		0.392
WY	Sum of Metric Tons CO2	352	42,840		43,191
	Sum of Net Generation, MWh	468	71,299		71,767
	Sum of Emission Factor	0.751	0.601		0.602
Total Sum of Metric Tons CO2		26,895	33,863,884	1,210,813	35,101,591
Total Sum of Net Generation, MWh		35,278	81,996,881	840,111	82,872,270
Total Sum of Emission Factor		0.762	0.413	1.441	0.424

		2003	2004	2005	2006	2007	2008	2009	2010
PG&E	Target (GWh)	7,022	7,733	8,454	9,178	9,941	10,732	11,547	15,554
	RPS-Eligible Procurement (GWh)	8,686	8,660	8,707	9,118	9,044	9,817	11,493	13,760
	RPS GWh as % of Bundled Sales	11.5%	12.2%	12.1%	12.6%	11.8%	12.4%	14.1%	17.7%
	Cumulative Deficit/Surplus (GWh)	1,664	2,592	2,844	2,785	1,888	973	919	-876
		2003	2004	2005	2006	2007	2008	2009	2010
SCE	Target (GWh)	11,254	11,960	12,690	13,440	14,228	15,023	15,833	15,028
	RPS-Eligible Procurement (GWh)	12,421	13,182	12,822	12,486	12,261	12,574	13,622	14,548
	RPS GWh as % of Bundled Sales	16.6%	18.7%	17.6%	16.6%	15.5%	15.8%	16.8%	19.4%
	Cumulative Deficit/Surplus (GWh)	1,167	2,390	2,522	1,569	-399	-2,848	-5,058	-5,538
		2003	2004	2005	2006	2007	2008	2009	2010
SDG&E	Target (GWh)	296	447	605	765	933	1,104	1,278	3,257
	RPS-Eligible Procurement (GWh)	550	678	825	900	881	1,047	1,784	1,940
	RPS GWh as % of Bundled Sales	3.7%	4.5%	5.2%	5.6%	5.2%	6.1%	10.2%	11.9%
	Cumulative Deficit/Surplus (GWh)	254	485	706	841	788	732	1,239	-78
		2003	2004	2005	2006	2007	2008	2009	2010
TOTAL	Target (GWh)	18,572	20,139	21,748	23,382	25,102	26,859	28,658	33,839
	RPS-Eligible Procurement (GWh)	21,657	22,520	22,354	22,504	22,185	23,438	26,900	30,249
	RPS GWh as % of Bundled Sales	13.8%	14.0%	13.7%	13.1%	12.6%	13.0%	15.4%	17.9%
	Cumulative Deficit/Surplus (GWh)	3,085	5,466	6,072	5,194	2,277	-1,143	-2,901	-6,492

15.4%

Criteria Air Pollutant and GHG Emissions On-Road Transportation

LOS ALAMITOS— TRANSPORTATION SECTOR

VMT	City of Cupertino						
	Population	Employment	Service Population (SP)	Daily VMT*	Rate (VMT/ SP)	Adjusted Daily VMT	Annual VMT
2013 Full I-X Trip	21,618	14,660	36,278	1,181,503	32.57	1,181,500	409,980,500
Baseline 2035 Full I-X Trip	21,618	14,660	36,278	1,181,503	32.57	1,181,500	409,980,500
2020 Full I-X Trip	22,059	15,860	37,918	1,343,392	35.43	1,343,390	466,156,330
2035 Full I-X Trip	23,003	18,430	41,433	1,467,916	35.43	1,467,920	509,368,240
Current GP Full I-X Trip	24,744	16,643	41,387	1,466,286	35.43	1,466,290	508,802,630
OCTAM 2010	24,679	17,357	42,036	1,369,030	32.57	1,369,030	475,053,410
OCTAM 2035	26,655	21,208	47,863	1,695,722	35.43	1,695,720	588,414,840

Source: 2010 and 2035 VMT is based on the per capita data provided by Fehr and Peers using the OCTA model. The VMT in the OCTAM model include TAZ's that are only partially in the City of Los Alamitos planning boundary. As such, the modeling incorporates additional OCTA-projected growth in those TAZs for the land uses outside of the Los Alamitos planning area. To correct for this, VMT has been adjusted to account for only City and SOI population and employment based on the VMT/SP obtained from the OCTAM model.

Adjusted Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

CRITERIA AIR POLLUTANTS

	lbs/day					
	ROG	NOx	CO	SOx	PM10	PM2.5
2013 Full I-X Trip	153	1,163	4,544	12	145	67
Baseline 2035 Full I-X Trip	53	381	1,738	12	139	60
2035 Full I-X Trip	66	473	2,160	15	173	75
Current GP Full I-X Trip	66	473	2,157	15	173	75

	Tons/year					
	ROG	NOx	CO	SOx	PM10	PM2.5
2013 Full I-X Trip	27	202	788	2	25	12
Baseline 2035 Full I-X Trip	9	66	302	2	24	10
2035 Full I-X Trip	12	82	375	3	30	13
Current GP Full I-X Trip	12	82	374	3	30	13

Daily emissions multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Source: EMFAC2011-PL. Based on running exhaust, breakwear, and tirewear emission rates.

GHG EMISSIONS

	MTons/year - Business as Usual (BAU)			MTons/year - Adjusted			Percent Reduction from BAU	Percent Reduction from 2013
	N ₂ O	CO ₂	CO ₂ e	N ₂ O	CO ₂	CO ₂ e		
2013 Full I-X Trip	6	161,479	163,283	6	152,332	154,136	-6%	NA
2020 Full I-X Trip	4	186,261	187,401	4	142,030	143,170	-24%	-7%
2035 Full I-X Trip	2	210,246	210,980	2	146,845	147,579	-30%	-4%
Current GP Full I-X Trip	2	210,012	210,746	2	146,682	147,416	-30%	-4%

Source: EMFAC2011-PL. Based on running exhaust emission rates. 2040 emissions rates are based on 2035 emission rates (the latest year for which rates are available).

Note: MTons = metric tons; CO₂e = carbon dioxide-equivalent. Adjusted BAU Includes Pavley and the Low Carbon Fuel Standard (LCFS).

State and Federal Fuel Efficiency Improvements + Low Carbon Fuel Standard (LCFS)

Assembly Bill 1493 (AB 1493) Pavley I Fuel Efficiency Standards. In addition, the State of California has adopted the Low Carbon Fuel Standard (LCFS). In January 2012, the California Air Resources Board (CARB) adopted the Advanced Clean Car Program which implements the Pavley II Fuel Efficiency Standards and projects that by 2025, one in every seven new cars sold will be electric vehicles (PHEV or PEV). However, the Pavley II Advanced Clean Car Program is not included in the transportation emissions reductions and therefore reductions are

On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

Year 2013

Based on EMFAC2011-PL

Emission year	Daily							
2013	1,181,500		lbs/day					
	Percent of VMT	Adjust % VMT	ROG	NOx	CO	Sox	PM10	PM2.5
All Other Buses	0.04%	0.04%	2.80E-01	8.32E+00	1.14E+00	1.14E-02	3.73E-01	2.66E-01
LDA	51.24%	51.24%	4.30E+01	1.58E+02	1.74E+03	4.66E+00	6.19E+01	2.57E+01
LDT1	5.75%	5.75%	1.13E+01	4.18E+01	4.26E+02	6.06E-01	7.23E+00	3.14E+00
LDT2	19.11%	19.11%	1.66E+01	1.01E+02	8.49E+02	2.37E+00	2.30E+01	9.51E+00
LHD1	4.05%	4.05%	9.79E+00	1.31E+02	1.28E+02	6.01E-01	6.78E+00	3.21E+00
LHD2	0.59%	0.59%	1.59E+00	2.96E+01	1.56E+01	8.38E-02	1.37E+00	6.92E-01
MCY	0.46%	0.46%	2.54E+01	1.44E+01	2.38E+02	2.31E-02	5.49E-01	2.21E-01
MDV	15.50%	15.50%	2.13E+01	1.24E+02	9.48E+02	2.44E+00	1.87E+01	7.79E+00
MH	0.22%	0.22%	9.70E-01	1.22E+01	2.87E+01	3.93E-02	5.34E-01	3.04E-01
Motor Coach	0.04%	0.04%	3.15E-01	1.08E+01	1.57E+00	1.76E-02	3.85E-01	2.77E-01
OBUS	0.06%	0.06%	2.07E-01	2.05E+00	4.33E+00	9.05E-03	7.04E-02	2.85E-02
PTO	0.02%	0.02%	4.59E-01	8.36E+00	2.15E+00	1.30E-02	2.57E-01	2.37E-01
SBUS	0.05%	0.05%	4.95E-01	1.01E+01	7.21E+00	1.49E-02	9.16E-01	4.67E-01
T6 Ag	0.00%	0.00%	1.80E-02	3.71E-01	7.17E-02	5.00E-04	2.11E-02	1.61E-02
T6 CAIRP heavy	0.00%	0.00%	3.24E-03	1.12E-01	1.40E-02	2.32E-04	5.40E-03	3.40E-03
T6 CAIRP small	0.00%	0.00%	1.07E-02	2.68E-01	4.59E-02	7.62E-04	1.78E-02	1.13E-02
T6 instate construction heavy	0.04%	0.04%	2.80E-01	8.82E+00	1.23E+00	1.25E-02	3.76E-01	2.62E-01
T6 instate construction small	0.12%	0.12%	6.17E-01	1.63E+01	2.70E+00	3.32E-02	9.17E-01	6.20E-01
T6 instate heavy	0.25%	0.25%	1.53E+00	4.77E+01	6.71E+00	7.04E-02	2.08E+00	1.44E+00
T6 instate small	0.69%	0.69%	3.41E+00	8.84E+01	1.49E+01	1.92E-01	5.15E+00	3.44E+00
T6 OOS heavy	0.00%	0.00%	1.86E-03	6.42E-02	8.02E-03	1.33E-04	3.09E-03	1.95E-03
T6 OOS small	0.00%	0.00%	6.13E-03	1.53E-01	2.63E-02	4.37E-04	1.02E-02	6.46E-03
T6 Public	0.03%	0.03%	3.27E-02	5.58E+00	1.38E-01	7.87E-03	1.26E-01	6.39E-02
T6 utility	0.01%	0.01%	1.40E-02	7.07E-01	6.20E-02	1.40E-03	3.23E-02	2.02E-02
T6TS	0.27%	0.27%	1.57E+00	1.22E+01	3.27E+01	4.18E-02	3.28E-01	1.36E-01
T7 Ag	0.00%	0.00%	3.06E-02	8.03E-01	1.77E-01	9.64E-04	3.08E-02	2.52E-02
T7 CAIRP	0.19%	0.19%	1.98E+00	4.02E+01	9.43E+00	8.07E-02	1.71E+00	1.30E+00
T7 CAIRP construction	0.02%	0.02%	1.66E-01	3.39E+00	7.89E-01	6.65E-03	1.43E-01	1.09E-01
T7 NNOOS	0.21%	0.21%	1.45E+00	2.53E+01	6.75E+00	9.02E-02	1.28E+00	8.77E-01
T7 NOOS	0.07%	0.07%	6.75E-01	1.47E+01	3.20E+00	2.94E-02	5.88E-01	4.43E-01
T7 other port	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POAK	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POLA	0.23%	0.23%	1.78E+00	4.71E+01	8.25E+00	9.85E-02	1.03E+00	6.24E-01
T7 Public	0.01%	0.01%	2.40E-02	4.79E+00	1.36E-01	5.58E-03	5.21E-02	2.98E-02
T7 Single	0.10%	0.10%	8.94E-01	3.00E+01	4.97E+00	4.34E-02	9.02E-01	6.86E-01
T7 single construction	0.04%	0.04%	3.59E-01	1.21E+01	2.00E+00	1.72E-02	3.62E-01	2.76E-01
T7 SWCV	0.03%	0.03%	9.12E-02	1.19E+01	5.06E-01	1.51E-02	1.56E-01	9.42E-02
T7 tractor	0.27%	0.27%	3.41E+00	7.81E+01	1.81E+01	1.14E-01	3.01E+00	2.39E+00
T7 tractor construction	0.03%	0.03%	4.04E-01	9.17E+00	2.18E+00	1.28E-02	3.51E-01	2.81E-01
T7 utility	0.00%	0.00%	7.61E-03	4.02E-01	4.04E-02	6.38E-04	1.04E-02	7.47E-03
T7IS	0.03%	0.03%	5.21E-01	3.77E+00	1.79E+01	4.69E-03	3.40E-02	1.38E-02
UBUS	0.21%	0.21%	2.53E+00	4.91E+01	2.10E+01	1.08E-01	4.17E+00	2.08E+00
TOTAL	100%	100%	153	1,163	4,544	12	145	67

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

Year 2013 Mtons/Year

Based on EMFAC2011

	Emission year	Annual VMT	GWP (2nd AR)		GWP	MTons	MTons	
	2013	409,980,500	310	1			CO2w/Pavley + LCF	CO2e w/ Pavley + LCFS
	Percent of VMT	Adjust % VMT	NOx	N ₂ O	CO ₂	CO ₂ e		
All Other Buses	0.04%	0.04%	1.309322916	0	185.6832604	199	183.8264278	197
LDA	51.24%	51.24%	24.88841272	1	62194.45349	62,440	57054.07114	57,299
LDT1	5.75%	5.75%	6.571786633	0	8041.965919	8,107	7473.577186	7,538
LDT2	19.11%	19.11%	15.84792226	1	31661.84561	31,818	29823.04116	29,979
LHD1	4.05%	4.05%	20.67931205	1	8078.579929	8,282	7997.79413	8,202
LHD2	0.59%	0.59%	4.657095063	0	1203.650483	1,250	1191.613978	1,238
MCY	0.46%	0.46%	2.266280749	0	245.1523517	267	242.7008282	265
MDV	15.50%	15.50%	19.45217702	1	32618.05616	32,810	31288.23758	31,480
MH	0.22%	0.22%	1.920662345	0	537.2158984	556	531.8437394	551
Motor Coach	0.04%	0.04%	1.707595917	0	287.5235456	304	284.6483101	301
OBUS	0.06%	0.06%	0.322005628	0	115.6448065	119	114.4883585	118
PTO	0.02%	0.02%	1.315617866	0	215.1925808	228	213.040655	226
SBUS	0.05%	0.05%	1.592916572	0	198.6735168	214	196.6867817	212
T6 Ag	0.00%	0.00%	0.058414151	0	8.102278452	9	8.021255667	9
T6 CAIRP heavy	0.00%	0.00%	0.017615877	0	3.759838716	4	3.722240329	4
T6 CAIRP small	0.00%	0.00%	0.042108657	0	12.36160406	13	12.23798802	13
T6 instate construction heavy	0.04%	0.04%	1.387707643	0	202.3359492	216	200.3125897	214
T6 instate construction small	0.12%	0.12%	2.559153773	0	537.9522197	563	532.5726975	558
T6 instate heavy	0.25%	0.25%	7.500177684	0	1142.635384	1,217	1131.20903	1,205
T6 instate small	0.69%	0.69%	13.91571031	0	3111.523644	3,249	3080.408408	3,218
T6 OOS heavy	0.00%	0.00%	0.010099549	0	2.155593929	2	2.134037989	2
T6 OOS small	0.00%	0.00%	0.024141771	0	7.087165345	7	7.016293692	7
T6 Public	0.03%	0.03%	0.877998894	0	127.636289	136	126.3599261	135
T6 utility	0.01%	0.01%	0.111235297	0	22.76545518	24	22.53780063	24
T6TS	0.27%	0.27%	1.923708934	0	531.2504168	550	525.9379127	545
T7 Ag	0.00%	0.00%	0.126398784	0	15.75757721	17	15.60000144	17
T7 CAIRP	0.19%	0.19%	6.333457254	0	1318.85589	1,381	1305.667331	1,368
T7 CAIRP construction	0.02%	0.02%	0.533527492	0	108.6793097	114	107.5925166	113
T7 NNOOS	0.21%	0.21%	3.975679539	0	1473.699613	1,513	1458.962617	1,498
T7 NOOS	0.07%	0.07%	2.306484194	0	480.6958308	503	475.8888724	499
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.23%	0.23%	7.41643017	0	1609.020755	1,682	1592.930548	1,666
T7 Public	0.01%	0.01%	0.753261543	0	91.14001578	99	90.22861562	98
T7 Single	0.10%	0.10%	4.721878367	0	708.6209418	755	701.5347324	748
T7 single construction	0.04%	0.04%	1.908485255	0	280.7707067	300	277.9629996	297
T7 SWCV	0.03%	0.03%	1.867738177	0	247.4934073	266	245.0184732	263
T7 tractor	0.27%	0.27%	12.29895079	0	1862.472942	1,984	1843.848212	1,965
T7 tractor construction	0.03%	0.03%	1.443348985	0	209.6389714	224	207.5425817	222
T7 utility	0.00%	0.00%	0.06329249	0	10.4227005	11	10.3184735	11
T7IS	0.03%	0.03%	0.593310458	0	55.84296848	62	55.28453879	61
UBUS	0.21%	0.21%	7.730947679	0	1712.226875	1,788	1695.104606	1,771
TOTAL	100%	100%	183	6	161,479	163,283	152,332	154,136

N₂O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N₂O with NO_x (N₂O = 0.0167 + 0.0318 x NO_x)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

																				CO2(Pavley I + LCFS)_RUNEX		VMT from EMFAC-SG		%VMT	
Region_Ty	Region	CalYr	Season	Veh	ROG_RUNEX	Nox_RUNEX	CO_RUNEX	Sox_RUNEX	PM10_RUN EX	PM10_PMTW	PM10_PMBW	PM10_Total	EX	PM2.5_RUN	PM2.5_PMTW	PM2.5_PMBW	PMW_5_Total	CO2_RUNEX	LCSF)_RUNEX	EMFAC-SG	%VMT				
County	Orange	2013	Annual	All Other Buses	2.64E-01	7.84E+00	1.07E+00	1.08E-02	2.09E-01	1.20E-02	1.30E-01	3.51E-01	1.92E-01	3.00E-03	5.59E-02	2.51E-01	1.11E+03	1.10E+03	31,189	0%					
County	Orange	2013	Annual	LDA	3.22E-02	1.18E-01	1.30E+00	3.49E-03	1.64E-03	8.00E-03	3.67E-02	4.64E-02	1.50E-03	2.00E-03	1.57E-02	1.92E-02	2.96E+02	2.72E+02	39,232,799	51%					
County	Orange	2013	Annual	LDT1	7.54E-02	2.79E-01	2.85E+00	4.05E-03	3.53E-03	8.00E-03	3.67E-02	4.83E-02	3.23E-03	2.00E-03	1.57E-02	2.10E-02	3.41E+02	3.17E+02	4,401,259	6%					
County	Orange	2013	Annual	LDT2	3.33E-02	2.02E-01	1.71E+00	4.76E-03	1.49E-03	8.00E-03	3.67E-02	4.62E-02	1.36E-03	2.00E-03	1.57E-02	1.91E-02	4.04E+02	3.81E+02	14,630,225	19%					
County	Orange	2013	Annual	LHD1	9.28E-02	1.25E+00	1.21E+00	5.70E-03	9.01E-03	8.97E-03	4.63E-02	6.43E-02	8.29E-03	2.24E-03	1.99E-02	3.04E-02	4.87E+02	4.82E+02	3,100,804	4%					
County	Orange	2013	Annual	LHD2	1.04E-01	1.93E+00	1.02E+00	5.48E-03	1.74E-02	9.96E-03	6.24E-02	8.97E-02	1.60E-02	2.49E-03	2.67E-02	4.52E-02	5.00E+02	4.95E+02	450,035	1%					
County	Orange	2013	Annual	MCY	2.10E+00	1.19E+00	1.96E+01	1.91E-03	6.74E-04	8.00E-03	3.67E-02	4.54E-02	5.36E-04	2.00E-03	1.57E-02	1.83E-02	1.29E+02	1.27E+02	355,527	0%					
County	Orange	2013	Annual	MDV	5.27E-02	3.06E-01	2.35E+00	6.05E-03	1.67E-03	8.00E-03	3.67E-02	4.64E-02	1.54E-03	2.00E-03	1.57E-02	1.93E-02	5.13E+02	4.92E+02	11,868,955	16%					
County	Orange	2013	Annual	MH	1.68E-01	2.12E+00	4.97E+00	6.81E-03	2.98E-02	8.74E-03	5.41E-02	9.27E-02	2.74E-02	2.19E-03	2.32E-02	5.28E-02	5.92E+02	5.86E+02	169,474	0%					
County	Orange	2013	Annual	Motor Coach	2.94E-01	1.01E+01	1.47E+00	1.64E-02	2.17E-01	1.20E-02	1.30E-01	3.59E-01	2.00E-01	3.00E-03	5.59E-02	2.59E-01	1.71E+03	1.69E+03	31,486	0%					
County	Orange	2013	Annual	OBUS	1.34E-01	1.32E+00	2.80E+00	5.85E-03	7.62E-04	8.00E-03	3.67E-02	4.55E-02	6.94E-04	2.00E-03	1.57E-02	1.84E-02	4.75E+02	4.70E+02	45,448	0%					
County	Orange	2013	Annual	PTO	7.21E-01	1.31E+01	3.37E+00	2.05E-02	4.05E-01			4.05E-01	3.72E-01			3.72E-01	2.15E+03	2.13E+03	18,702	0%					
County	Orange	2013	Annual	SBUS	3.66E-01	7.49E+00	5.34E+00	1.11E-02	1.17E-01	1.09E-02	5.50E-01	6.78E-01	1.08E-01	2.72E-03	2.36E-01	3.46E-01	9.35E+02	9.25E+02	39,699	0%					
County	Orange	2013	Annual	T6 Ag	3.89E-01	8.02E+00	1.55E+00	1.08E-02	3.13E-01	1.20E-02	1.30E-01	4.56E-01	2.88E-01	3.00E-03	5.59E-02	3.47E-01	1.11E+03	1.10E+03	1,361	0%					
County	Orange	2013	Annual	T6 CAIRP heavy	1.49E-01	5.16E+00	6.45E-01	1.07E-02	1.07E-01	1.20E-02	1.30E-01	2.49E-01	9.80E-02	3.00E-03	5.59E-02	1.57E-01	1.10E+03	1.09E+03	638	0%					
County	Orange	2013	Annual	T6 CAIRP small	1.50E-01	3.74E+00	6.41E-01	1.07E-02	1.07E-01	1.20E-02	1.30E-01	2.50E-01	9.87E-02	3.00E-03	5.59E-02	1.58E-01	1.10E+03	1.09E+03	2,102	0%					
County	Orange	2013	Annual	T6 instate construction heavy	2.40E-01	7.57E+00	1.06E+00	1.07E-02	1.80E-01	1.20E-02	1.30E-01	3.23E-01	1.66E-01	3.00E-03	5.59E-02	2.25E-01	1.10E+03	1.09E+03	34,233	0%					
County	Orange	2013	Annual	T6 instate construction small	1.99E-01	5.23E+00	8.69E-01	1.07E-02	1.53E-01	1.20E-02	1.30E-01	2.95E-01	1.41E-01	3.00E-03	5.59E-02	1.99E-01	1.10E+03	1.09E+03	91,365	0%					
County	Orange	2013	Annual	T6 instate heavy	2.32E-01	7.24E+00	1.02E+00	1.07E-02	1.73E-01	1.20E-02	1.30E-01	3.16E-01	1.59E-01	3.00E-03	5.59E-02	2.18E-01	1.10E+03	1.09E+03	193,491	0%					
County	Orange	2013	Annual	T6 instate small	1.89E-01	4.91E+00	8.27E-01	1.07E-02	1.44E-01	1.20E-02	1.30E-01	2.86E-01	1.32E-01	3.00E-03	5.59E-02	1.91E-01	1.10E+03	1.09E+03	528,976	1%					
County	Orange	2013	Annual	T6 OOS heavy	1.49E-01	5.16E+00	6.45E-01	1.07E-02	1.07E-01	1.20E-02	1.30E-01	2.49E-01	9.80E-02	3.00E-03	5.59E-02	1.57E-01	1.10E+03	1.09E+03	365	0%					
County	Orange	2013	Annual	T6 OOS small	1.50E-01	3.74E+00	6.41E-01	1.07E-02	1.07E-01	1.20E-02	1.30E-01	2.50E-01	9.87E-02	3.00E-03	5.59E-02	1.58E-01	1.10E+03	1.09E+03	1,205	0%					
County	Orange	2013	Annual	T6 Public	4.52E-02	7.71E+00	1.90E-01	1.09E-02	3.20E-02	1.20E-02	1.30E-01	1.74E-01	2.95E-02	3.00E-03	5.59E-02	8.83E-02	1.12E+03	1.11E+03	21,279	0%					
County	Orange	2013	Annual	T6 utility	1.06E-01	5.37E+00	4.72E-01	1.07E-02	1.03E-01	1.20E-02	1.30E-01	2.45E-01	9.48E-02	3.00E-03	5.59E-02	1.54E-01	1.10E+03	1.09E+03	3,867	0%					
County	Orange	2013	Annual	T6TS	2.22E-01	1.72E+00	4.61E+00	5.89E-03	1.49E-03	8.00E-03	3.67E-02	4.62E-02	1.36E-03	2.00E-03	1.57E-02	1.91E-02	4.75E+02	4.70E+02	208,777	0%					
County	Orange	2013	Annual	T7 Ag	5.25E-01	1.38E+01	3.04E+00	1.66E-02	4.32E-01	3.60E-02	6.17E-02	5.29E-01	3.97E-01	9.00E-03	2.65E-02	4.33E-01	1.72E+03	1.70E+03	1,712	0%					
County	Orange	2013	Annual	T7 CAIRP	4.02E-01	8.17E+00	1.91E+00	1.64E-02	2.49E-01	3.60E-02	6.17E-02	3.47E-01	2.29E-01	9.00E-03	2.65E-02	2.65E-01	1.70E+03	1.68E+03	144,759	0%					
County	Orange	2013	Annual	T7 CAIRP construction	4.09E-01	8.36E+00	1.95E+00	1.64E-02	2.55E-01	3.60E-02	6.17E-02	3.53E-01	2.34E-01	9.00E-03	2.65E-02	2.70E-01	1.70E+03	1.69E+03	11,924	0%					
County	Orange	2013	Annual	T7 NNOOS	2.62E-01	4.56E+00	1.22E+00	1.63E-02	1.34E-01	3.60E-02	6.17E-02	2.31E-01	1.23E-01	9.00E-03	2.65E-02	1.58E-01	1.69E+03	1.67E+03	162,848	0%					
County	Orange	2013	Annual	T7 NOOS	3.76E-01	8.17E+00	1.78E+00	1.64E-02	2.30E-01	3.60E-02	6.17E-02	3.28E-01	2.12E-01	9.00E-03	2.65E-02	2.47E-01	1.70E+03	1.69E+03	52,717	0%					
County	Orange	2013	Annual	T7 other port								0.00E+00				0.00E+00			0	0%					
County	Orange	2013	Annual	T7 POAK								0.00E+00				0.00E+00			0	0%					
County	Orange	2013	Annual	T7 POLA	3.01E-01	7.97E+00	1.39E+00	1.66E-02	7.62E-02	3.60E-02	6.17E-02	1.74E-01	7.01E-02	9.00E-03	2.65E-02	1.06E-01	1.73E+03	1.71E+03	173,854	0%					
County	Orange	2013	Annual	T7 Public	7.21E-02	1.44E+01	4.08E-01	1.68E-02	5.89E-02	3.60E-02	6.17E-02	1.57E-01	5.41E-02	9.00E-03	2.65E-02	8.96E-02	1.74E+03	1.72E+03	9,771	0%					
County	Orange	2013	Annual	T7 Single	3.37E-01	1.13E+01	1.88E+00	1.64E-02	2.43E-01	3.60E-02	6.17E-02	3.41E-01	2.23E-01	9.00E-03	2.65E-02	2.59E-01	1.70E+03	1.68E+03	77,872	0%					
County	Orange	2013	Annual	T7 single construction	3.42E-01	1.16E+01	1.90E+00	1.64E-02	2.47E-01	3.60E-02	6.17E-02	3.45E-01	2.28E-01	9.00E-03	2.65E-02	2.63E-01	1.70E+03	1.68E+03	30,845	0%					
County	Orange	2013	Annual	T7 SWCV	1.01E-01	1.32E+01	5.62E-01	1.68E-02	7.51E-02	3.60E-02	6.17E-02	1.73E-01	6.91E-02	9.00E-03	2.65E-02	1.05E-01	1.75E+03	1.73E+03	26,475	0%					
County	Orange	2013	Annual	T7 tractor	4.90E-01	1.12E+01	2.61E+00	1.64E-02	3.35E-01	3.60E-02	6.17E-02	4.33E-01	3.08E-01	9.00E-03	2.65E-02	3.44E-01	1.70E+03	1.69E+03	204,246	0%					
County	Orange	2013	Annual	T7 tractor construction	5.17E-01	1.17E+01	2.78E+00	1.64E-02	3.51E-01	3.60E-02	6.17E-02	4.49E-01	3.23E-01	9.00E-03	2.65E-02	3.59E-01	1.70E+03	1.69E+03	22,997	0%					
County	Orange	2013	Annual	T7 utility	1.95E-01	1.03E+01	1.04E+00	1.64E-02	1.70E-01	3.60E-02	6.17E-02	2.67E-01	1.56E-01	9.00E-03	2.65E-02	1.91E-01	1.70E+03	1.68E+03	1,146	0%					
County	Orange	2013	Annual	T7IS	6.97E-01	5.05E+00	2.39E+01	6.28E-03	8.26E-04	8.00E-03	3.67E-02	4.56E-02	7.07E-04	2.00E-03	1.57E-02	1.85E-02	4.75E+02	4.70E+02	21,946	0%					
County	Orange	2013	Annual	UBUS	4.56E-01	8.87E+00	3.79E+00	1.96E-02	1.11E-01	8.00E-03	6.34E-01	7.53E-01	1.02E-01	2.00E-03	2.72E-01	3.76E-01	1.96E+03	1.94E+03	162,849	0%					
																				76,569,224	100%				

Region_Ty	Region	CalYr	Season	Veh		ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_PMTW	PM10_PMBW	PM10_RUNEX	PM10_Total	PM2_5_PMT	PM2_5_PMB	PM2_5_RUNE				
pe														W	W	X	PM2_5_Total	CO2_RUNEX	CO2[Pavley I + LCFS]_RUNEX	
County	Orange	2013	Annual	All Other Buses		5.83E-04	1.73E-02	2.36E-03	2.38E-05	4.61E-04	2.65E-05	2.87E-04	7.74E-04	4.24E-04	6.61E-06	1.23E-04	5.54E-04	2.45E+00	2.43E+00	
County	Orange	2013	Annual	LDA		7.09E-05	2.61E-04	2.88E-03	7.69E-06	3.62E-06	1.76E-05	8.10E-05	1.02E-04	3.30E-06	4.41E-06	3.47E-05	4.24E-05	6.53E-01	5.99E-01	
County	Orange	2013	Annual	LDT1		1.66E-04	6.15E-04	6.28E-03	8.92E-06	7.78E-06	1.76E-05	8.10E-05	1.06E-04	7.12E-06	4.41E-06	3.47E-05	4.62E-05	7.52E-01	6.99E-01	
County	Orange	2013	Annual	LDT2		7.34E-05	4.46E-04	3.76E-03	1.05E-05	3.28E-06	1.76E-05	8.10E-05	1.02E-04	3.01E-06	4.41E-06	3.47E-05	4.21E-05	8.91E-01	8.39E-01	
County	Orange	2013	Annual	LHD1		2.05E-04	2.75E-03	2.67E-03	1.26E-05	1.99E-05	1.98E-05	1.02E-04	1.42E-04	1.83E-05	4.94E-06	4.38E-05	6.70E-05	1.07E+00	1.06E+00	
County	Orange	2013	Annual	LHD2		2.29E-04	4.26E-03	2.25E-03	1.21E-05	3.83E-05	2.19E-05	1.38E-04	1.98E-04	3.52E-05	5.49E-06	5.89E-05	9.96E-05	1.10E+00	1.09E+00	
County	Orange	2013	Annual	MCY		4.63E-03	2.62E-03	4.33E-02	4.21E-06	1.49E-06	1.76E-05	8.10E-05	1.00E-04	1.18E-06	4.41E-06	3.47E-05	4.03E-05	2.84E-01	2.81E-01	
County	Orange	2013	Annual	MDV		1.16E-04	6.75E-04	5.18E-03	1.33E-05	3.68E-06	1.76E-05	8.10E-05	1.02E-04	3.39E-06	4.41E-06	3.47E-05	4.25E-05	1.13E+00	1.09E+00	
County	Orange	2013	Annual	MH		3.71E-04	4.67E-03	1.10E-02	1.50E-05	6.58E-05	1.93E-05	1.19E-04	2.04E-04	6.04E-05	4.82E-06	5.11E-05	1.16E-04	1.31E+00	1.29E+00	
County	Orange	2013	Annual	Motor Coach		6.47E-04	2.23E-02	3.24E-03	3.62E-05	4.79E-04	2.65E-05	2.87E-04	7.92E-04	4.40E-04	6.61E-06	1.23E-04	5.70E-04	3.76E+00	3.72E+00	
County	Orange	2013	Annual	OBUS		2.95E-04	2.92E-03	6.17E-03	1.29E-05	1.68E-06	1.76E-05	8.10E-05	1.00E-04	1.53E-06	4.41E-06	3.47E-05	4.07E-05	1.05E+00	1.04E+00	
County	Orange	2013	Annual	PTO		1.59E-03	2.90E-02	7.44E-03	4.52E-05	8.92E-04	0.00E+00	0.00E+00	8.92E-04	8.21E-04	0.00E+00	0.00E+00	8.21E-04	4.74E+00	4.69E+00	
County	Orange	2013	Annual	SBUS		8.08E-04	1.65E-02	1.18E-02	2.44E-05	2.58E-04	2.40E-05	1.21E-03	1.49E-03	2.37E-04	6.01E-06	5.20E-04	7.63E-04	2.06E+00	2.04E+00	
County	Orange	2013	Annual	T6 Ag		8.58E-04	1.77E-02	3.41E-03	2.38E-05	6.91E-04	2.65E-05	2.87E-04	1.00E-03	6.35E-04	6.61E-06	1.23E-04	7.65E-04	2.45E+00	2.43E+00	
County	Orange	2013	Annual	T6 CAIRP heavy		3.29E-04	1.14E-02	1.42E-03	2.36E-05	2.35E-04	2.65E-05	2.87E-04	5.49E-04	2.16E-04	6.61E-06	1.23E-04	3.46E-04	2.43E+00	2.40E+00	
County	Orange	2013	Annual	T6 CAIRP small		3.30E-04	8.25E-03	1.41E-03	2.35E-05	2.36E-04	2.65E-05	2.87E-04	5.50E-04	2.18E-04	6.61E-06	1.23E-04	3.47E-04	2.42E+00	2.40E+00	
County	Orange	2013	Annual	T6 instate construction heavy		5.30E-04	1.67E-02	2.33E-03	2.36E-05	3.98E-04	2.65E-05	2.87E-04	7.11E-04	3.66E-04	6.61E-06	1.23E-04	4.96E-04	2.43E+00	2.41E+00	
County	Orange	2013	Annual	T6 instate construction small		4.38E-04	1.15E-02	1.92E-03	2.35E-05	3.37E-04	2.65E-05	2.87E-04	6.51E-04	3.10E-04	6.61E-06	1.23E-04	4.40E-04	2.42E+00	2.40E+00	
County	Orange	2013	Annual	T6 instate heavy		5.12E-04	1.60E-02	2.25E-03	2.36E-05	3.82E-04	2.65E-05	2.87E-04	6.96E-04	3.51E-04	6.61E-06	1.23E-04	4.81E-04	2.43E+00	2.41E+00	
County	Orange	2013	Annual	T6 instate small		4.17E-04	1.08E-02	1.82E-03	2.35E-05	3.17E-04	2.65E-05	2.87E-04	6.31E-04	2.92E-04	6.61E-06	1.23E-04	4.21E-04	2.42E+00	2.40E+00	
County	Orange	2013	Annual	T6 OOS heavy		3.29E-04	1.14E-02	1.42E-03	2.36E-05	2.35E-04	2.65E-05	2.87E-04	5.49E-04	2.16E-04	6.61E-06	1.23E-04	3.46E-04	2.43E+00	2.40E+00	
County	Orange	2013	Annual	T6 OOS small		3.30E-04	8.25E-03	1.41E-03	2.35E-05	2.36E-04	2.65E-05	2.87E-04	5.50E-04	2.18E-04	6.61E-06	1.23E-04	3.47E-04	2.42E+00	2.40E+00	
County	Orange	2013	Annual	T6 Public		9.97E-05	1.70E-02	4.20E-04	2.40E-05	7.06E-05	2.65E-05	2.87E-04	3.84E-04	6.50E-05	6.61E-06	1.23E-04	1.95E-04	2.47E+00	2.45E+00	
County	Orange	2013	Annual	T6 utility		2.34E-04	1.18E-02	1.04E-03	2.35E-05	2.27E-04	2.65E-05	2.87E-04	5.41E-04	2.09E-04	6.61E-06	1.23E-04	3.39E-04	2.42E+00	2.40E+00	
County	Orange	2013	Annual	T6TS		4.89E-04	3.79E-03	1.02E-02	1.30E-05	3.30E-06	1.76E-05	8.10E-05	1.02E-04	2.99E-06	4.41E-06	3.47E-05	4.21E-05	1.05E+00	1.04E+00	
County	Orange	2013	Annual	T7 Ag		1.16E-03	3.04E-02	6.70E-03	3.65E-05	9.51E-04	7.94E-05	1.36E-04	1.17E-03	8.75E-04	1.98E-05	5.83E-05	9.54E-04	3.79E+00	3.75E+00	
County	Orange	2013	Annual	T7 CAIRP		8.87E-04	1.80E-02	4.22E-03	3.61E-05	5.50E-04	7.94E-05	1.36E-04	7.65E-04	5.06E-04	1.98E-05	5.83E-05	5.84E-04	3.75E+00	3.71E+00	
County	Orange	2013	Annual	T7 CAIRP construction		9.01E-04	1.84E-02	4.29E-03	3.61E-05	5.62E-04	7.94E-05	1.36E-04	7.77E-04	5.17E-04	1.98E-05	5.83E-05	5.95E-04	3.75E+00	3.72E+00	
County	Orange	2013	Annual	T7 NNOOS		5.77E-04	1.01E-02	2.68E-03	3.59E-05	2.95E-04	7.94E-05	1.36E-04	5.10E-04	2.71E-04	1.98E-05	5.83E-05	3.49E-04	3.73E+00	3.69E+00	
County	Orange	2013	Annual	T7 NOOS		8.30E-04	1.80E-02	3.93E-03	3.62E-05	5.08E-04	7.94E-05	1.36E-04	7.23E-04	4.67E-04	1.98E-05	5.83E-05	5.45E-04	3.75E+00	3.72E+00	
County	Orange	2013	Annual	T7 other port		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
County	Orange	2013	Annual	T7 POAK		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
County	Orange	2013	Annual	T7 POLA		6.63E-04	1.76E-02	3.07E-03	3.67E-05	1.68E-04	7.94E-05	1.36E-04	3.83E-04	1.54E-04	1.98E-05	5.83E-05	2.33E-04	3.81E+00	3.77E+00	
County	Orange	2013	Annual	T7 Public		1.59E-04	3.17E-02	9.00E-04	3.70E-05	1.30E-04	7.94E-05	1.36E-04	3.45E-04	1.19E-04	1.98E-05	5.83E-05	1.98E-04	3.84E+00	3.80E+00	
County	Orange	2013	Annual	T7 Single		7.44E-04	2.50E-02	4.14E-03	3.61E-05	5.35E-04	7.94E-05	1.36E-04	7.51E-04	4.92E-04	1.98E-05	5.83E-05	5.71E-04	3.75E+00	3.71E+00	
County	Orange	2013	Annual	T7 single construction		7.54E-04	2.55E-02	4.20E-03	3.61E-05	5.45E-04	7.94E-05	1.36E-04	7.61E-04	5.02E-04	1.98E-05	5.83E-05	5.80E-04	3.75E+00	3.71E+00	
County	Orange	2013	Annual	T7 SWCV		2.23E-04	2.90E-02	1.24E-03	3.71E-05	1.66E-04	7.94E-05	1.36E-04	3.81E-04	1.52E-04	1.98E-05	5.83E-05	2.31E-04	3.85E+00	3.81E+00	
County	Orange	2013	Annual	T7 tractor		1.08E-03	2.48E-02	5.75E-03	3.62E-05	7.39E-04	7.94E-05	1.36E-04	9.54E-04	6.80E-04	1.98E-05	5.83E-05	7.58E-04	3.75E+00	3.72E+00	
County	Orange	2013	Annual	T7 tractor construction		1.14E-03	2.58E-02	6.14E-03	3.62E-05	7.75E-04	7.94E-05	1.36E-04	9.90E-04	7.13E-04	1.98E-05	5.83E-05	7.91E-04	3.75E+00	3.72E+00	
County	Orange	2013	Annual	T7 utility		4.30E-04	2.27E-02	2.28E-03	3.61E-05	3.74E-04	7.94E-05	1.36E-04	5.89E-04	3.44E-04	1.98E-05	5.83E-05	4.22E-04	3.74E+00	3.71E+00	
County	Orange	2013	Annual	T7IS		1.54E-03	1.11E-02	5.28E-02	1.38E-05	1.82E-06	1.76E-05	8.10E-05	1.00E-04	1.56E-06	4.41E-06	3.47E-05	4.07E-05	1.05E+00	1.04E+00	
County	Orange	2013	Annual	UBUS		1.01E-03	1.95E-02	8.36E-03	4.32E-05	2.45E-04	1.76E-05	1.40E-03	1.66E-03	2.25E-04	4.41E-06	5.99E-04	8.28E-04	4.33E+00	4.29E+00	

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Year 2020 MTons/Year

Based on EMFAC2011

	Emission year	Annual VMT	GWP		GWP	MTons	MTons	
	2020	466,156,330	310	1			CO2w/Pavley + LCF	CO2e w/ Pavley + LCFS
	Percent of VMT	Adjust % VMT	NOx	N ₂ O	CO ₂	CO ₂ e		
All Other Buses	0.05%	0.05%	5.93E-01	0	2.32E+02	238	2.09E+02	215
LDA	50.89%	50.89%	1.49E+01	0	7.04E+04	70,536	4.85E+04	48,642
LDT1	5.64%	5.64%	4.07E+00	0	9.03E+03	9,066	6.58E+03	6,616
LDT2	19.32%	19.32%	8.76E+00	0	3.64E+04	36,458	2.74E+04	27,499
LHD1	4.19%	4.19%	1.48E+01	0	9.50E+03	9,646	8.55E+03	8,696
LHD2	0.59%	0.59%	3.20E+00	0	1.37E+03	1,405	1.24E+03	1,268
MCY	0.47%	0.47%	2.49E+00	0	3.04E+02	328	2.73E+02	298
MDV	15.08%	15.08%	1.32E+01	0	3.62E+04	36,368	2.87E+04	28,864
MH	0.23%	0.23%	1.47E+00	0	6.25E+02	640	5.63E+02	577
Motor Coach	0.05%	0.05%	7.23E-01	0	3.67E+02	374	3.30E+02	337
OBUS	0.05%	0.05%	1.62E-01	0	1.17E+02	119	1.06E+02	107
PTO	0.03%	0.03%	8.32E-01	0	2.97E+02	305	2.67E+02	275
SBUS	0.05%	0.05%	1.42E+00	0	2.16E+02	230	1.94E+02	208
T6 Ag	0.00%	0.00%	2.44E-02	0	8.85E+00	9	7.96E+00	8
T6 CAIRP heavy	0.00%	0.00%	7.62E-03	0	4.58E+00	5	4.12E+00	4
T6 CAIRP small	0.00%	0.00%	1.45E-02	0	1.56E+01	16	1.40E+01	14
T6 instate construction heavy	0.06%	0.06%	8.92E-01	0	3.09E+02	318	2.78E+02	287
T6 instate construction small	0.16%	0.16%	1.05E+00	0	8.30E+02	840	7.47E+02	757
T6 instate heavy	0.27%	0.27%	3.55E+00	0	1.36E+03	1,395	1.22E+03	1,259
T6 instate small	0.76%	0.76%	4.56E+00	0	3.83E+03	3,871	3.44E+03	3,489
T6 OOS heavy	0.00%	0.00%	4.37E-03	0	2.62E+00	3	2.36E+00	2
T6 OOS small	0.00%	0.00%	8.31E-03	0	8.94E+00	9	8.04E+00	8
T6 Public	0.03%	0.03%	6.00E-01	0	1.64E+02	170	1.47E+02	153
T6 utility	0.01%	0.01%	4.33E-02	0	2.87E+01	29	2.58E+01	26
T6TS	0.30%	0.30%	8.88E-01	0	6.58E+02	667	5.92E+02	601
T7 Ag	0.00%	0.00%	5.53E-02	0	1.71E+01	18	1.54E+01	16
T7 CAIRP	0.23%	0.23%	2.62E+00	0	1.80E+03	1,830	1.62E+03	1,649
T7 CAIRP construction	0.02%	0.02%	2.45E-01	0	1.66E+02	169	1.50E+02	152
T7 NNOOS	0.26%	0.26%	1.99E+00	0	2.03E+03	2,046	1.82E+03	1,843
T7 NOOS	0.08%	0.08%	9.54E-01	0	6.57E+02	666	5.91E+02	601
T7 other port	0.00%	0.00%	0.00E+00	0	0.00E+00	0	0.00E+00	0
T7 POAK	0.00%	0.00%	0.00E+00	0	0.00E+00	0	0.00E+00	0
T7 POLA	0.32%	0.32%	1.09E+01	0	2.59E+03	2,702	2.33E+03	2,443
T7 Public	0.01%	0.01%	6.29E-01	0	1.17E+02	123	1.05E+02	111
T7 Single	0.12%	0.12%	2.53E+00	0	9.79E+02	1,004	8.81E+02	906
T7 single construction	0.06%	0.06%	1.16E+00	0	4.34E+02	446	3.91E+02	402
T7 SWCV	0.04%	0.04%	1.54E+00	0	3.15E+02	330	2.83E+02	298
T7 tractor	0.33%	0.33%	6.10E+00	0	2.56E+03	2,619	2.30E+03	2,363
T7 tractor construction	0.04%	0.04%	8.44E-01	0	3.23E+02	331	2.91E+02	299
T7 utility	0.00%	0.00%	2.99E-02	0	1.31E+01	13	1.18E+01	12
T7IS	0.03%	0.03%	5.64E-01	0	6.45E+01	70	5.81E+01	64
UBUS	0.22%	0.22%	7.12E+00	0	1.92E+03	1,992	1.73E+03	1,799
TOTAL	100%	100%	116	4	186,261	187,401	142,030	143,170

N₂O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N₂O with NO_x (N₂O = 0.0167 + 0.0318 x NO_x)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

					PM2.5_RUN										CO2(Pavley I +		VMT from			
Region_Ty	Region	CalYr	Season	Veh	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUN EX	PM10_PMTW	PM10_PMBW	PM10_Total	EX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2_RUNEX	LCFS)_RUNEX	EMFAC-SG	%VMT
County	Orange	2020	Annual	All Other Buses	8.81E-02	2.79E+00	3.66E-01	1.06E-02	3.98E-02	1.20E-02	1.30E-01	1.82E-01	3.66E-02	3.00E-03	5.59E-02	9.55E-02	1.09E+03	9.83E+02	36,900	0%
County	Orange	2020	Annual	LDA	1.04E-02	6.29E-02	6.92E-01	3.50E-03	1.37E-03	8.00E-03	3.67E-02	4.61E-02	1.27E-03	2.00E-03	1.57E-02	1.90E-02	2.97E+02	2.04E+02	41,139,994	51%
County	Orange	2020	Annual	LDT1	2.95E-02	1.55E-01	1.60E+00	4.06E-03	2.37E-03	8.00E-03	3.67E-02	4.71E-02	2.20E-03	2.00E-03	1.57E-02	1.99E-02	3.43E+02	2.50E+02	4,561,398	6%
County	Orange	2020	Annual	LDT2	1.36E-02	9.73E-02	9.34E-01	4.76E-03	1.33E-03	8.00E-03	3.67E-02	4.61E-02	1.24E-03	2.00E-03	1.57E-02	1.90E-02	4.04E+02	3.04E+02	15,620,106	19%
County	Orange	2020	Annual	LHD1	5.40E-02	7.58E-01	6.51E-01	5.70E-03	6.48E-03	8.95E-03	4.62E-02	6.16E-02	5.97E-03	2.24E-03	1.98E-02	2.80E-02	4.86E+02	4.37E+02	3,390,445	4%
County	Orange	2020	Annual	LHD2	6.15E-02	1.16E+00	4.89E-01	5.47E-03	1.25E-02	9.92E-03	6.19E-02	8.43E-02	1.15E-02	2.48E-03	2.65E-02	4.05E-02	4.97E+02	4.48E+02	478,737	1%
County	Orange	2020	Annual	MCY	1.91E+00	1.13E+00	1.61E+01	1.94E-03	2.54E-04	8.00E-03	3.67E-02	4.50E-02	2.13E-04	2.00E-03	1.57E-02	1.80E-02	1.37E+02	1.23E+02	383,754	0%
County	Orange	2020	Annual	MDV	3.11E-02	1.88E-01	1.61E+00	6.08E-03	1.50E-03	8.00E-03	3.67E-02	4.63E-02	1.39E-03	2.00E-03	1.57E-02	1.91E-02	5.15E+02	4.09E+02	12,194,196	15%
County	Orange	2020	Annual	MH	5.44E-02	1.39E+00	1.17E+00	6.73E-03	2.12E-02	8.72E-03	5.35E-02	8.34E-02	1.95E-02	2.18E-03	2.29E-02	4.46E-02	5.89E+02	5.30E+02	184,105	0%
County	Orange	2020	Annual	Motor Coach	1.78E-01	3.32E+00	8.25E-01	1.62E-02	5.90E-02	1.20E-02	1.30E-01	2.01E-01	5.43E-02	3.00E-03	5.59E-02	1.13E-01	1.68E+03	1.52E+03	37,769	0%
County	Orange	2020	Annual	OBUS	6.06E-02	6.55E-01	1.23E+00	5.84E-03	3.43E-04	8.00E-03	3.67E-02	4.51E-02	3.18E-04	2.00E-03	1.57E-02	1.81E-02	4.75E+02	4.28E+02	42,862	0%
County	Orange	2020	Annual	PTO	2.45E-01	6.00E+00	7.73E-01	2.04E-02	5.04E-02			5.04E-02	4.64E-02			4.64E-02	2.14E+03	1.93E+03	24,035	0%
County	Orange	2020	Annual	SBUS	1.73E-01	6.10E+00	2.37E+00	1.09E-02	3.00E-02	1.08E-02	5.39E-01	5.80E-01	2.76E-02	2.71E-03	2.31E-01	2.61E-01	9.28E+02	8.35E+02	40,297	0%
County	Orange	2020	Annual	T6 Ag	1.60E-01	3.01E+00	6.61E-01	1.06E-02	9.50E-02	1.20E-02	1.30E-01	2.37E-01	8.74E-02	3.00E-03	5.59E-02	1.46E-01	1.09E+03	9.84E+02	1,404	0%
County	Orange	2020	Annual	T6 CAIRP heavy	7.72E-02	1.81E+00	3.19E-01	1.06E-02	3.25E-02	1.20E-02	1.30E-01	1.75E-01	2.99E-02	3.00E-03	5.59E-02	8.88E-02	1.09E+03	9.80E+02	729	0%
County	Orange	2020	Annual	T6 CAIRP small	8.02E-02	1.01E+00	3.31E-01	1.05E-02	3.44E-02	1.20E-02	1.30E-01	1.77E-01	3.16E-02	3.00E-03	5.59E-02	9.05E-02	1.08E+03	9.76E+02	2,493	0%
County	Orange	2020	Annual	T6 instate construction heavy	8.13E-02	3.16E+00	3.39E-01	1.07E-02	3.82E-02	1.20E-02	1.30E-01	1.81E-01	3.52E-02	3.00E-03	5.59E-02	9.40E-02	1.10E+03	9.86E+02	48,888	0%
County	Orange	2020	Annual	T6 instate construction small	9.44E-02	1.38E+00	3.89E-01	1.06E-02	4.65E-02	1.20E-02	1.30E-01	1.89E-01	4.28E-02	3.00E-03	5.59E-02	1.02E-01	1.09E+03	9.78E+02	132,420	0%
County	Orange	2020	Annual	T6 instate heavy	8.12E-02	2.86E+00	3.37E-01	1.06E-02	3.73E-02	1.20E-02	1.30E-01	1.80E-01	3.43E-02	3.00E-03	5.59E-02	9.32E-02	1.09E+03	9.85E+02	215,571	0%
County	Orange	2020	Annual	T6 instate small	9.14E-02	1.29E+00	3.77E-01	1.06E-02	4.39E-02	1.20E-02	1.30E-01	1.86E-01	4.04E-02	3.00E-03	5.59E-02	9.92E-02	1.09E+03	9.77E+02	611,084	1%
County	Orange	2020	Annual	T6 OOS heavy	7.72E-02	1.81E+00	3.19E-01	1.06E-02	3.25E-02	1.20E-02	1.30E-01	1.75E-01	2.99E-02	3.00E-03	5.59E-02	8.88E-02	1.09E+03	9.80E+02	418	0%
County	Orange	2020	Annual	T6 OOS small	8.02E-02	1.01E+00	3.31E-01	1.05E-02	3.44E-02	1.20E-02	1.30E-01	1.77E-01	3.16E-02	3.00E-03	5.59E-02	9.05E-02	1.08E+03	9.76E+02	1,429	0%
County	Orange	2020	Annual	T6 Public	5.62E-02	4.04E+00	2.35E-01	1.07E-02	2.80E-02	1.20E-02	1.30E-01	1.70E-01	2.58E-02	3.00E-03	5.59E-02	8.46E-02	1.10E+03	9.92E+02	25,771	0%
County	Orange	2020	Annual	T6 utility	5.99E-02	1.65E+00	2.47E-01	1.06E-02	2.40E-02	1.20E-02	1.30E-01	1.66E-01	2.21E-02	3.00E-03	5.59E-02	8.09E-02	1.09E+03	9.82E+02	4,556	0%
County	Orange	2020	Annual	T6TS	7.12E-02	6.41E-01	1.43E+00	5.84E-03	4.78E-04	8.00E-03	3.67E-02	4.52E-02	4.42E-04	2.00E-03	1.57E-02	1.82E-02	4.75E+02	4.28E+02	240,160	0%
County	Orange	2020	Annual	T7 Ag	2.65E-01	5.47E+00	1.33E+00	1.63E-02	1.32E-01	3.60E-02	6.17E-02	2.29E-01	1.21E-01	9.00E-03	2.65E-02	1.57E-01	1.69E+03	1.52E+03	1,755	0%
County	Orange	2020	Annual	T7 CAIRP	1.96E-01	2.43E+00	9.12E-01	1.62E-02	6.34E-02	3.60E-02	6.17E-02	1.61E-01	5.83E-02	9.00E-03	2.65E-02	9.38E-02	1.68E+03	1.51E+03	186,531	0%
County	Orange	2020	Annual	T7 CAIRP construction	1.96E-01	2.47E+00	9.12E-01	1.62E-02	6.34E-02	3.60E-02	6.17E-02	1.61E-01	5.83E-02	9.00E-03	2.65E-02	9.38E-02	1.68E+03	1.51E+03	17,212	0%
County	Orange	2020	Annual	T7 NNOOS	1.67E-01	1.64E+00	7.76E-01	1.62E-02	5.13E-02	3.60E-02	6.17E-02	1.49E-01	4.72E-02	9.00E-03	2.65E-02	8.27E-02	1.67E+03	1.51E+03	209,840	0%
County	Orange	2020	Annual	T7 NOOS	1.96E-01	2.44E+00	9.12E-01	1.62E-02	6.33E-02	3.60E-02	6.17E-02	1.61E-01	5.83E-02	9.00E-03	2.65E-02	9.37E-02	1.68E+03	1.51E+03	67,930	0%
County	Orange	2020	Annual	T7 other port								0.00E+00				0.00E+00			0	0%
County	Orange	2020	Annual	T7 POAK								0.00E+00				0.00E+00			0	0%
County	Orange	2020	Annual	T7 POLA	4.37E-01	7.26E+00	2.02E+00	1.66E-02	9.80E-02	3.60E-02	6.17E-02	1.96E-01	9.02E-02	9.00E-03	2.65E-02	1.26E-01	1.73E+03	1.55E+03	260,698	0%
County	Orange	2020	Annual	T7 Public	9.07E-02	9.27E+00	4.57E-01	1.66E-02	5.17E-02	3.60E-02	6.17E-02	1.49E-01	4.76E-02	9.00E-03	2.65E-02	8.31E-02	1.72E+03	1.55E+03	11,761	0%
County	Orange	2020	Annual	T7 Single	1.41E-01	4.37E+00	6.55E-01	1.63E-02	4.87E-02	3.60E-02	6.17E-02	1.46E-01	4.48E-02	9.00E-03	2.65E-02	8.03E-02	1.69E+03	1.52E+03	100,343	0%
County	Orange	2020	Annual	T7 single construction	1.41E-01	4.53E+00	6.55E-01	1.63E-02	4.91E-02	3.60E-02	6.17E-02	1.47E-01	4.52E-02	9.00E-03	2.65E-02	8.06E-02	1.69E+03	1.52E+03	44,526	0%
County	Orange	2020	Annual	T7 SWCV	1.19E-01	8.38E+00	6.03E-01	1.65E-02	5.87E-02	3.60E-02	6.17E-02	1.56E-01	5.40E-02	9.00E-03	2.65E-02	8.95E-02	1.71E+03	1.54E+03	31,867	0%
County	Orange	2020	Annual	T7 tractor	1.94E-01	4.02E+00	9.01E-01	1.63E-02	6.58E-02	3.60E-02	6.17E-02	1.64E-01	6.05E-02	9.00E-03	2.65E-02	9.60E-02	1.69E+03	1.52E+03	263,185	0%
County	Orange	2020	Annual	T7 tractor construction	1.92E-01	4.41E+00	8.95E-01	1.63E-02	6.63E-02	3.60E-02	6.17E-02	1.64E-01	6.10E-02	9.00E-03	2.65E-02	9.65E-02	1.69E+03	1.52E+03	33,197	0%
County	Orange	2020	Annual	T7 utility	1.07E-01	3.87E+00	4.98E-01	1.63E-02	3.65E-02	3.60E-02	6.17E-02	1.34E-01	3.36E-02	9.00E-03	2.65E-02	6.90E-02	1.69E+03	1.52E+03	1,343	0%
County	Orange	2020	Annual	T7IS	3.94E-01	4.15E+00	2.10E+01	6.23E-03	2.43E-04	8.00E-03	3.67E-02	4.50E-02	2.25E-04	2.00E-03	1.57E-02	1.80E-02	4.75E+02	4.28E+02	23,553	0%
County	Orange	2020	Annual	UBUS	3.65E-01	7.07E+00	2.58E+00	1.90E-02	9.18E-02	8.00E-03	6.34E-01	7.33E-01	8.44E-02	2.00E-03	2.72E-01	3.58E-01	1.91E+03	1.72E+03	174,562	0%
80,847,824																				100%

80,847,824

100%

Region_Ty pe	Region	CalYr	Season	Veh	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_PMTW	PM10_PMBW	PM10_RUNEX	PM10_Total	PM2_5_PMT W	PM2_5_PMB W	PM2_5_RUNE X	PM2_5_Total	CO2_RUNEX	CO2[Pavley I + LCFS]_RUNEX
County	Orange	2020	Annual	All Other Buses	1.94E-04	6.15E-03	8.08E-04	2.34E-05	8.78E-05	2.65E-05	2.87E-04	4.02E-04	8.08E-05	6.61E-06	1.23E-04	2.11E-04	2.41E+00	2.17E+00
County	Orange	2020	Annual	LDA	2.29E-05	1.39E-04	1.53E-03	7.71E-06	3.01E-06	1.76E-05	8.10E-05	1.02E-04	2.79E-06	4.41E-06	3.47E-05	4.19E-05	6.54E-01	4.51E-01
County	Orange	2020	Annual	LDT1	6.49E-05	3.41E-04	3.53E-03	8.95E-06	5.22E-06	1.76E-05	8.10E-05	1.04E-04	4.84E-06	4.41E-06	3.47E-05	4.40E-05	7.57E-01	5.51E-01
County	Orange	2020	Annual	LDT2	3.01E-05	2.15E-04	2.06E-03	1.05E-05	2.94E-06	1.76E-05	8.10E-05	1.02E-04	2.72E-06	4.41E-06	3.47E-05	4.19E-05	8.90E-01	6.71E-01
County	Orange	2020	Annual	LHD1	1.19E-04	1.67E-03	1.44E-03	1.26E-05	1.43E-05	1.97E-05	1.02E-04	1.36E-04	1.32E-05	4.93E-06	4.37E-05	6.18E-05	1.07E+00	9.64E-01
County	Orange	2020	Annual	LHD2	1.36E-04	2.56E-03	1.08E-03	1.21E-05	2.75E-05	2.19E-05	1.36E-04	1.86E-04	2.53E-05	5.47E-06	5.85E-05	8.93E-05	1.10E+00	9.87E-01
County	Orange	2020	Annual	MCY	4.21E-03	2.48E-03	3.56E-02	4.27E-06	5.60E-07	1.76E-05	8.10E-05	9.92E-05	4.70E-07	4.41E-06	3.47E-05	3.96E-05	3.03E-01	2.72E-01
County	Orange	2020	Annual	MDV	6.86E-05	4.15E-04	3.54E-03	1.34E-05	3.32E-06	1.76E-05	8.10E-05	1.02E-04	3.07E-06	4.41E-06	3.47E-05	4.22E-05	1.14E+00	9.01E-01
County	Orange	2020	Annual	MH	1.20E-04	3.06E-03	2.58E-03	1.48E-05	4.68E-05	1.92E-05	1.18E-04	1.84E-04	4.30E-05	4.80E-06	5.05E-05	9.84E-05	1.30E+00	1.17E+00
County	Orange	2020	Annual	Motor Coach	3.92E-04	7.32E-03	1.82E-03	3.58E-05	1.30E-04	2.65E-05	2.87E-04	4.44E-04	1.20E-04	6.61E-06	1.23E-04	2.49E-04	3.71E+00	3.34E+00
County	Orange	2020	Annual	OBUS	1.34E-04	1.44E-03	2.71E-03	1.29E-05	7.56E-07	1.76E-05	8.10E-05	9.94E-05	7.01E-07	4.41E-06	3.47E-05	3.98E-05	1.05E+00	9.43E-01
County	Orange	2020	Annual	PTO	5.41E-04	1.32E-02	1.70E-03	4.50E-05	1.11E-04	0.00E+00	0.00E+00	1.11E-04	1.02E-04	0.00E+00	0.00E+00	1.02E-04	4.72E+00	4.25E+00
County	Orange	2020	Annual	SBUS	3.81E-04	1.35E-02	5.22E-03	2.41E-05	6.62E-05	2.39E-05	1.19E-03	1.28E-03	6.09E-05	5.97E-06	5.09E-04	5.76E-04	2.05E+00	1.84E+00
County	Orange	2020	Annual	T6 Ag	3.53E-04	6.64E-03	1.46E-03	2.34E-05	2.10E-04	2.65E-05	2.87E-04	5.23E-04	1.93E-04	6.61E-06	1.23E-04	3.23E-04	2.41E+00	2.17E+00
County	Orange	2020	Annual	T6 CAIRP heavy	1.70E-04	4.00E-03	7.04E-04	2.33E-05	7.16E-05	2.65E-05	2.87E-04	3.85E-04	6.59E-05	6.61E-06	1.23E-04	1.96E-04	2.40E+00	2.16E+00
County	Orange	2020	Annual	T6 CAIRP small	1.77E-04	2.22E-03	7.29E-04	2.32E-05	7.58E-05	2.65E-05	2.87E-04	3.90E-04	6.98E-05	6.61E-06	1.23E-04	2.00E-04	2.39E+00	2.15E+00
County	Orange	2020	Annual	T6 instate construction heavy	1.79E-04	6.98E-03	7.46E-04	2.35E-05	8.42E-05	2.65E-05	2.87E-04	3.98E-04	7.75E-05	6.61E-06	1.23E-04	2.07E-04	2.42E+00	2.17E+00
County	Orange	2020	Annual	T6 instate construction small	2.08E-04	3.03E-03	8.58E-04	2.33E-05	1.03E-04	2.65E-05	2.87E-04	4.16E-04	9.44E-05	6.61E-06	1.23E-04	2.24E-04	2.40E+00	2.16E+00
County	Orange	2020	Annual	T6 instate heavy	1.79E-04	6.30E-03	7.44E-04	2.35E-05	8.23E-05	2.65E-05	2.87E-04	3.96E-04	7.57E-05	6.61E-06	1.23E-04	2.05E-04	2.41E+00	2.17E+00
County	Orange	2020	Annual	T6 instate small	2.01E-04	2.85E-03	8.30E-04	2.33E-05	9.68E-05	2.65E-05	2.87E-04	4.11E-04	8.90E-05	6.61E-06	1.23E-04	2.19E-04	2.39E+00	2.15E+00
County	Orange	2020	Annual	T6 OOS heavy	1.70E-04	4.00E-03	7.04E-04	2.33E-05	7.16E-05	2.65E-05	2.87E-04	3.85E-04	6.59E-05	6.61E-06	1.23E-04	1.96E-04	2.40E+00	2.16E+00
County	Orange	2020	Annual	T6 OOS small	1.77E-04	2.22E-03	7.29E-04	2.32E-05	7.58E-05	2.65E-05	2.87E-04	3.90E-04	6.98E-05	6.61E-06	1.23E-04	2.00E-04	2.39E+00	2.15E+00
County	Orange	2020	Annual	T6 Public	1.24E-04	8.91E-03	5.18E-04	2.36E-05	6.18E-05	2.65E-05	2.87E-04	3.76E-04	5.68E-05	6.61E-06	1.23E-04	1.87E-04	2.43E+00	2.19E+00
County	Orange	2020	Annual	T6 utility	1.32E-04	3.63E-03	5.45E-04	2.34E-05	5.29E-05	2.65E-05	2.87E-04	3.67E-04	4.87E-05	6.61E-06	1.23E-04	1.78E-04	2.41E+00	2.17E+00
County	Orange	2020	Annual	T6TS	1.57E-04	1.41E-03	3.15E-03	1.29E-05	1.05E-06	1.76E-05	8.10E-05	9.97E-05	9.75E-07	4.41E-06	3.47E-05	4.01E-05	1.05E+00	9.43E-01
County	Orange	2020	Annual	T7 Ag	5.84E-04	1.21E-02	2.94E-03	3.60E-05	2.90E-04	7.94E-05	1.36E-04	5.06E-04	2.67E-04	1.98E-05	5.83E-05	3.45E-04	3.73E+00	3.36E+00
County	Orange	2020	Annual	T7 CAIRP	4.33E-04	5.36E-03	2.01E-03	3.57E-05	1.40E-04	7.94E-05	1.36E-04	3.55E-04	1.29E-04	1.98E-05	5.83E-05	2.07E-04	3.70E+00	3.33E+00
County	Orange	2020	Annual	T7 CAIRP construction	4.33E-04	5.45E-03	2.01E-03	3.57E-05	1.40E-04	7.94E-05	1.36E-04	3.55E-04	1.29E-04	1.98E-05	5.83E-05	2.07E-04	3.70E+00	3.33E+00
County	Orange	2020	Annual	T7 NNOOS	3.69E-04	3.62E-03	1.71E-03	3.56E-05	1.13E-04	7.94E-05	1.36E-04	3.29E-04	1.04E-04	1.98E-05	5.83E-05	1.82E-04	3.69E+00	3.32E+00
County	Orange	2020	Annual	T7 NNOOS	4.33E-04	5.37E-03	2.01E-03	3.57E-05	1.40E-04	7.94E-05	1.36E-04	3.55E-04	1.28E-04	1.98E-05	5.83E-05	2.07E-04	3.70E+00	3.33E+00
County	Orange	2020	Annual	T7 other port	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
County	Orange	2020	Annual	T7 POAK	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
County	Orange	2020	Annual	T7 POLA	9.63E-04	1.60E-02	4.45E-03	3.67E-05	2.16E-04	7.94E-05	1.36E-04	4.32E-04	1.99E-04	1.98E-05	5.83E-05	2.77E-04	3.81E+00	3.42E+00
County	Orange	2020	Annual	T7 Public	2.00E-04	2.04E-02	1.01E-03	3.66E-05	1.14E-04	7.94E-05	1.36E-04	3.30E-04	1.05E-04	1.98E-05	5.83E-05	1.83E-04	3.80E+00	3.42E+00
County	Orange	2020	Annual	T7 Single	3.10E-04	9.64E-03	1.44E-03	3.60E-05	1.07E-04	7.94E-05	1.36E-04	3.23E-04	9.89E-05	1.98E-05	5.83E-05	1.77E-04	3.73E+00	3.36E+00
County	Orange	2020	Annual	T7 single construction	3.10E-04	9.98E-03	1.44E-03	3.60E-05	1.08E-04	7.94E-05	1.36E-04	3.24E-04	9.96E-05	1.98E-05	5.83E-05	1.78E-04	3.73E+00	3.36E+00
County	Orange	2020	Annual	T7 SWCV	2.62E-04	1.85E-02	1.33E-03	3.64E-05	1.30E-04	7.94E-05	1.36E-04	3.45E-04	1.19E-04	1.98E-05	5.83E-05	1.97E-04	3.77E+00	3.40E+00
County	Orange	2020	Annual	T7 tractor	4.27E-04	8.86E-03	1.99E-03	3.59E-05	1.45E-04	7.94E-05	1.36E-04	3.61E-04	1.33E-04	1.98E-05	5.83E-05	2.12E-04	3.72E+00	3.35E+00
County	Orange	2020	Annual	T7 tractor construction	4.24E-04	9.72E-03	1.97E-03	3.59E-05	1.46E-04	7.94E-05	1.36E-04	3.62E-04	1.35E-04	1.98E-05	5.83E-05	2.13E-04	3.72E+00	3.35E+00
County	Orange	2020	Annual	T7 utility	2.36E-04	8.52E-03	1.10E-03	3.60E-05	8.05E-05	7.94E-05	1.36E-04	2.96E-04	7.40E-05	1.98E-05	5.83E-05	1.52E-04	3.73E+00	3.36E+00
County	Orange	2020	Annual	T7IS	8.68E-04	9.16E-03	4.63E-02	1.37E-05	5.36E-07	1.76E-05	8.10E-05	9.92E-05	4.96E-07	4.41E-06	3.47E-05	3.96E-05	1.05E+00	9.43E-01
County	Orange	2020	Annual	UBUS	8.04E-04	1.56E-02	5.69E-03	4.19E-05	2.02E-04	1.76E-05	1.40E-03	1.62E-03	1.86E-04	4.41E-06	5.99E-04	7.89E-04	4.21E+00	3.79E+00

Region_Ty pe					ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_PMTW	PM10_PMBW	PM10_RUNEX	PM10_Total	PM2_5_PMT W	PM2_5_PMB W	PM2_5_RUNE X	PM2_5_Total	CO2_RUNEX	CO2(Pavley I + LCFS)_RUNEX
Region	CalYr	Season	Veh															
County	Orange	2020	Annual	All Other Buses	8.81E-08	2.79E-06	3.66E-07	1.06E-08	3.98E-08	1.20E-08	1.30E-07	1.82E-07	3.66E-08	3.00E-09	5.59E-08	9.55E-08	1.09E-03	9.83E-04
County	Orange	2020	Annual	LDA	1.04E-08	6.29E-08	6.92E-07	3.50E-09	1.37E-09	8.00E-09	3.67E-08	4.61E-08	1.27E-09	2.00E-09	1.57E-08	1.90E-08	2.97E-04	2.04E-04
County	Orange	2020	Annual	LDT1	2.95E-08	1.55E-07	1.60E-06	4.06E-09	2.37E-09	8.00E-09	3.67E-08	4.71E-08	2.20E-09	2.00E-09	1.57E-08	1.99E-08	3.43E-04	2.50E-04
County	Orange	2020	Annual	LDT2	1.36E-08	9.73E-08	9.34E-07	4.76E-09	1.33E-09	8.00E-09	3.67E-08	4.61E-08	1.24E-09	2.00E-09	1.57E-08	1.90E-08	4.04E-04	3.04E-04
County	Orange	2020	Annual	LHD1	5.40E-08	7.58E-07	6.51E-07	5.70E-09	6.48E-09	8.95E-09	4.62E-08	6.16E-08	5.97E-09	2.24E-09	1.98E-08	2.80E-08	4.86E-04	4.37E-04
County	Orange	2020	Annual	LHD2	6.15E-08	1.16E-06	4.89E-07	5.47E-09	1.25E-08	9.92E-09	6.19E-08	8.43E-08	1.15E-08	2.48E-09	2.65E-08	4.05E-08	4.97E-04	4.48E-04
County	Orange	2020	Annual	MCY	1.91E-06	1.13E-06	1.61E-05	1.94E-09	2.54E-10	8.00E-09	3.67E-08	4.50E-08	2.13E-10	2.00E-09	1.57E-08	1.80E-08	1.37E-04	1.23E-04
County	Orange	2020	Annual	MDV	3.11E-08	1.88E-07	1.61E-06	6.08E-09	1.50E-09	8.00E-09	3.67E-08	4.63E-08	1.39E-09	2.00E-09	1.57E-08	1.91E-08	5.15E-04	4.09E-04
County	Orange	2020	Annual	MH	5.44E-08	1.39E-06	1.17E-06	6.73E-09	2.12E-08	8.72E-09	5.35E-08	8.34E-08	1.95E-08	2.18E-09	2.29E-08	4.46E-08	5.89E-04	5.30E-04
County	Orange	2020	Annual	Motor Coach	1.78E-07	3.32E-06	8.25E-07	1.62E-08	5.90E-08	1.20E-08	1.30E-07	2.01E-07	5.43E-08	3.00E-09	5.59E-08	1.13E-07	1.68E-03	1.52E-03
County	Orange	2020	Annual	OBUS	6.06E-08	6.55E-07	1.23E-06	5.84E-09	3.43E-10	8.00E-09	3.67E-08	4.51E-08	3.18E-10	2.00E-09	1.57E-08	1.81E-08	4.75E-04	4.28E-04
County	Orange	2020	Annual	PTO	2.45E-07	6.00E-06	7.73E-07	2.04E-08	5.04E-08	0.00E+00	0.00E+00	5.04E-08	4.64E-08	0.00E+00	0.00E+00	4.64E-08	2.14E-03	1.93E-03
County	Orange	2020	Annual	SBUS	1.73E-07	6.10E-06	2.37E-06	1.09E-08	3.00E-08	1.08E-08	5.39E-07	5.80E-07	2.76E-08	2.71E-09	2.31E-07	2.61E-07	9.28E-04	8.35E-04
County	Orange	2020	Annual	T6 Ag	1.60E-07	3.01E-06	6.61E-07	1.06E-08	9.50E-08	1.20E-08	1.30E-07	2.37E-07	8.74E-08	3.00E-09	5.59E-08	1.46E-07	1.09E-03	9.84E-04
County	Orange	2020	Annual	T6 CAIRP heavy	7.72E-08	1.81E-06	3.19E-07	1.06E-08	3.25E-08	1.20E-08	1.30E-07	1.75E-07	2.99E-08	3.00E-09	5.59E-08	8.88E-08	1.09E-03	9.80E-04
County	Orange	2020	Annual	T6 CAIRP small	8.02E-08	1.01E-06	3.31E-07	1.05E-08	3.44E-08	1.20E-08	1.30E-07	1.77E-07	3.16E-08	3.00E-09	5.59E-08	9.05E-08	1.08E-03	9.76E-04
County	Orange	2020	Annual	T6 instate construction heavy	8.13E-08	3.16E-06	3.39E-07	1.07E-08	3.82E-08	1.20E-08	1.30E-07	1.81E-07	3.52E-08	3.00E-09	5.59E-08	9.40E-08	1.10E-03	9.86E-04
County	Orange	2020	Annual	T6 instate construction small	9.44E-08	1.38E-06	3.89E-07	1.06E-08	4.65E-08	1.20E-08	1.30E-07	1.89E-07	4.28E-08	3.00E-09	5.59E-08	1.02E-07	1.09E-03	9.78E-04
County	Orange	2020	Annual	T6 instate heavy	8.12E-08	2.86E-06	3.37E-07	1.06E-08	3.73E-08	1.20E-08	1.30E-07	1.80E-07	3.43E-08	3.00E-09	5.59E-08	9.32E-08	1.09E-03	9.85E-04
County	Orange	2020	Annual	T6 instate small	9.14E-08	1.29E-06	3.77E-07	1.06E-08	4.39E-08	1.20E-08	1.30E-07	1.86E-07	4.04E-08	3.00E-09	5.59E-08	9.92E-08	1.09E-03	9.77E-04
County	Orange	2020	Annual	T6 OOS heavy	7.72E-08	1.81E-06	3.19E-07	1.06E-08	3.25E-08	1.20E-08	1.30E-07	1.75E-07	2.99E-08	3.00E-09	5.59E-08	8.88E-08	1.09E-03	9.80E-04
County	Orange	2020	Annual	T6 OOS small	8.02E-08	1.01E-06	3.31E-07	1.05E-08	3.44E-08	1.20E-08	1.30E-07	1.77E-07	3.16E-08	3.00E-09	5.59E-08	9.05E-08	1.08E-03	9.76E-04
County	Orange	2020	Annual	T6 Public	5.62E-08	4.04E-06	2.35E-07	1.07E-08	2.80E-08	1.20E-08	1.30E-07	1.70E-07	2.58E-08	3.00E-09	5.59E-08	8.46E-08	1.10E-03	9.92E-04
County	Orange	2020	Annual	T6 utility	5.99E-08	1.65E-06	2.47E-07	1.06E-08	2.40E-08	1.20E-08	1.30E-07	1.66E-07	2.21E-08	3.00E-09	5.59E-08	8.09E-08	1.09E-03	9.82E-04
County	Orange	2020	Annual	T6TS	7.12E-08	6.41E-07	1.43E-06	5.84E-09	4.78E-10	8.00E-09	3.67E-08	4.52E-08	4.42E-10	2.00E-09	1.57E-08	1.82E-08	4.75E-04	4.28E-04
County	Orange	2020	Annual	T7 Ag	2.65E-07	5.47E-06	1.33E-06	1.63E-08	1.32E-07	3.60E-08	6.17E-08	2.29E-07	1.21E-07	9.00E-09	2.65E-08	1.57E-07	1.69E-03	1.52E-03
County	Orange	2020	Annual	T7 CAIRP	1.96E-07	2.43E-06	9.12E-07	1.62E-08	6.34E-08	3.60E-08	6.17E-08	1.61E-07	5.83E-08	9.00E-09	2.65E-08	9.38E-08	1.68E-03	1.51E-03
County	Orange	2020	Annual	T7 CAIRP construction	1.96E-07	2.47E-06	9.12E-07	1.62E-08	6.34E-08	3.60E-08	6.17E-08	1.61E-07	5.83E-08	9.00E-09	2.65E-08	9.38E-08	1.68E-03	1.51E-03
County	Orange	2020	Annual	T7 NNOOS	1.67E-07	1.64E-06	7.76E-07	1.62E-08	5.13E-08	3.60E-08	6.17E-08	1.49E-07	4.72E-08	9.00E-09	2.65E-08	8.27E-08	1.67E-03	1.51E-03
County	Orange	2020	Annual	T7 NNOOS	1.96E-07	2.44E-06	9.12E-07	1.62E-08	6.33E-08	3.60E-08	6.17E-08	1.61E-07	5.83E-08	9.00E-09	2.65E-08	9.37E-08	1.68E-03	1.51E-03
County	Orange	2020	Annual	T7 other port	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
County	Orange	2020	Annual	T7 POAK	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
County	Orange	2020	Annual	T7 POLA	4.37E-07	7.26E-06	2.02E-06	1.66E-08	9.80E-08	3.60E-08	6.17E-08	1.96E-07	9.02E-08	9.00E-09	2.65E-08	1.26E-07	1.73E-03	1.55E-03
County	Orange	2020	Annual	T7 Public	9.07E-08	9.27E-06	4.57E-07	1.66E-08	5.17E-08	3.60E-08	6.17E-08	1.49E-07	4.76E-08	9.00E-09	2.65E-08	8.31E-08	1.72E-03	1.55E-03
County	Orange	2020	Annual	T7 Single	1.41E-07	4.37E-06	6.55E-07	1.63E-08	4.87E-08	3.60E-08	6.17E-08	1.46E-07	4.48E-08	9.00E-09	2.65E-08	8.03E-08	1.69E-03	1.52E-03
County	Orange	2020	Annual	T7 single construction	1.41E-07	4.53E-06	6.55E-07	1.63E-08	4.91E-08	3.60E-08	6.17E-08	1.47E-07	4.52E-08	9.00E-09	2.65E-08	8.06E-08	1.69E-03	1.52E-03
County	Orange	2020	Annual	T7 SWCV	1.19E-07	8.38E-06	6.03E-07	1.65E-08	5.87E-08	3.60E-08	6.17E-08	1.56E-07	5.40E-08	9.00E-09	2.65E-08	8.95E-08	1.71E-03	1.54E-03
County	Orange	2020	Annual	T7 tractor	1.94E-07	4.02E-06	9.01E-07	1.63E-08	6.58E-08	3.60E-08	6.17E-08	1.64E-07	6.05E-08	9.00E-09	2.65E-08	9.60E-08	1.69E-03	1.52E-03
County	Orange	2020	Annual	T7 tractor construction	1.92E-07	4.41E-06	8.95E-07	1.63E-08	6.63E-08	3.60E-08	6.17E-08	1.64E-07	6.10E-08	9.00E-09	2.65E-08	9.65E-08	1.69E-03	1.52E-03
County	Orange	2020	Annual	T7 utility	1.07E-07	3.87E-06	4.98E-07	1.63E-08	3.65E-08	3.60E-08	6.17E-08	1.34E-07	3.36E-08	9.00E-09	2.65E-08	6.90E-08	1.69E-03	1.52E-03
County	Orange	2020	Annual	T7IS	3.94E-07	4.15E-06	2.10E-05	6.23E-09	2.43E-10	8.00E-09	3.67E-08	4.50E-08	2.25E-10	2.00E-09	1.57E-08	1.80E-08	4.75E-04	4.28E-04
County	Orange	2020	Annual	UBUS	3.65E-07	7.07E-06	2.58E-06	1.90E-08	9.18E-08	8.00E-09	6.34E-07	7.33E-07	8.44E-08	2.00E-09	2.72E-07	3.58E-07	1.91E-03	1.72E-03

Year 2035

Based on EMFAC2011-PL

Emission year	Daily							
2035	1,467,920		lbs/day					
	Percent of VMT	Adjust % VMT	ROG	NOx	CO	Sox	PM10	PM2.5
All Other Buses	0.06%	0.06%	1.63E-01	2.06E+00	6.71E-01	1.88E-02	3.23E-01	1.68E-01
LDA	47.75%	47.75%	1.11E+01	7.67E+01	8.40E+02	5.40E+00	7.17E+01	2.98E+01
LDT1	5.96%	5.96%	1.78E+00	1.14E+01	1.30E+02	7.83E-01	8.95E+00	3.72E+00
LDT2	20.40%	20.40%	5.92E+00	4.04E+01	4.28E+02	3.14E+00	3.06E+01	1.27E+01
LHD1	4.37%	4.37%	2.71E+00	4.35E+01	3.11E+01	8.03E-01	8.37E+00	3.65E+00
LHD2	0.63%	0.63%	5.96E-01	8.78E+00	5.57E+00	1.11E-01	1.62E+00	7.30E-01
MCY	0.30%	0.30%	1.81E+01	1.08E+01	1.48E+02	1.89E-02	4.37E-01	1.74E-01
MDV	15.90%	15.90%	6.72E+00	4.38E+01	4.62E+02	3.13E+00	2.38E+01	9.89E+00
MH	0.38%	0.38%	2.68E-01	8.88E+00	2.19E+00	8.31E-02	8.54E-01	3.88E-01
Motor Coach	0.06%	0.06%	3.20E-01	3.14E+00	1.48E+00	2.96E-02	3.62E-01	2.01E-01
OBUS	0.04%	0.04%	1.57E-02	2.48E-01	3.25E-01	8.03E-03	6.20E-02	2.47E-02
PTO	0.04%	0.04%	3.12E-01	2.44E+00	9.59E-01	2.38E-02	5.21E-02	4.79E-02
SBUS	0.05%	0.05%	2.07E-01	4.01E+00	1.39E+00	1.64E-02	8.48E-01	3.86E-01
T6 Ag	0.00%	0.00%	4.44E-03	5.48E-02	1.83E-02	5.27E-04	8.97E-03	4.64E-03
T6 CAIRP heavy	0.00%	0.00%	2.60E-03	3.02E-02	1.07E-02	3.54E-04	5.82E-03	2.93E-03
T6 CAIRP small	0.00%	0.00%	8.56E-03	9.60E-02	3.53E-02	1.22E-03	1.99E-02	9.92E-03
T6 instate construction heavy	0.05%	0.05%	1.47E-01	1.78E+00	6.05E-01	1.84E-02	3.09E-01	1.58E-01
T6 instate construction small	0.16%	0.16%	3.97E-01	4.58E+00	1.64E+00	5.44E-02	8.94E-01	4.49E-01
T6 instate heavy	0.29%	0.29%	7.97E-01	9.68E+00	3.29E+00	9.99E-02	1.68E+00	8.58E-01
T6 instate small	0.87%	0.87%	2.15E+00	2.48E+01	8.86E+00	2.95E-01	4.84E+00	2.43E+00
T6 OOS heavy	0.00%	0.00%	1.49E-03	1.73E-02	6.15E-03	2.03E-04	3.34E-03	1.68E-03
T6 OOS small	0.00%	0.00%	4.91E-03	5.50E-02	2.02E-02	7.02E-04	1.14E-02	5.69E-03
T6 Public	0.04%	0.04%	8.51E-02	1.14E+00	3.51E-01	1.37E-02	2.17E-01	1.06E-01
T6 utility	0.01%	0.01%	1.39E-02	1.36E-01	5.71E-02	2.35E-03	3.69E-02	1.78E-02
T6TS	0.31%	0.31%	1.03E-01	1.65E+00	2.13E+00	5.74E-02	4.43E-01	1.77E-01
T7 Ag	0.00%	0.00%	1.16E-02	1.16E-01	5.37E-02	1.01E-03	9.82E-03	5.62E-03
T7 CAIRP	0.28%	0.28%	1.73E+00	1.78E+01	8.05E+00	1.47E-01	1.45E+00	8.40E-01
T7 CAIRP construction	0.02%	0.02%	1.25E-01	1.29E+00	5.81E-01	1.06E-02	1.05E-01	6.06E-02
T7 NNOOS	0.32%	0.32%	1.69E+00	1.61E+01	7.85E+00	1.65E-01	1.53E+00	8.46E-01
T7 NOOS	0.10%	0.10%	6.31E-01	6.50E+00	2.93E+00	5.34E-02	5.29E-01	3.06E-01
T7 other port	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POAK	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POLA	0.63%	0.63%	4.64E+00	5.19E+01	2.16E+01	3.27E-01	3.56E+00	2.17E+00
T7 Public	0.02%	0.02%	7.35E-02	1.52E+00	3.43E-01	9.59E-03	8.04E-02	4.17E-02
T7 Single	0.15%	0.15%	7.55E-01	6.86E+00	3.50E+00	7.90E-02	7.07E-01	3.83E-01
T7 single construction	0.05%	0.05%	2.62E-01	2.38E+00	1.22E+00	2.74E-02	2.45E-01	1.33E-01
T7 SWCV	0.05%	0.05%	2.25E-01	4.41E+00	1.05E+00	2.60E-02	2.28E-01	1.22E-01
T7 tractor	0.40%	0.40%	2.45E+00	2.53E+01	1.14E+01	2.07E-01	2.05E+00	1.19E+00
T7 tractor construction	0.04%	0.04%	2.43E-01	2.51E+00	1.13E+00	2.04E-02	2.03E-01	1.17E-01
T7 utility	0.00%	0.00%	8.24E-03	6.28E-02	3.81E-02	1.06E-03	8.70E-03	4.42E-03
T7IS	0.04%	0.04%	3.24E-01	4.70E+00	2.36E+01	7.38E-03	5.34E-02	2.13E-02
UBUS	0.24%	0.24%	1.33E+00	3.17E+01	8.19E+00	1.39E-01	5.38E+00	2.53E+00
TOTAL	100%	100%	66	473	2,160	15	173	75

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

Year 2013 w/2035 emission rates

Based on EMFAC2011-PL

Emission year	Daily							
2035	1,181,500		lbs/day					
	Percent of VMT	Adjust % VMT	ROG	NOx	CO	Sox	PM10	PM2.5
All Other Buses	0.06%	0.06%	1.31E-01	1.66E+00	5.40E-01	1.52E-02	2.60E-01	1.35E-01
LDA	47.75%	47.75%	8.90E+00	6.17E+01	6.76E+02	4.34E+00	5.77E+01	2.40E+01
LDT1	5.96%	5.96%	1.43E+00	9.16E+00	1.04E+02	6.30E-01	7.20E+00	2.99E+00
LDT2	20.40%	20.40%	4.76E+00	3.25E+01	3.45E+02	2.52E+00	2.47E+01	1.02E+01
LHD1	4.37%	4.37%	2.18E+00	3.50E+01	2.50E+01	6.46E-01	6.74E+00	2.93E+00
LHD2	0.63%	0.63%	4.80E-01	7.06E+00	4.48E+00	8.94E-02	1.30E+00	5.88E-01
MCY	0.30%	0.30%	1.46E+01	8.68E+00	1.19E+02	1.52E-02	3.52E-01	1.40E-01
MDV	15.90%	15.90%	5.41E+00	3.53E+01	3.72E+02	2.52E+00	1.92E+01	7.96E+00
MH	0.38%	0.38%	2.15E-01	7.15E+00	1.76E+00	6.69E-02	6.88E-01	3.12E-01
Motor Coach	0.06%	0.06%	2.57E-01	2.53E+00	1.19E+00	2.38E-02	2.91E-01	1.62E-01
OBUS	0.04%	0.04%	1.26E-02	2.00E-01	2.62E-01	6.46E-03	4.99E-02	1.99E-02
PTO	0.04%	0.04%	2.51E-01	1.96E+00	7.72E-01	1.91E-02	4.19E-02	3.86E-02
SBUS	0.05%	0.05%	1.67E-01	3.23E+00	1.12E+00	1.32E-02	6.83E-01	3.11E-01
T6 Ag	0.00%	0.00%	3.57E-03	4.41E-02	1.47E-02	4.24E-04	7.22E-03	3.73E-03
T6 CAIRP heavy	0.00%	0.00%	2.09E-03	2.43E-02	8.63E-03	2.85E-04	4.68E-03	2.36E-03
T6 CAIRP small	0.00%	0.00%	6.89E-03	7.73E-02	2.84E-02	9.85E-04	1.60E-02	7.99E-03
T6 instate construction heavy	0.05%	0.05%	1.18E-01	1.44E+00	4.87E-01	1.48E-02	2.49E-01	1.27E-01
T6 instate construction small	0.16%	0.16%	3.20E-01	3.69E+00	1.32E+00	4.38E-02	7.19E-01	3.62E-01
T6 instate heavy	0.29%	0.29%	6.42E-01	7.79E+00	2.64E+00	8.04E-02	1.35E+00	6.90E-01
T6 instate small	0.87%	0.87%	1.73E+00	2.00E+01	7.13E+00	2.37E-01	3.89E+00	1.96E+00
T6 OOS heavy	0.00%	0.00%	1.20E-03	1.39E-02	4.95E-03	1.63E-04	2.68E-03	1.35E-03
T6 OOS small	0.00%	0.00%	3.95E-03	4.43E-02	1.63E-02	5.65E-04	9.18E-03	4.58E-03
T6 Public	0.04%	0.04%	6.85E-02	9.16E-01	2.83E-01	1.10E-02	1.75E-01	8.53E-02
T6 utility	0.01%	0.01%	1.12E-02	1.09E-01	4.60E-02	1.89E-03	2.97E-02	1.43E-02
T6TS	0.31%	0.31%	8.26E-02	1.33E+00	1.71E+00	4.62E-02	3.57E-01	1.42E-01
T7 Ag	0.00%	0.00%	9.31E-03	9.35E-02	4.32E-02	8.13E-04	7.90E-03	4.53E-03
T7 CAIRP	0.28%	0.28%	1.39E+00	1.44E+01	6.48E+00	1.18E-01	1.17E+00	6.76E-01
T7 CAIRP construction	0.02%	0.02%	1.01E-01	1.04E+00	4.67E-01	8.53E-03	8.44E-02	4.88E-02
T7 NNOOS	0.32%	0.32%	1.36E+00	1.30E+01	6.32E+00	1.33E-01	1.23E+00	6.81E-01
T7 NOOS	0.10%	0.10%	5.08E-01	5.23E+00	2.36E+00	4.30E-02	4.26E-01	2.46E-01
T7 other port	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POAK	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POLA	0.63%	0.63%	3.74E+00	4.18E+01	1.74E+01	2.63E-01	2.87E+00	1.75E+00
T7 Public	0.02%	0.02%	5.92E-02	1.23E+00	2.76E-01	7.72E-03	6.47E-02	3.36E-02
T7 Single	0.15%	0.15%	6.08E-01	5.52E+00	2.82E+00	6.35E-02	5.69E-01	3.09E-01
T7 single construction	0.05%	0.05%	2.11E-01	1.92E+00	9.79E-01	2.21E-02	1.97E-01	1.07E-01
T7 SWCV	0.05%	0.05%	1.81E-01	3.55E+00	8.44E-01	2.09E-02	1.83E-01	9.83E-02
T7 tractor	0.40%	0.40%	1.98E+00	2.04E+01	9.18E+00	1.67E-01	1.65E+00	9.57E-01
T7 tractor construction	0.04%	0.04%	1.95E-01	2.02E+00	9.07E-01	1.64E-02	1.63E-01	9.46E-02
T7 utility	0.00%	0.00%	6.63E-03	5.06E-02	3.07E-02	8.55E-04	7.01E-03	3.56E-03
T7IS	0.04%	0.04%	2.61E-01	3.78E+00	1.90E+01	5.94E-03	4.30E-02	1.71E-02
UBUS	0.24%	0.24%	1.07E+00	2.55E+01	6.59E+00	1.12E-01	4.33E+00	2.04E+00
TOTAL	100%	100%	53	381	1,738	12	139	60

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

Year 2035 Current GP

Based on EMFAC2011-PL

Emission year	Daily							
2035	1,466,290		lbs/day					
	Percent of VMT	Adjust % VMT	ROG	NOx	CO	Sox	PM10	PM2.5
All Other Buses	0.06%	0.06%	1.63E-01	2.06E+00	6.70E-01	1.88E-02	3.22E-01	1.68E-01
LDA	47.75%	47.75%	1.10E+01	7.66E+01	8.39E+02	5.39E+00	7.17E+01	2.98E+01
LDT1	5.96%	5.96%	1.78E+00	1.14E+01	1.30E+02	7.82E-01	8.94E+00	3.72E+00
LDT2	20.40%	20.40%	5.91E+00	4.03E+01	4.28E+02	3.13E+00	3.06E+01	1.27E+01
LHD1	4.37%	4.37%	2.70E+00	4.34E+01	3.11E+01	8.02E-01	8.36E+00	3.64E+00
LHD2	0.63%	0.63%	5.95E-01	8.77E+00	5.57E+00	1.11E-01	1.61E+00	7.30E-01
MCY	0.30%	0.30%	1.81E+01	1.08E+01	1.48E+02	1.89E-02	4.36E-01	1.74E-01
MDV	15.90%	15.90%	6.72E+00	4.38E+01	4.61E+02	3.13E+00	2.38E+01	9.88E+00
MH	0.38%	0.38%	2.67E-01	8.87E+00	2.18E+00	8.30E-02	8.53E-01	3.88E-01
Motor Coach	0.06%	0.06%	3.19E-01	3.14E+00	1.48E+00	2.95E-02	3.61E-01	2.01E-01
OBUS	0.04%	0.04%	1.57E-02	2.48E-01	3.25E-01	8.02E-03	6.20E-02	2.47E-02
PTO	0.04%	0.04%	3.11E-01	2.44E+00	9.58E-01	2.38E-02	5.20E-02	4.78E-02
SBUS	0.05%	0.05%	2.07E-01	4.01E+00	1.39E+00	1.64E-02	8.47E-01	3.86E-01
T6 Ag	0.00%	0.00%	4.44E-03	5.48E-02	1.83E-02	5.27E-04	8.96E-03	4.63E-03
T6 CAIRP heavy	0.00%	0.00%	2.60E-03	3.01E-02	1.07E-02	3.53E-04	5.81E-03	2.93E-03
T6 CAIRP small	0.00%	0.00%	8.55E-03	9.59E-02	3.52E-02	1.22E-03	1.99E-02	9.91E-03
T6 instate construction heavy	0.05%	0.05%	1.47E-01	1.78E+00	6.04E-01	1.84E-02	3.09E-01	1.58E-01
T6 instate construction small	0.16%	0.16%	3.97E-01	4.57E+00	1.63E+00	5.44E-02	8.93E-01	4.49E-01
T6 instate heavy	0.29%	0.29%	7.96E-01	9.67E+00	3.28E+00	9.97E-02	1.67E+00	8.57E-01
T6 instate small	0.87%	0.87%	2.15E+00	2.48E+01	8.85E+00	2.94E-01	4.83E+00	2.43E+00
T6 OOS heavy	0.00%	0.00%	1.49E-03	1.73E-02	6.14E-03	2.02E-04	3.33E-03	1.68E-03
T6 OOS small	0.00%	0.00%	4.90E-03	5.50E-02	2.02E-02	7.01E-04	1.14E-02	5.68E-03
T6 Public	0.04%	0.04%	8.50E-02	1.14E+00	3.51E-01	1.37E-02	2.17E-01	1.06E-01
T6 utility	0.01%	0.01%	1.38E-02	1.35E-01	5.70E-02	2.35E-03	3.68E-02	1.78E-02
T6TS	0.31%	0.31%	1.02E-01	1.65E+00	2.13E+00	5.73E-02	4.43E-01	1.76E-01
T7 Ag	0.00%	0.00%	1.16E-02	1.16E-01	5.36E-02	1.01E-03	9.81E-03	5.62E-03
T7 CAIRP	0.28%	0.28%	1.73E+00	1.78E+01	8.04E+00	1.47E-01	1.45E+00	8.39E-01
T7 CAIRP construction	0.02%	0.02%	1.25E-01	1.29E+00	5.80E-01	1.06E-02	1.05E-01	6.06E-02
T7 NNOOS	0.32%	0.32%	1.69E+00	1.61E+01	7.84E+00	1.65E-01	1.52E+00	8.45E-01
T7 NOOS	0.10%	0.10%	6.30E-01	6.49E+00	2.93E+00	5.34E-02	5.28E-01	3.06E-01
T7 other port	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POAK	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
T7 POLA	0.63%	0.63%	4.64E+00	5.18E+01	2.16E+01	3.27E-01	3.56E+00	2.17E+00
T7 Public	0.02%	0.02%	7.34E-02	1.52E+00	3.42E-01	9.58E-03	8.03E-02	4.16E-02
T7 Single	0.15%	0.15%	7.54E-01	6.85E+00	3.50E+00	7.89E-02	7.06E-01	3.83E-01
T7 single construction	0.05%	0.05%	2.62E-01	2.38E+00	1.21E+00	2.74E-02	2.45E-01	1.33E-01
T7 SWCV	0.05%	0.05%	2.25E-01	4.41E+00	1.05E+00	2.60E-02	2.27E-01	1.22E-01
T7 tractor	0.40%	0.40%	2.45E+00	2.53E+01	1.14E+01	2.07E-01	2.05E+00	1.19E+00
T7 tractor construction	0.04%	0.04%	2.42E-01	2.50E+00	1.13E+00	2.04E-02	2.03E-01	1.17E-01
T7 utility	0.00%	0.00%	8.23E-03	6.28E-02	3.81E-02	1.06E-03	8.69E-03	4.41E-03
T7IS	0.04%	0.04%	3.24E-01	4.69E+00	2.36E+01	7.37E-03	5.34E-02	2.13E-02
UBUS	0.24%	0.24%	1.33E+00	3.16E+01	8.18E+00	1.38E-01	5.38E+00	2.53E+00
TOTAL	100%	100%	66	473	2,157	15	173	75

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

Year 2035 MTons/Year

Based on EMFAC2011

	Emission year		Annual VMT		GWP		GWP		MTons	MTons
	2035	509,368,240	310	1	MTons	MTons	CO2w/Pavley + LCF	CO2e w/ Pavley + LCFS		
	Percent of VMT	Adjust % VMT	NOx	N ₂ O	CO ₂	CO ₂ e				
All Other Buses	0.06%	0.06%	3.24E-01	0	3.05E+02	308	2.75E+02	278		
LDA	47.75%	47.75%	1.21E+01	0	7.22E+04	72,328	4.30E+04	43,161		
LDT1	5.96%	5.96%	1.79E+00	0	1.05E+04	10,492	6.46E+03	6,479		
LDT2	20.40%	20.40%	6.36E+00	0	4.20E+04	42,026	2.86E+04	28,632		
LHD1	4.37%	4.37%	6.84E+00	0	1.08E+04	10,869	9.72E+03	9,789		
LHD2	0.63%	0.63%	1.38E+00	0	1.59E+03	1,606	1.43E+03	1,447		
MCY	0.30%	0.30%	1.70E+00	0	2.13E+02	230	1.92E+02	209		
MDV	15.90%	15.90%	6.90E+00	0	4.19E+04	41,961	2.94E+04	29,505		
MH	0.38%	0.38%	1.40E+00	0	1.15E+03	1,164	1.04E+03	1,049		
Motor Coach	0.06%	0.06%	4.95E-01	0	4.83E+02	488	4.35E+02	439		
OBUS	0.04%	0.04%	3.91E-02	0	1.03E+02	104	9.30E+01	93		
PTO	0.04%	0.04%	3.84E-01	0	3.92E+02	396	3.53E+02	357		
SBUS	0.05%	0.05%	6.31E-01	0	2.17E+02	223	1.96E+02	202		
T6 Ag	0.00%	0.00%	8.63E-03	0	8.54E+00	9	7.69E+00	8		
T6 CAIRP heavy	0.00%	0.00%	4.75E-03	0	5.73E+00	6	5.15E+00	5		
T6 CAIRP small	0.00%	0.00%	1.51E-02	0	1.98E+01	20	1.78E+01	18		
T6 instate construction heavy	0.05%	0.05%	2.81E-01	0	2.98E+02	301	2.68E+02	271		
T6 instate construction small	0.16%	0.16%	7.21E-01	0	8.82E+02	889	7.93E+02	800		
T6 instate heavy	0.29%	0.29%	1.52E+00	0	1.62E+03	1,632	1.46E+03	1,470		
T6 instate small	0.87%	0.87%	3.90E+00	0	4.77E+03	4,809	4.29E+03	4,332		
T6 OOS heavy	0.00%	0.00%	2.72E-03	0	3.28E+00	3	2.95E+00	3		
T6 OOS small	0.00%	0.00%	8.66E-03	0	1.14E+01	11	1.02E+01	10		
T6 Public	0.04%	0.04%	1.79E-01	0	2.21E+02	223	1.99E+02	201		
T6 utility	0.01%	0.01%	2.13E-02	0	3.81E+01	38	3.43E+01	35		
T6TS	0.31%	0.31%	2.60E-01	0	7.39E+02	741	6.65E+02	667		
T7 Ag	0.00%	0.00%	1.83E-02	0	1.65E+01	17	1.49E+01	15		
T7 CAIRP	0.28%	0.28%	2.81E+00	0	2.40E+03	2,426	2.16E+03	2,186		
T7 CAIRP construction	0.02%	0.02%	2.03E-01	0	1.73E+02	175	1.56E+02	158		
T7 NNOOS	0.32%	0.32%	2.53E+00	0	2.70E+03	2,723	2.43E+03	2,453		
T7 NOOS	0.10%	0.10%	1.02E+00	0	8.73E+02	883	7.86E+02	796		
T7 other port	0.00%	0.00%	0.00E+00	0	0.00E+00	0	0.00E+00	0		
T7 POAK	0.00%	0.00%	0.00E+00	0	0.00E+00	0	0.00E+00	0		
T7 POLA	0.63%	0.63%	8.17E+00	0	5.34E+03	5,422	4.81E+03	4,887		
T7 Public	0.02%	0.02%	2.40E-01	0	1.57E+02	159	1.41E+02	143		
T7 Single	0.15%	0.15%	1.08E+00	0	1.29E+03	1,301	1.16E+03	1,172		
T7 single construction	0.05%	0.05%	3.75E-01	0	4.48E+02	451	4.03E+02	407		
T7 SWCV	0.05%	0.05%	6.95E-01	0	4.25E+02	431	3.82E+02	389		
T7 tractor	0.40%	0.40%	3.98E+00	0	3.38E+03	3,423	3.05E+03	3,085		
T7 tractor construction	0.04%	0.04%	3.94E-01	0	3.34E+02	338	3.00E+02	304		
T7 utility	0.00%	0.00%	9.89E-03	0	1.74E+01	17	1.56E+01	16		
T7IS	0.04%	0.04%	7.39E-01	0	8.91E+01	96	8.02E+01	87		
UBUS	0.24%	0.24%	4.98E+00	0	2.19E+03	2,238	1.97E+03	2,019		
TOTAL	100%	100%	74	2	210,246	210,980	146,845	147,579		

N₂O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N₂O with NO_x (N₂O = 0.0167 + 0.0318 x NO_x)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

Year 2035 Current GP MTons/Year

Based on EMFAC2011

	Emission year		Annual VMT		GWP		GWP		MTons	MTons
	2035	508,802,630	310	1	MTons	MTons	CO2w/Pavley + LCF	CO2e w/ Pavley + LCFS		
	Percent of VMT	Adjust % VMT	NOx	N ₂ O	CO ₂	CO ₂ e				
All Other Buses	0.06%	0.06%	3.23E-01	0	3.05E+02	308	2.74E+02	278		
LDA	47.75%	47.75%	1.21E+01	0	7.21E+04	72,248	4.30E+04	43,113		
LDT1	5.96%	5.96%	1.79E+00	0	1.05E+04	10,481	6.45E+03	6,472		
LDT2	20.40%	20.40%	6.35E+00	0	4.19E+04	41,979	2.85E+04	28,600		
LHD1	4.37%	4.37%	6.83E+00	0	1.08E+04	10,857	9.71E+03	9,778		
LHD2	0.63%	0.63%	1.38E+00	0	1.59E+03	1,604	1.43E+03	1,445		
MCY	0.30%	0.30%	1.70E+00	0	2.13E+02	230	1.92E+02	208		
MDV	15.90%	15.90%	6.89E+00	0	4.18E+04	41,915	2.94E+04	29,473		
MH	0.38%	0.38%	1.40E+00	0	1.15E+03	1,163	1.03E+03	1,048		
Motor Coach	0.06%	0.06%	4.94E-01	0	4.82E+02	487	4.34E+02	439		
OBUS	0.04%	0.04%	3.90E-02	0	1.03E+02	104	9.29E+01	93		
PTO	0.04%	0.04%	3.84E-01	0	3.92E+02	396	3.53E+02	356		
SBUS	0.05%	0.05%	6.31E-01	0	2.17E+02	223	1.95E+02	202		
T6 Ag	0.00%	0.00%	8.62E-03	0	8.53E+00	9	7.68E+00	8		
T6 CAIRP heavy	0.00%	0.00%	4.74E-03	0	5.72E+00	6	5.15E+00	5		
T6 CAIRP small	0.00%	0.00%	1.51E-02	0	1.98E+01	20	1.78E+01	18		
T6 instate construction heavy	0.05%	0.05%	2.80E-01	0	2.98E+02	301	2.68E+02	271		
T6 instate construction small	0.16%	0.16%	7.20E-01	0	8.81E+02	888	7.93E+02	800		
T6 instate heavy	0.29%	0.29%	1.52E+00	0	1.62E+03	1,630	1.45E+03	1,469		
T6 instate small	0.87%	0.87%	3.90E+00	0	4.77E+03	4,804	4.29E+03	4,327		
T6 OOS heavy	0.00%	0.00%	2.72E-03	0	3.28E+00	3	2.95E+00	3		
T6 OOS small	0.00%	0.00%	8.65E-03	0	1.14E+01	11	1.02E+01	10		
T6 Public	0.04%	0.04%	1.79E-01	0	2.21E+02	223	1.99E+02	201		
T6 utility	0.01%	0.01%	2.13E-02	0	3.81E+01	38	3.43E+01	34		
T6TS	0.31%	0.31%	2.59E-01	0	7.38E+02	741	6.64E+02	667		
T7 Ag	0.00%	0.00%	1.83E-02	0	1.65E+01	17	1.48E+01	15		
T7 CAIRP	0.28%	0.28%	2.81E+00	0	2.40E+03	2,423	2.16E+03	2,184		
T7 CAIRP construction	0.02%	0.02%	2.03E-01	0	1.73E+02	175	1.56E+02	158		
T7 NNOOS	0.32%	0.32%	2.53E+00	0	2.69E+03	2,720	2.43E+03	2,450		
T7 NOOS	0.10%	0.10%	1.02E+00	0	8.72E+02	882	7.85E+02	795		
T7 other port	0.00%	0.00%	0.00E+00	0	0.00E+00	0	0.00E+00	0		
T7 POAK	0.00%	0.00%	0.00E+00	0	0.00E+00	0	0.00E+00	0		
T7 POLA	0.63%	0.63%	8.16E+00	0	5.34E+03	5,416	4.80E+03	4,882		
T7 Public	0.02%	0.02%	2.40E-01	0	1.56E+02	159	1.41E+02	143		
T7 Single	0.15%	0.15%	1.08E+00	0	1.29E+03	1,299	1.16E+03	1,170		
T7 single construction	0.05%	0.05%	3.75E-01	0	4.47E+02	451	4.03E+02	406		
T7 SWCV	0.05%	0.05%	6.94E-01	0	4.24E+02	431	3.82E+02	389		
T7 tractor	0.40%	0.40%	3.98E+00	0	3.38E+03	3,419	3.04E+03	3,081		
T7 tractor construction	0.04%	0.04%	3.94E-01	0	3.33E+02	337	3.00E+02	304		
T7 utility	0.00%	0.00%	9.88E-03	0	1.73E+01	17	1.56E+01	16		
T7IS	0.04%	0.04%	7.38E-01	0	8.90E+01	96	8.01E+01	87		
UBUS	0.24%	0.24%	4.98E+00	0	2.19E+03	2,236	1.97E+03	2,017		
TOTAL	100%	100%	74	2	210,012	210,746	146,682	147,416		

N₂O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N₂O with NO_x (N₂O = 0.0167 + 0.0318 x NO_x)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Orange County - South Coast Air Basin. % VMT based on EMFAC2011-SG for Orange County.

															PM2.5_RUN				CO2[Pavley I + LCFS]				VMT from	
Region_Ty	Region	CalYr	Season	Veh	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUN EX	PM10_PMTW	PM10_PMBW	PM10_Total	EX	PM2.5_PMTW	PM2.5_PMBW	PMW_5_Total	CO2_RUNEX	LCSF3)_RUNEX	EMFAC-SG	%VMT				
County	Orange	2035	Annual	All Other Buses	9.09E-02	1.15E+00	3.75E-01	1.05E-02	3.79E-02	1.20E-02	1.30E-01	1.80E-01		3.49E-02	3.00E-03	5.59E-02	9.37E-02	1.08E+03	9.75E+02	47,868	0%			
County	Orange	2035	Annual	LDA	7.16E-03	4.96E-02	5.43E-01	3.49E-03	1.67E-03	8.00E-03	3.67E-02	4.64E-02		1.55E-03	2.00E-03	1.57E-02	1.93E-02	2.97E+02	1.77E+02	41,308,032	48%			
County	Orange	2035	Annual	LDT1	9.21E-03	5.90E-02	6.72E-01	4.06E-03	1.66E-03	8.00E-03	3.67E-02	4.64E-02		1.54E-03	2.00E-03	1.57E-02	1.93E-02	3.45E+02	2.13E+02	5,155,730	6%			
County	Orange	2035	Annual	LDT2	8.97E-03	6.12E-02	6.49E-01	4.75E-03	1.65E-03	8.00E-03	3.67E-02	4.64E-02		1.53E-03	2.00E-03	1.57E-02	1.93E-02	4.04E+02	2.75E+02	17,649,762	20%			
County	Orange	2035	Annual	LHD1	1.91E-02	3.08E-01	2.20E-01	5.68E-03	4.08E-03	8.95E-03	4.62E-02	5.93E-02		3.76E-03	2.24E-03	1.98E-02	2.58E-02	4.86E+02	4.37E+02	3,776,753	4%			
County	Orange	2035	Annual	LHD2	2.92E-02	4.31E-01	2.73E-01	5.45E-03	7.40E-03	9.92E-03	6.19E-02	7.93E-02		6.81E-03	2.48E-03	2.65E-02	3.58E-02	4.96E+02	4.47E+02	544,895	1%			
County	Orange	2035	Annual	MCY	1.86E+00	1.11E+00	1.52E+01	1.94E-03	1.81E-04	8.00E-03	3.67E-02	4.49E-02		1.57E-04	2.00E-03	1.57E-02	1.79E-02	1.39E+02	1.25E+02	259,852	0%			
County	Orange	2035	Annual	MDV	1.31E-02	8.51E-02	8.97E-01	6.08E-03	1.59E-03	8.00E-03	3.67E-02	4.63E-02		1.47E-03	2.00E-03	1.57E-02	1.92E-02	5.17E+02	3.63E+02	13,753,433	16%			
County	Orange	2035	Annual	MH	2.17E-02	7.20E-01	1.77E-01	6.74E-03	6.78E-03	8.73E-03	5.37E-02	6.93E-02		6.24E-03	2.18E-03	2.30E-02	3.15E-02	5.92E+02	5.33E+02	329,680	0%			
County	Orange	2035	Annual	Motor Coach	1.74E-01	1.71E+00	8.10E-01	1.61E-02	5.51E-02	1.20E-02	1.30E-01	1.97E-01		5.07E-02	3.00E-03	5.59E-02	1.10E-01	1.67E+03	1.51E+03	48,996	0%			
County	Orange	2035	Annual	OBUS	1.14E-02	1.80E-01	2.35E-01	5.81E-03	1.42E-04	8.00E-03	3.67E-02	4.49E-02		1.32E-04	2.00E-03	1.57E-02	1.79E-02	4.75E+02	4.28E+02	36,934	0%			
County	Orange	2035	Annual	PTO	2.65E-01	2.07E+00	8.15E-01	2.02E-02	4.42E-02			4.42E-02		4.07E-02			4.07E-02	2.12E+03	1.91E+03	31,471	0%			
County	Orange	2035	Annual	SBUS	1.34E-01	2.59E+00	9.00E-01	1.06E-02	3.37E-02	1.06E-02	5.04E-01	5.48E-01		3.10E-02	2.66E-03	2.16E-01	2.50E-01	8.92E+02	8.03E+02	41,362	0%			
County	Orange	2035	Annual	T6 Ag	8.86E-02	1.09E+00	3.65E-01	1.05E-02	3.66E-02	1.20E-02	1.30E-01	1.79E-01		3.37E-02	3.00E-03	5.59E-02	9.26E-02	1.08E+03	9.75E+02	1,339	0%			
County	Orange	2035	Annual	T6 CAIRP heavy	7.74E-02	8.97E-01	3.19E-01	1.05E-02	3.08E-02	1.20E-02	1.30E-01	1.73E-01		2.83E-02	3.00E-03	5.59E-02	8.72E-02	1.08E+03	9.75E+02	898	0%			
County	Orange	2035	Annual	T6 CAIRP small	7.36E-02	8.25E-01	3.03E-01	1.05E-02	2.88E-02	1.20E-02	1.30E-01	1.71E-01		2.65E-02	3.00E-03	5.59E-02	8.53E-02	1.08E+03	9.75E+02	3,109	0%			
County	Orange	2035	Annual	T6 instate construction heavy	8.39E-02	1.02E+00	3.46E-01	1.05E-02	3.42E-02	1.20E-02	1.30E-01	1.77E-01		3.15E-02	3.00E-03	5.59E-02	9.04E-02	1.08E+03	9.75E+02	46,759	0%			
County	Orange	2035	Annual	T6 instate construction small	7.68E-02	8.85E-01	3.16E-01	1.05E-02	3.05E-02	1.20E-02	1.30E-01	1.73E-01		2.80E-02	3.00E-03	5.59E-02	8.69E-02	1.08E+03	9.75E+02	138,258	0%			
County	Orange	2035	Annual	T6 instate heavy	8.40E-02	1.02E+00	3.46E-01	1.05E-02	3.43E-02	1.20E-02	1.30E-01	1.77E-01		3.15E-02	3.00E-03	5.59E-02	9.04E-02	1.08E+03	9.75E+02	253,617	0%			
County	Orange	2035	Annual	T6 instate small	7.68E-02	8.86E-01	3.17E-01	1.05E-02	3.05E-02	1.20E-02	1.30E-01	1.73E-01		2.80E-02	3.00E-03	5.59E-02	8.69E-02	1.08E+03	9.75E+02	748,246	1%			
County	Orange	2035	Annual	T6 OOS heavy	7.74E-02	8.97E-01	3.19E-01	1.05E-02	3.08E-02	1.20E-02	1.30E-01	1.73E-01		2.83E-02	3.00E-03	5.59E-02	8.72E-02	1.08E+03	9.75E+02	515	0%			
County	Orange	2035	Annual	T6 OOS small	7.36E-02	8.25E-01	3.03E-01	1.05E-02	2.88E-02	1.20E-02	1.30E-01	1.71E-01		2.65E-02	3.00E-03	5.59E-02	8.53E-02	1.08E+03	9.75E+02	1,783	0%			
County	Orange	2035	Annual	T6 Public	6.56E-02	8.77E-01	2.71E-01	1.05E-02	2.48E-02	1.20E-02	1.30E-01	1.67E-01		2.29E-02	3.00E-03	5.59E-02	8.17E-02	1.08E+03	9.76E+02	34,684	0%			
County	Orange	2035	Annual	T6 utility	6.20E-02	6.07E-01	2.55E-01	1.05E-02	2.26E-02	1.20E-02	1.30E-01	1.65E-01		2.08E-02	3.00E-03	5.59E-02	7.97E-02	1.08E+03	9.75E+02	5,976	0%			
County	Orange	2035	Annual	T6TS	1.04E-02	1.67E-01	2.15E-01	5.81E-03	1.41E-04	8.00E-03	3.67E-02	4.49E-02		1.31E-04	2.00E-03	1.57E-02	1.79E-02	4.75E+02	4.28E+02	264,009	0%			
County	Orange	2035	Annual	T7 Ag	1.85E-01	1.85E+00	8.57E-01	1.61E-02	5.90E-02	3.60E-02	6.17E-02	1.57E-01		5.43E-02	9.00E-03	2.65E-02	8.98E-02	1.67E+03	1.51E+03	1,674	0%			
County	Orange	2035	Annual	T7 CAIRP	1.90E-01	1.96E+00	8.84E-01	1.61E-02	6.18E-02	3.60E-02	6.17E-02	1.59E-01		5.68E-02	9.00E-03	2.65E-02	9.23E-02	1.67E+03	1.51E+03	243,346	0%			
County	Orange	2035	Annual	T7 CAIRP construction	1.90E-01	1.96E+00	8.84E-01	1.61E-02	6.18E-02	3.60E-02	6.17E-02	1.59E-01		5.68E-02	9.00E-03	2.65E-02	9.23E-02	1.67E+03	1.51E+03	17,564	0%			
County	Orange	2035	Annual	T7 NNOOS	1.65E-01	1.57E+00	7.66E-01	1.61E-02	5.12E-02	3.60E-02	6.17E-02	1.49E-01		4.71E-02	9.00E-03	2.65E-02	8.26E-02	1.67E+03	1.51E+03	273,755	0%			
County	Orange	2035	Annual	T7 NOOS	1.90E-01	1.96E+00	8.84E-01	1.61E-02	6.18E-02	3.60E-02	6.17E-02	1.59E-01		5.68E-02	9.00E-03	2.65E-02	9.23E-02	1.67E+03	1.51E+03	88,620	0%			
County	Orange	2035	Annual	T7 other port								0.00E+00					0.00E+00			0	0%			
County	Orange	2035	Annual	T7 POAK								0.00E+00					0.00E+00			0	0%			
County	Orange	2035	Annual	T7 POLA	2.29E-01	2.56E+00	1.06E+00	1.61E-02	7.80E-02	3.60E-02	6.17E-02	1.76E-01		7.18E-02	9.00E-03	2.65E-02	1.07E-01	1.67E+03	1.51E+03	541,972	1%			
County	Orange	2035	Annual	T7 Public	1.24E-01	2.57E+00	5.79E-01	1.62E-02	3.80E-02	3.60E-02	6.17E-02	1.36E-01		3.49E-02	9.00E-03	2.65E-02	7.04E-02	1.68E+03	1.51E+03	15,829	0%			
County	Orange	2035	Annual	T7 Single	1.54E-01	1.40E+00	7.15E-01	1.61E-02	4.66E-02	3.60E-02	6.17E-02	1.44E-01		4.28E-02	9.00E-03	2.65E-02	7.83E-02	1.67E+03	1.51E+03	130,907	0%			
County	Orange	2035	Annual	T7 single construction	1.54E-01	1.40E+00	7.15E-01	1.61E-02	4.66E-02	3.60E-02	6.17E-02	1.44E-01		4.29E-02	9.00E-03	2.65E-02	7.83E-02	1.67E+03	1.51E+03	45,437	0%			
County	Orange	2035	Annual	T7 SWCV	1.40E-01	2.75E+00	6.53E-01	1.62E-02	4.42E-02	3.60E-02	6.17E-02	1.42E-01		4.07E-02	9.00E-03	2.65E-02	7.61E-02	1.68E+03	1.51E+03	42,888	0%			
County	Orange	2035	Annual	T7 tractor	1.91E-01	1.97E+00	8.88E-01	1.61E-02	6.20E-02	3.60E-02	6.17E-02	1.60E-01		5.71E-02	9.00E-03	2.65E-02	9.25E-02	1.67E+03	1.51E+03	343,347	0%			
County	Orange	2035	Annual	T7 tractor construction	1.91E-01	1.98E+00	8.90E-01	1.61E-02	6.22E-02	3.60E-02	6.17E-02	1.60E-01		5.72E-02	9.00E-03	2.65E-02	9.27E-02	1.67E+03	1.51E+03	33,877	0%			
County	Orange	2035	Annual	T7 utility	1.25E-01	9.54E-01	5.79E-01	1.61E-02	3.44E-02	3.60E-02	6.17E-02	1.32E-01		3.16E-02	9.00E-03	2.65E-02	6.71E-02	1.67E+03	1.51E+03	1,761	0%			
County	Orange	2035	Annual	T7IS	2.72E-01	3.94E+00	1.98E+01	6.20E-03	1.27E-04	8.00E-03	3.67E-02	4.49E-02		1.18E-04	2.00E-03	1.57E-02	1.79E-02	4.75E+02	4.28E+02	31,826	0%			
County	Orange	2035	Annual	UBUS	1.74E-01	4.14E+00	1.07E+00	1.81E-02	6.27E-02	8.00E-03	6.34E-01	7.04E-01		5.77E-02	2.00E-03	2.72E-01	3.31E-01	1.82E+03	1.64E+03	204,309	0%			
																					86,501,072	100%		

86,501,072 100%

Region_Ty pe	Region	CalYr	Season	Veh		ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_PMTW	PM10_PMBW	PM10_RUNEX	PM10_Total	PM2_5_PMT W	PM2_5_PMB W	PM2_5_RUNE X	PM2_5_Total	CO2_RUNEX	CO2[Pavley I + LCFS]_RUNEX	
County	Orange	2035	Annual	All Other Buses		2.00E-04	2.53E-03	8.26E-04	2.32E-05	8.36E-05	2.65E-05	2.87E-04	3.97E-04	7.69E-05	6.61E-06	1.23E-04	2.07E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	LDA		1.58E-05	1.09E-04	1.20E-03	7.70E-06	3.67E-06	1.76E-05	8.10E-05	1.02E-04	3.41E-06	4.41E-06	3.47E-05	4.25E-05	6.54E-01	3.90E-01	
County	Orange	2035	Annual	LDT1		2.03E-05	1.30E-04	1.48E-03	8.95E-06	3.65E-06	1.76E-05	8.10E-05	1.02E-04	3.39E-06	4.41E-06	3.47E-05	4.25E-05	7.61E-01	4.69E-01	
County	Orange	2035	Annual	LDT2		1.98E-05	1.35E-04	1.43E-03	1.05E-05	3.63E-06	1.76E-05	8.10E-05	1.02E-04	3.37E-06	4.41E-06	3.47E-05	4.25E-05	8.90E-01	6.06E-01	
County	Orange	2035	Annual	LHD1		4.22E-05	6.78E-04	4.85E-04	1.25E-05	9.00E-06	1.97E-05	1.02E-04	1.31E-04	8.28E-06	4.94E-06	4.37E-05	5.69E-05	1.07E+00	9.64E-01	
County	Orange	2035	Annual	LHD2		6.45E-05	9.49E-04	6.03E-04	1.20E-05	1.63E-05	2.19E-05	1.37E-04	1.75E-04	1.50E-05	5.47E-06	5.85E-05	7.90E-05	1.09E+00	9.85E-01	
County	Orange	2035	Annual	MCY		4.11E-03	2.45E-03	3.36E-02	4.29E-06	3.99E-07	1.76E-05	8.10E-05	9.91E-05	3.46E-07	4.41E-06	3.47E-05	3.95E-05	3.07E-01	2.77E-01	
County	Orange	2035	Annual	MDV		2.88E-05	1.88E-04	1.98E-03	1.34E-05	3.50E-06	1.76E-05	8.10E-05	1.02E-04	3.25E-06	4.41E-06	3.47E-05	4.24E-05	1.14E+00	8.01E-01	
County	Orange	2035	Annual	MH		4.79E-05	1.59E-03	3.91E-04	1.48E-05	1.50E-05	1.92E-05	1.18E-04	1.53E-04	1.38E-05	4.81E-06	5.08E-05	6.94E-05	1.31E+00	1.18E+00	
County	Orange	2035	Annual	Motor Coach		3.85E-04	3.78E-03	1.79E-03	3.55E-05	1.21E-04	2.65E-05	2.87E-04	4.35E-04	1.12E-04	6.61E-06	1.23E-04	2.41E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	OBUS		2.50E-05	3.96E-04	5.19E-04	1.28E-05	3.14E-07	1.76E-05	8.10E-05	9.90E-05	2.91E-07	4.41E-06	3.47E-05	3.94E-05	1.05E+00	9.43E-01	
County	Orange	2035	Annual	PTO		5.84E-04	4.57E-03	1.80E-03	4.45E-05	9.75E-05	0.00E+00	0.00E+00	9.75E-05	8.97E-05	0.00E+00	0.00E+00	8.97E-05	4.67E+00	4.20E+00	
County	Orange	2035	Annual	SBUS		2.95E-04	5.71E-03	1.98E-03	2.34E-05	7.42E-05	2.35E-05	1.11E-03	1.21E-03	6.83E-05	5.86E-06	4.76E-04	5.50E-04	1.97E+00	1.77E+00	
County	Orange	2035	Annual	T6 Ag		1.95E-04	2.41E-03	8.05E-04	2.32E-05	8.08E-05	2.65E-05	2.87E-04	3.95E-04	7.43E-05	6.61E-06	1.23E-04	2.04E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 CAIRP heavy		1.71E-04	1.98E-03	7.03E-04	2.32E-05	6.79E-05	2.65E-05	2.87E-04	3.82E-04	6.25E-05	6.61E-06	1.23E-04	1.92E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 CAIRP small		1.62E-04	1.82E-03	6.68E-04	2.32E-05	6.34E-05	2.65E-05	2.87E-04	3.77E-04	5.83E-05	6.61E-06	1.23E-04	1.88E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 instate construction heavy		1.85E-04	2.25E-03	7.63E-04	2.32E-05	7.55E-05	2.65E-05	2.87E-04	3.89E-04	6.95E-05	6.61E-06	1.23E-04	1.99E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 instate construction small		1.69E-04	1.95E-03	6.98E-04	2.32E-05	6.71E-05	2.65E-05	2.87E-04	3.81E-04	6.18E-05	6.61E-06	1.23E-04	1.92E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 instate heavy		1.85E-04	2.25E-03	7.63E-04	2.32E-05	7.56E-05	2.65E-05	2.87E-04	3.89E-04	6.95E-05	6.61E-06	1.23E-04	1.99E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 instate small		1.69E-04	1.95E-03	6.98E-04	2.32E-05	6.72E-05	2.65E-05	2.87E-04	3.81E-04	6.18E-05	6.61E-06	1.23E-04	1.92E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 OOS heavy		1.71E-04	1.98E-03	7.03E-04	2.32E-05	6.79E-05	2.65E-05	2.87E-04	3.82E-04	6.25E-05	6.61E-06	1.23E-04	1.92E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 OOS small		1.62E-04	1.82E-03	6.68E-04	2.32E-05	6.34E-05	2.65E-05	2.87E-04	3.77E-04	5.83E-05	6.61E-06	1.23E-04	1.88E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 Public		1.45E-04	1.93E-03	5.97E-04	2.32E-05	5.48E-05	2.65E-05	2.87E-04	3.69E-04	5.04E-05	6.61E-06	1.23E-04	1.80E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6 utility		1.37E-04	1.34E-03	5.63E-04	2.32E-05	4.98E-05	2.65E-05	2.87E-04	3.64E-04	4.58E-05	6.61E-06	1.23E-04	1.76E-04	2.39E+00	2.15E+00	
County	Orange	2035	Annual	T6TS		2.29E-05	3.68E-04	4.75E-04	1.28E-05	3.12E-07	1.76E-05	8.10E-05	9.90E-05	2.89E-07	4.41E-06	3.47E-05	3.94E-05	1.05E+00	9.43E-01	
County	Orange	2035	Annual	T7 Ag		4.07E-04	4.09E-03	1.89E-03	3.55E-05	1.30E-04	7.94E-05	1.36E-04	3.46E-04	1.20E-04	1.98E-05	5.83E-05	1.98E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 CAIRP		4.19E-04	4.32E-03	1.95E-03	3.55E-05	1.36E-04	7.94E-05	1.36E-04	3.52E-04	1.25E-04	1.98E-05	5.83E-05	2.03E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 CAIRP construction		4.19E-04	4.32E-03	1.95E-03	3.55E-05	1.36E-04	7.94E-05	1.36E-04	3.52E-04	1.25E-04	1.98E-05	5.83E-05	2.03E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 NNOOS		3.64E-04	3.47E-03	1.69E-03	3.55E-05	1.13E-04	7.94E-05	1.36E-04	3.28E-04	1.04E-04	1.98E-05	5.83E-05	1.82E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 NOOS		4.19E-04	4.32E-03	1.95E-03	3.55E-05	1.36E-04	7.94E-05	1.36E-04	3.52E-04	1.25E-04	1.98E-05	5.83E-05	2.03E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 other port		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
County	Orange	2035	Annual	T7 POAK		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
County	Orange	2035	Annual	T7 POLA		5.05E-04	5.64E-03	2.35E-03	3.55E-05	1.72E-04	7.94E-05	1.36E-04	3.87E-04	1.58E-04	1.98E-05	5.83E-05	2.36E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 Public		2.74E-04	5.67E-03	1.28E-03	3.57E-05	8.37E-05	7.94E-05	1.36E-04	2.99E-04	7.70E-05	1.98E-05	5.83E-05	1.55E-04	3.71E+00	3.33E+00	
County	Orange	2035	Annual	T7 Single		3.40E-04	3.09E-03	1.58E-03	3.55E-05	1.03E-04	7.94E-05	1.36E-04	3.18E-04	9.44E-05	1.98E-05	5.83E-05	1.73E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 single construction		3.40E-04	3.09E-03	1.58E-03	3.55E-05	1.03E-04	7.94E-05	1.36E-04	3.18E-04	9.45E-05	1.98E-05	5.83E-05	1.73E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 SWCV		3.09E-04	6.06E-03	1.44E-03	3.57E-05	9.74E-05	7.94E-05	1.36E-04	3.13E-04	8.96E-05	1.98E-05	5.83E-05	1.68E-04	3.71E+00	3.34E+00	
County	Orange	2035	Annual	T7 tractor		4.21E-04	4.35E-03	1.96E-03	3.55E-05	1.37E-04	7.94E-05	1.36E-04	3.52E-04	1.26E-04	1.98E-05	5.83E-05	2.04E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 tractor construction		4.22E-04	4.36E-03	1.96E-03	3.55E-05	1.37E-04	7.94E-05	1.36E-04	3.53E-04	1.26E-04	1.98E-05	5.83E-05	2.04E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7 utility		2.76E-04	2.10E-03	1.28E-03	3.55E-05	7.58E-05	7.94E-05	1.36E-04	2.91E-04	6.97E-05	1.98E-05	5.83E-05	1.48E-04	3.69E+00	3.32E+00	
County	Orange	2035	Annual	T7IS		6.01E-04	8.69E-03	4.37E-02	1.37E-05	2.81E-07	1.76E-05	8.10E-05	9.89E-05	2.60E-07	4.41E-06	3.47E-05	3.94E-05	1.05E+00	9.43E-01	
County	Orange	2035	Annual	UBUS		3.83E-04	9.13E-03	2.36E-03	4.00E-05	1.38E-04	1.76E-05	1.40E-03	1.55E-03	1.27E-04	4.41E-06	5.99E-04	7.30E-04	4.01E+00	3.61E+00	

Region_Ty	Region	CalYr	Season	Veh										PM2_5_PMT	PM2_5_PMB	PM2_5_RUNE				CO2(Pavley 1 +						
pe					ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_PMTW	PM10_PMBW	PM10_RUNEX	PM10_Total	W	W	X	PM2_5_Total	CO2_RUNEX	LCFS)_RUNEX								
County	Orange	2035	Annual	All Other Buses	9.09E-08	1.15E-06	3.75E-07	1.05E-08	3.79E-08	1.20E-08	1.30E-07	1.80E-07	3.49E-08	3.00E-09	5.59E-08	9.37E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	LDA	7.16E-09	4.96E-08	5.43E-07	3.49E-09	1.67E-09	8.00E-09	3.67E-08	4.64E-08	1.55E-09	2.00E-09	1.57E-08	1.93E-08	2.97E-04	1.77E-04								
County	Orange	2035	Annual	LDT1	9.21E-09	5.90E-08	6.72E-07	4.06E-09	1.66E-09	8.00E-09	3.67E-08	4.64E-08	1.54E-09	2.00E-09	1.57E-08	1.93E-08	3.45E-04	2.13E-04								
County	Orange	2035	Annual	LDT2	8.97E-09	6.12E-08	6.49E-07	4.75E-09	1.65E-09	8.00E-09	3.67E-08	4.64E-08	1.53E-09	2.00E-09	1.57E-08	1.93E-08	4.04E-04	2.75E-04								
County	Orange	2035	Annual	LHD1	1.91E-08	3.08E-07	2.20E-07	5.68E-09	4.08E-09	8.95E-09	4.62E-08	5.93E-08	3.76E-09	2.24E-09	1.98E-08	2.58E-08	4.86E-04	4.37E-04								
County	Orange	2035	Annual	LHD2	2.92E-08	4.31E-07	2.73E-07	5.45E-09	7.40E-09	9.92E-09	6.19E-08	7.93E-08	6.81E-09	2.48E-09	2.65E-08	3.58E-08	4.96E-04	4.47E-04								
County	Orange	2035	Annual	MCY	1.86E-06	1.11E-06	1.52E-05	1.94E-09	1.81E-10	8.00E-09	3.67E-08	4.49E-08	1.57E-10	2.00E-09	1.57E-08	1.79E-08	1.39E-04	1.25E-04								
County	Orange	2035	Annual	MDV	1.31E-08	8.51E-08	8.97E-07	6.08E-09	1.59E-09	8.00E-09	3.67E-08	4.63E-08	1.47E-09	2.00E-09	1.57E-08	1.92E-08	5.17E-04	3.63E-04								
County	Orange	2035	Annual	MH	2.17E-08	7.20E-07	1.77E-07	6.74E-09	6.78E-09	8.73E-09	5.37E-08	6.93E-08	6.24E-09	2.18E-09	2.30E-08	3.15E-08	5.92E-04	5.33E-04								
County	Orange	2035	Annual	Motor Coach	1.74E-07	1.71E-06	8.10E-07	1.61E-08	5.51E-08	1.20E-08	1.30E-07	1.97E-07	5.07E-08	3.00E-09	5.59E-08	1.10E-07	1.67E-03	1.51E-03								
County	Orange	2035	Annual	OBUS	1.14E-08	1.80E-07	2.35E-07	5.81E-09	1.42E-10	8.00E-09	3.67E-08	4.49E-08	1.32E-10	2.00E-09	1.57E-08	1.79E-08	4.75E-04	4.28E-04								
County	Orange	2035	Annual	PTO	2.65E-07	2.07E-06	8.15E-07	2.02E-08	4.42E-08	0.00E+00	0.00E+00	4.42E-08	4.07E-08	0.00E+00	0.00E+00	4.07E-08	2.12E-03	1.91E-03								
County	Orange	2035	Annual	SBUS	1.34E-07	2.59E-06	9.00E-07	1.06E-08	3.37E-08	1.06E-08	5.04E-07	5.48E-07	3.10E-08	2.66E-09	2.16E-07	2.50E-07	8.92E-04	8.03E-04								
County	Orange	2035	Annual	T6 Ag	8.86E-08	1.09E-06	3.65E-07	1.05E-08	3.66E-08	1.20E-08	1.30E-07	1.79E-07	3.37E-08	3.00E-09	5.59E-08	9.26E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 CAIRP heavy	7.74E-08	8.97E-07	3.19E-07	1.05E-08	3.08E-08	1.20E-08	1.30E-07	1.73E-07	2.83E-08	3.00E-09	5.59E-08	8.72E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 CAIRP small	7.36E-08	8.25E-07	3.03E-07	1.05E-08	2.88E-08	1.20E-08	1.30E-07	1.71E-07	2.65E-08	3.00E-09	5.59E-08	8.53E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 instate construction heavy	8.39E-08	1.02E-06	3.46E-07	1.05E-08	3.42E-08	1.20E-08	1.30E-07	1.77E-07	3.15E-08	3.00E-09	5.59E-08	9.04E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 instate construction small	7.68E-08	8.85E-07	3.16E-07	1.05E-08	3.05E-08	1.20E-08	1.30E-07	1.73E-07	2.80E-08	3.00E-09	5.59E-08	8.69E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 instate heavy	8.40E-08	1.02E-06	3.46E-07	1.05E-08	3.43E-08	1.20E-08	1.30E-07	1.77E-07	3.15E-08	3.00E-09	5.59E-08	9.04E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 instate small	7.68E-08	8.86E-07	3.17E-07	1.05E-08	3.05E-08	1.20E-08	1.30E-07	1.73E-07	2.80E-08	3.00E-09	5.59E-08	8.69E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 OOS heavy	7.74E-08	8.97E-07	3.19E-07	1.05E-08	3.08E-08	1.20E-08	1.30E-07	1.73E-07	2.83E-08	3.00E-09	5.59E-08	8.72E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 OOS small	7.36E-08	8.25E-07	3.03E-07	1.05E-08	2.88E-08	1.20E-08	1.30E-07	1.71E-07	2.65E-08	3.00E-09	5.59E-08	8.53E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6 Public	6.56E-08	8.77E-07	2.71E-07	1.05E-08	2.48E-08	1.20E-08	1.30E-07	1.67E-07	2.29E-08	3.00E-09	5.59E-08	8.17E-08	1.08E-03	9.76E-04								
County	Orange	2035	Annual	T6 utility	6.20E-08	6.07E-07	2.55E-07	1.05E-08	2.26E-08	1.20E-08	1.30E-07	1.65E-07	2.08E-08	3.00E-09	5.59E-08	7.97E-08	1.08E-03	9.75E-04								
County	Orange	2035	Annual	T6TS	1.04E-08	1.67E-07	2.15E-07	5.81E-09	1.41E-10	8.00E-09	3.67E-08	4.49E-08	1.31E-10	2.00E-09	1.57E-08	1.79E-08	4.75E-04	4.28E-04								
County	Orange	2035	Annual	T7 Ag	1.85E-07	1.85E-06	8.57E-07	1.61E-08	5.90E-08	3.60E-08	6.17E-08	1.57E-07	5.43E-08	9.00E-09	2.65E-08	8.98E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 CAIRP	1.90E-07	1.96E-06	8.84E-07	1.61E-08	6.18E-08	3.60E-08	6.17E-08	1.59E-07	5.68E-08	9.00E-09	2.65E-08	9.23E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 CAIRP construction	1.90E-07	1.96E-06	8.84E-07	1.61E-08	6.18E-08	3.60E-08	6.17E-08	1.59E-07	5.68E-08	9.00E-09	2.65E-08	9.23E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 NNOOS	1.65E-07	1.57E-06	7.66E-07	1.61E-08	5.12E-08	3.60E-08	6.17E-08	1.49E-07	4.71E-08	9.00E-09	2.65E-08	8.26E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 NOOS	1.90E-07	1.96E-06	8.84E-07	1.61E-08	6.18E-08	3.60E-08	6.17E-08	1.59E-07	5.68E-08	9.00E-09	2.65E-08	9.23E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 other port	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00								
County	Orange	2035	Annual	T7 POAK	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00								
County	Orange	2035	Annual	T7 POLA	2.29E-07	2.56E-06	1.06E-06	1.61E-08	7.80E-08	3.60E-08	6.17E-08	1.76E-07	7.18E-08	9.00E-09	2.65E-08	1.07E-07	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 Public	1.24E-07	2.57E-06	5.79E-07	1.62E-08	3.80E-08	3.60E-08	6.17E-08	1.36E-07	3.49E-08	9.00E-09	2.65E-08	7.04E-08	1.68E-03	1.51E-03								
County	Orange	2035	Annual	T7 Single	1.54E-07	1.40E-06	7.15E-07	1.61E-08	4.66E-08	3.60E-08	6.17E-08	1.44E-07	4.28E-08	9.00E-09	2.65E-08	7.83E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 single construction	1.54E-07	1.40E-06	7.15E-07	1.61E-08	4.66E-08	3.60E-08	6.17E-08	1.44E-07	4.29E-08	9.00E-09	2.65E-08	7.83E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 SWCV	1.40E-07	2.75E-06	6.53E-07	1.62E-08	4.42E-08	3.60E-08	6.17E-08	1.42E-07	4.07E-08	9.00E-09	2.65E-08	7.61E-08	1.68E-03	1.51E-03								
County	Orange	2035	Annual	T7 tractor	1.91E-07	1.97E-06	8.88E-07	1.61E-08	6.20E-08	3.60E-08	6.17E-08	1.60E-07	5.71E-08	9.00E-09	2.65E-08	9.25E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 tractor construction	1.91E-07	1.98E-06	8.90E-07	1.61E-08	6.22E-08	3.60E-08	6.17E-08	1.60E-07	5.72E-08	9.00E-09	2.65E-08	9.27E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7 utility	1.25E-07	9.54E-07	5.79E-07	1.61E-08	3.44E-08	3.60E-08	6.17E-08	1.32E-07	3.16E-08	9.00E-09	2.65E-08	6.71E-08	1.67E-03	1.51E-03								
County	Orange	2035	Annual	T7IS	2.72E-07	3.94E-06	1.98E-05	6.20E-09	1.27E-10	8.00E-09	3.67E-08	4.49E-08	1.18E-10	2.00E-09	1.57E-08	1.79E-08	4.75E-04	4.28E-04								
County	Orange	2035	Annual	UBUS	1.74E-07	4.14E-06	1.07E-06	1.81E-08	6.27E-08	8.00E-09	6.34E-07	7.04E-07	5.77E-08	2.00E-09	2.72E-07	3.31E-07	1.82E-03	1.64E-03								

Criteria Air Pollutant and GHG Emissions

Area Sources

Area Sources - Consumer Products

Source: CalEEMod Users Guide. Version 2013.2.2.

Residential and Non-Residential Consumer Product Use

Emissions = EF x Building Area

SCAQMD EF = 2.04E-05 lbs/sqft/day

AVERAGE HOUSING SQFT ASSUMPTIONS

Year Structure was Built	Percent of Housing Stock ⁽¹⁾	Average Square Feet of New Single Family Homes ⁽²⁾	
		Average Square Feet	
2010 or later	0.4%	2,448	9
2000 to 2009	4.7%	2,404	114
1980 to 1999	17.3%	1,968	340
1979 or earlier	77.6%	1,699	1,319
			<u>1,782</u>

Sources/Notes:

(1) United States Census Bureau, American FactFinder, City of Los Alamitos, Orange County, California, Physical Housing Characteristics for Occupied Housing Units, 2012 American Community Survey 1-Year Estimates, Year structure built.

(2) United States Census Bureau, Characteristics of New Housing, Characteristics of New Single-Family Houses Completed, Median and Average Square Feet by Location. Obtained from <http://www.census.gov/construction/chars/>

	2013	2035	2020	2035
	CEQA Baseline	Proposed Project	AB 32 Target Year	No Project Scenario
Non-Residential SQFT	7,977,977	8,881,442	8,265,443	8,989,054
Housing Units	8,203	8,735	8,372	9,402
Residential SQFT	14,614,084	15,916,420	15,028,463	17,549,236
lbs VOC per day	461	506	475	541

Source

1 New housing units constructed post-2013 assumed to be 2,448 square feet.

Area Sources - Criteria Air Pollutants

		ROG Exhaust	NO _x Exhaust	CO Exhaust	SO ₂ Exhaust	PM ₁₀ Exhaust	PM _{2.5} Exhaust*
CEQA Baseline 2013		Proportioned Based on: lbs/day					
Construction Equipment	The percentage of building permits issued in Los Alamitos compared to Orange County.	8	56	51	0	3	3
Lawn & Garden Equipment	The percentage of residential units in Los Alamitos compared to Orange County.	80	21	991	0	3	3
Light Commercial Equipment	The percentage of employment in Los Alamitos compared to Orange County.	26	53	694	0	6	6
TOTAL		114	129	1,736	0	12	12

* assumes PM2.5 is 99 percent of PM10

		ROG Exhaust	NO _x Exhaust	CO Exhaust	SO ₂ Exhaust	PM10 Exhaust	PM2.5 Exhaust*
Proposed Project 2035		Forecast Adjusted for: lbs/day					
Construction Equipment	Annual assumed to be similar to historic	8	56	51	0	3	3
Lawn & Garden Equipment	Proportional to population growth	85	22	1,055	0	3	3
Light Commercial Equipment	Proportional to employment growth	33	66	873	0	7	7
TOTAL		126	144	1,978	0	14	13

		ROG Exhaust	NO _x Exhaust	CO Exhaust	SO ₂ Exhaust	PM10 Exhaust	PM2.5 Exhaust*
Current General Plan		Forecast Adjusted for: lbs/day					
Construction Equipment	Annual assumed to be similar to historic	8	56	51	0	3	3
Lawn & Garden Equipment	Proportional to population growth	92	24	1,134	0	3	3
Light Commercial Equipment	Proportional to employment growth	30	60	788	0	6	6
TOTAL		129	139	1,973	0	13	13

Sources

Building Permits

Source: U.S. Census Bureau

<http://censtats.census.gov/bldg/bldgprmt.shtml>

Employment

Source: U.S. Census Bureau. 2010. Longitudinal Employer-Household Dynamics. <http://lehd.ces.census.gov/>

Population

Source: U.S. Census Bureau, 2010.

Other Emissions Sources - Off-road Equipment

Source: OFFROAD2007. Based on equipment use in Orange County.

Year 2013 BAU	Proportioned Based on:	MTCO ₂ e
Construction Equipment	The percentage of building permits issued in Los Alamitos compared to Orange County.	1,013
Lawn & Garden Equipment	The percentage of residential units in Los Alamitos compared to Orange County.	651
Light Commercial Equipment	The percentage of employment in Los Alamitos compared to Orange County.	1,081
TOTAL		2,745

Year 2020 BAU	Forecast Adjusted for:	MTCO ₂ e Proposed Project	2020	Current GP
Construction Equipment	Annual assumed to be similar to historic	1,013	1,013	1,013
Lawn & Garden Equipment	Proportional to population growth	693	664	745
Light Commercial Equipment	Proportional to employment growth	1,359	1,169	1,227
TOTAL		3,065	2,847	2,985

Adjusted Business as Usual - Low Carbon Fuel Standard

On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

Year 2035 Adjusted	Notes	MTCO ₂ e Proposed Project	2020	Current GP
Construction Equipment	With LCFS (10% reduction)	912	912	912
Lawn&Garden Equipment	With LCFS (10% reduction)	623	598	671
Light Commercial Equipment	With LCFS (10% reduction)	1,223	1,052	1,104
TOTAL		2,758	2,562	2,687
reduction		306	285	299

Median and Average Square Feet of Floor Area in New Single-Family Houses Completed by Location¹

(Medians and averages computed from unrounded figures)

Year	Average square feet							
	United States	Inside MSAs	Outside MSAs	Region				
				North-east	Midwest	South	West	
1973	1,660	1,760	1,490	1,595	1,615	1,670	1,715	1,699
1974	1,695	1,785	1,545	1,600	1,660	1,760	1,660	
1975	1,645	1,735	1,490	1,575	1,580	1,705	1,635	
1976	1,700	1,775	1,560	1,630	1,655	1,755	1,685	
1977	1,720	1,795	1,565	1,650	1,650	1,770	1,730	
1978	1,755	1,830	1,610	1,730	1,730	1,785	1,740	
1979	1,760	1,845	1,605	1,795	1,720	1,795	1,730	
1980	1,740	1,825	1,575	1,770	1,685	1,750	1,735	1,968
1981	1,720	1,820	1,535	1,805	1,670	1,715	1,735	
1982	1,710	1,795	1,545	1,755	1,655	1,700	1,740	
1983	1,725	1,785	1,570	1,795	1,735	1,720	1,695	
1984	1,780	1,840	1,600	1,860	1,800	1,750	1,785	
1985	1,785	1,830	1,610	1,830	1,820	1,765	1,770	
1986	1,825	1,865	1,640	1,850	1,855	1,825	1,800	
1987	1,905	1,950	1,700	1,955	1,890	1,915	1,870	
1988	1,995	2,055	1,750	2,005	2,015	1,985	1,995	
1989	2,035	2,105	1,750	2,075	1,970	2,030	2,065	
1990	2,080	2,155	1,800	2,105	2,005	2,055	2,160	
1991	2,075	2,155	1,815	2,105	1,990	2,065	2,155	
1992	2,095	2,160	1,870	2,115	2,020	2,130	2,090	
1993	2,095	2,160	1,860	2,160	2,025	2,150	2,050	
1994	2,100	2,160	1,865	2,195	2,025	2,165	2,025	
1995	2,095	2,150	1,870	2,240	2,020	2,125	2,045	
1996	2,120	2,170	1,915	2,280	2,025	2,160	2,070	
1997	2,150	2,200	1,955	2,265	2,065	2,175	2,135	
1998	2,190	2,250	1,930	2,270	2,125	2,200	2,200	
1999	2,223	2,274	1,991	2,298	2,135	2,244	2,234	
2000	2,266	2,321	2,024	2,435	2,170	2,287	2,244	2,404
2001	2,324	2,361	2,162	2,466	2,209	2,351	2,317	
2002	2,320	2,379	2,068	2,516	2,209	2,317	2,350	
2003	2,330	2,382	2,113	2,443	2,198	2,335	2,387	
2004	2,349	2,402	2,122	2,543	2,222	2,368	2,352	
2005	2,434	2,479	2,137	2,556	2,310	2,463	2,434	
2006	2,469	2,519	2,120	2,612	2,290	2,499	2,488	
2007	2,521	2,581	2,133	2,550	2,328	2,573	2,524	
2008	2,519	2,582	2,203	2,651	2,331	2,564	2,508	
2009	2,438	2,490	2,156	2,594	2,216	2,488	2,434	
2010	2,392	2,443	2,091	2,613	2,265	2,393	2,386	2,448
2011	2,480	2,550	2,060	2,559	2,287	2,538	2,457	
2012	2,505	2,563	2,118	2,582	2,341	2,549	2,502	
RSE	2	2	4	6	3	3	3	

Footnotes:

RSE - Relative Standard Error (percent)

NA - Not available

A - Represents an RSE that is greater or equal to 100 percent or could not be computed

Z - Less than 500 units or less than 0.5 percent

S - Withheld because estimate did not meet publication standards on the basis of response rate or a consistency review

¹Includes houses built for rent (not shown separately).

Construction

Construction	Tons/Day											MTons/Year				
Equipment	County	Air Basin	Air Dist.	Population	Activity	Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e
Tampers/Rammers	Orange	SC	SC	4.16E+02	2.08E+02	4.19E+01	2.64E-03	2.00E-03	1.13E-01	8.91E-06	1.81E-03	2.16E-01	3.23E-04	1.64E-04	3.20E-01	101
Plate Compactors	Orange	SC	SC	3.57E+01	2.02E+01	4.07E+00	2.56E-04	1.94E-04	1.10E-02	8.65E-07	1.76E-04	2.10E-02	3.14E-05	1.59E-05	3.11E-02	10
Asphalt Pavers	Orange	SC	SC	9.08E+00	9.86E+00	5.67E+00	4.26E-04	3.11E-04	1.61E-02	7.90E-07	2.32E-04	2.77E-02	2.82E-05	2.44E-05	3.70E-02	12
Asphalt Pavers	Orange	SC	SC	1.55E+01	1.69E+01	2.44E+01	1.88E-03	1.20E-03	7.15E-02	2.94E-06	9.72E-04	1.16E-01	7.45E-05	1.08E-04	1.41E-01	44
Asphalt Pavers	Orange	SC	SC	8.08E+00	8.69E+00	2.01E+01	6.75E-04	9.68E-04	2.11E-02	1.93E-06	1.21E-05	1.58E-01	4.53E-05	3.87E-05	1.73E-01	55
Asphalt Pavers	Orange	SC	SC	4.44E+00	4.77E+00	1.86E+01	4.51E-04	1.31E-03	8.49E-03	1.58E-06	1.27E-05	1.64E-01	3.78E-05	2.58E-05	1.76E-01	55
Tampers/Rammers	Orange	SC	SC	1.92E+01	9.59E+00	4.61E+00	3.49E-04	2.47E-04	1.31E-02	6.41E-07	1.88E-04	2.25E-02	2.46E-05	2.00E-05	3.05E-02	10
Plate Compactors	Orange	SC	SC	7.05E+02	3.48E+02	6.28E+01	8.79E-03	3.89E-03	1.33E-01	1.25E-05	1.18E-04	3.63E-01	5.73E-04	5.04E-04	5.51E-01	173
Plate Compactors	Orange	SC	SC	7.48E+02	4.23E+02	1.80E+02	1.34E-02	9.76E-03	5.12E-01	2.51E-05	7.38E-03	8.80E-01	1.02E-03	7.69E-04	1.21E+00	382
Rollers	Orange	SC	SC	7.86E+01	1.79E+01	4.80E+00	5.72E-04	2.53E-04	1.14E-02	9.06E-07	8.55E-06	2.62E-02	3.33E-05	3.28E-05	3.73E-02	12
Rollers	Orange	SC	SC	1.27E+02	1.08E+02	5.83E+01	4.34E-03	3.17E-03	1.66E-01	8.14E-06	2.39E-03	2.85E-01	2.97E-04	2.49E-04	3.83E-01	121
Rollers	Orange	SC	SC	8.58E+01	7.29E+01	8.55E+01	6.53E-03	4.18E-03	2.51E-01	1.03E-05	3.41E-03	4.07E-01	2.87E-04	3.75E-04	5.03E-01	158
Rollers	Orange	SC	SC	5.69E+00	9.69E+00	2.58E+01	1.15E-03	1.41E-03	3.37E-02	2.33E-06	1.47E-05	1.92E-01	5.94E-05	6.58E-05	2.12E-01	67
Rollers	Orange	SC	SC	1.07E+01	1.82E+01	8.44E+01	2.86E-03	6.94E-03	5.10E-02	6.99E-06	5.60E-05	7.23E-01	1.78E-04	1.64E-04	7.82E-01	246
Paving Equipment	Orange	SC	SC	9.87E+02	4.60E+02	8.94E+01	1.24E-02	5.48E-03	1.92E-01	1.78E-05	1.68E-04	5.14E-01	7.83E-04	7.10E-04	7.72E-01	243
Paving Equipment	Orange	SC	SC	1.67E+03	9.16E+02	5.22E+02	3.89E-02	2.83E-02	1.49E+00	7.29E-05	2.14E-02	2.56E+00	2.59E-03	2.23E-03	3.41E+00	1,073
Paving Equipment	Orange	SC	SC	3.71E+01	2.04E+01	2.63E+01	2.01E-03	1.28E-03	7.71E-02	3.17E-06	1.05E-03	1.25E-01	8.40E-05	1.15E-04	1.54E-01	48
Paving Equipment	Orange	SC	SC	2.21E+01	1.06E+01	2.38E+01	4.48E-04	7.50E-04	1.81E-02	2.43E-06	1.53E-05	2.00E-01	4.27E-05	2.57E-05	2.14E-01	67
Paving Equipment	Orange	SC	SC	5.69E+00	2.73E+00	9.90E+00	1.16E-04	3.99E-04	2.71E-03	8.77E-07	7.03E-06	9.08E-02	1.46E-05	6.66E-06	9.55E-02	30
Surfacing Equipment	Orange	SC	SC	1.81E+02	9.94E+01	1.98E+01	1.28E-03	1.26E-03	4.13E-02	3.98E-06	3.76E-05	1.15E-01	1.75E-04	1.63E-04	1.73E-01	54
Surfacing Equipment	Orange	SC	SC	5.38E+02	7.43E+02	2.82E+02	2.20E-02	1.61E-02	8.03E-01	3.93E-05	1.16E-02	1.38E+00	1.74E-03	1.26E-03	1.94E+00	612
Surfacing Equipment	Orange	SC	SC	7.37E+00	1.02E+01	9.45E+00	7.56E-04	4.83E-04	2.77E-02	1.14E-06	3.76E-04	4.48E-02	3.62E-05	4.33E-05	5.69E-02	18
Signal Boards	Orange	SC	SC	2.24E+00	7.97E-01	2.57E-01	3.27E-05	1.45E-05	5.85E-04	4.95E-08	4.68E-07	1.43E-03	1.70E-06	1.87E-06	2.00E-03	1
Signal Boards	Orange	SC	SC	1.59E+01	1.24E+01	7.29E+00	5.39E-04	3.94E-04	2.07E-02	1.02E-06	2.99E-04	3.57E-02	3.56E-05	3.09E-05	4.74E-02	15
Trenchers	Orange	SC	SC	1.47E+02	1.75E+02	1.12E+02	8.54E-03	6.23E-03	3.19E-01	1.56E-05	4.59E-03	5.47E-01	5.34E-04	4.89E-04	7.23E-01	228
Trenchers	Orange	SC	SC	1.14E+02	1.36E+02	1.88E+02	1.47E-02	9.37E-03	5.50E-01	2.26E-05	7.47E-03	8.91E-01	5.90E-04	8.40E-04	1.09E+00	344
Trenchers	Orange	SC	SC	5.18E+01	5.71E+01	1.26E+02	4.82E-03	6.75E-03	1.41E-01	1.19E-05	7.48E-05	9.76E-01	3.12E-04	2.76E-04	1.08E+00	340
Trenchers	Orange	SC	SC	1.72E+01	1.89E+01	8.06E+01	2.29E-03	6.53E-03	4.11E-02	6.81E-06	5.46E-05	7.05E-01	1.74E-04	1.31E-04	7.61E-01	240
Bore/Drill Rigs	Orange	SC	SC	4.21E+00	1.43E+00	1.10E+00	8.05E-05	5.70E-05	3.13E-03	1.53E-07	4.49E-05	5.35E-03	4.63E-06	4.62E-06	6.89E-03	2
Bore/Drill Rigs	Orange	SC	SC	2.09E+01	7.11E+00	1.01E+01	7.54E-04	4.70E-04	2.96E-02	1.21E-06	4.01E-04	4.79E-02	3.02E-05	4.33E-05	5.81E-02	18
Bore/Drill Rigs	Orange	SC	SC	2.50E+00	7.35E-01	1.95E+00	5.66E-05	1.02E-04	1.65E-03	1.95E-07	1.23E-06	1.60E-02	4.29E-06	3.25E-06	1.74E-02	5
Bore/Drill Rigs	Orange	SC	SC	1.15E+01	3.37E+00	2.23E+01	4.62E-04	1.77E-03	8.41E-03	1.93E-06	1.55E-05	2.00E-01	3.81E-05	2.65E-05	2.13E-01	67
Bore/Drill Rigs	Orange	SC	SC	2.85E+00	8.35E-01	7.54E+00	9.18E-05	6.91E-04	2.18E-03	6.86E-07	5.50E-06	6.90E-02	1.20E-05	5.26E-06	7.29E-02	23
Concrete/Industrial Saws	Orange	SC	SC	7.72E+01	2.75E+01	7.28E+00	9.26E-04	4.10E-04	1.66E-02	1.40E-06	1.33E-05	4.07E-02	5.28E-05	5.31E-05	5.81E-02	18
Concrete/Industrial Saws	Orange	SC	SC	3.47E+02	2.95E+02	2.00E+02	1.49E-02	1.09E-02	5.70E-01	2.80E-05	8.23E-03	9.81E-01	9.19E-04	8.56E-04	1.28E+00	404
Concrete/Industrial Saws	Orange	SC	SC	1.09E+02	9.24E+01	1.22E+02	9.32E-03	5.95E-03	3.58E-01	1.47E-05	4.86E-03	5.80E-01	3.87E-04	5.34E-04	7.11E-01	224
Concrete/Industrial Saws	Orange	SC	SC	9.33E+00	1.56E+01	4.32E+01	4.47E-04	6.47E-04	3.01E-02	4.47E-06	2.82E-05	3.68E-01	5.16E-05	2.56E-05	3.85E-01	121
Concrete/Industrial Saws	Orange	SC	SC	5.35E+00	8.95E+00	4.22E+01	1.84E-04	4.14E-04	8.20E-03	3.80E-06	3.05E-05	3.93E-01	3.14E-05	1.05E-05	4.03E-01	127
Cement and Mortar Mixers	Orange	SC	SC	1.40E+03	3.54E+02	8.93E+01	1.11E-02	4.90E-03	2.07E-01	1.71E-05	1.61E-04	4.94E-01	6.51E-04	6.34E-04	7.09E-01	223
Cement and Mortar Mixers	Orange	SC	SC	2.38E+03	6.00E+02	2.90E+02	2.77E-02	1.30E-02	8.64E-01	3.82E-05	1.10E-02	1.34E+00	1.40E-03	1.59E-03	1.81E+00	569
Cement and Mortar Mixers	Orange	SC	SC	1.00E+01	2.52E+00	3.86E+00	3.49E-04	1.55E-04	1.16E-02	4.46E-07	1.45E-04	1.76E-02	1.02E-05	2.00E-05	2.12E-02	7
Cranes	Orange	SC	SC	2.85E+00	3.24E+00	6.29E+00	2.43E-04	3.37E-04	7.11E-03	5.91E-07	3.72E-06	4.86E-02	1.65E-05	1.39E-05	5.40E-02	17
Cranes	Orange	SC	SC	5.69E+00	6.48E+00	2.20E+01	6.33E-04	1.79E-03	1.14E-02	1.86E-06	1.49E-05	1.92E-01	5.28E-05	3.63E-05	2.09E-01	66
Cranes	Orange	SC	SC	2.28E-01	2.59E-01	1.39E+00	2.02E-05	1.36E-04	4.47E-04	1.26E-07	1.01E-06	1.26E-02	2.97E-06	1.16E-06	1.36E-02	4
Crushing/Proc. Equipment	Orange	SC	SC	3.82E+00	3.02E+00	2.24E+00	1.66E-04	1.21E-04	6.36E-03	3.12E-07	9.18E-05	1.10E-02	9.82E-06	9.50E-06	1.42E-02	4
Crushing/Proc. Equipment	Orange	SC	SC	2.50E+00	1.98E+00	2.68E+00	2.04E-04	1.30E-04	7.86E-03	3.23E-07	1.07E-04	1.28E-02	8.38E-06	1.17E-05	1.56E-02	5
Crushing/Proc. Equipment	Orange	SC	SC	3.30E+00	2.18E+00	1.71E+01	4.15E-04	1.37E-03	7.50E-03	1.47E-06	1.18E-05	1.52E-01	2.74E-05	2.38E-05	1.61E-01	51
Rough Terrain Forklifts	Orange	SC	SC	1.14E+00	1.29E+00	4.26E+00	1.65E-04	2.29E-04	4.81E-03	4.01E-07	2.52E-06	3.30E-02	8.74E-06	9.43E-06	3.59E-02	11

Construction

Equipment	County	Air Basin	Air Dist.	Population	Activity	Tons/Day							MTons/Year				
						Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e	CO2e
Rough Terrain Forklifts	Orange	SC	SC	1.62E+01	1.83E+01	9.58E+01	2.75E-03	7.77E-03	4.93E-02	8.09E-06	6.48E-05	8.37E-01	1.88E-04	1.58E-04	8.98E-01	283	
Rough Terrain Forklifts	Orange	SC	SC	5.69E-01	6.45E-01	5.27E+00	7.65E-05	5.14E-04	1.69E-03	4.76E-07	3.81E-06	4.79E-02	9.24E-06	4.38E-06	5.08E-02	16	
Rubber Tired Loaders	Orange	SC	SC	2.85E+00	4.00E+00	9.75E+00	3.84E-04	5.06E-04	1.15E-02	9.06E-07	5.71E-06	7.45E-02	2.26E-05	2.20E-05	8.20E-02	26	
Rubber Tired Loaders	Orange	SC	SC	1.89E+01	2.65E+01	1.01E+02	2.97E-03	7.84E-03	5.41E-02	8.51E-06	6.82E-05	8.81E-01	2.23E-04	1.70E-04	9.53E-01	300	
Tractors/Loaders/Backhoes	Orange	SC	SC	1.00E+01	2.39E+01	7.01E+01	1.14E-03	2.67E-03	3.52E-02	5.96E-06	4.78E-05	6.17E-01	1.18E-04	6.50E-05	6.55E-01	206	
Skid Steer Loaders	Orange	SC	SC	7.50E+00	6.56E+00	5.15E+00	3.89E-04	2.84E-04	1.46E-02	7.19E-07	2.11E-04	2.52E-02	2.22E-05	2.23E-05	3.26E-02	10	
Skid Steer Loaders	Orange	SC	SC	5.01E+02	4.39E+02	4.82E+02	3.72E-02	2.38E-02	1.41E+00	5.80E-05	1.92E-02	2.29E+00	1.68E-03	2.14E-03	2.85E+00	898	
Skid Steer Loaders	Orange	SC	SC	7.76E+01	6.60E+01	1.26E+02	1.57E-03	2.38E-03	9.72E-02	1.29E-05	8.10E-05	1.06E+00	1.96E-04	8.98E-05	1.12E+00	353	
Skid Steer Loaders	Orange	SC	SC	4.64E+01	3.95E+01	1.69E+02	1.02E-03	2.81E-03	3.92E-02	1.51E-05	1.21E-04	1.56E+00	1.57E-04	5.85E-05	1.61E+00	508	
Dumpers/Tenders	Orange	SC	SC	7.16E+01	2.92E+01	3.91E+00	5.57E-04	2.47E-04	8.19E-03	7.84E-07	7.40E-06	2.27E-02	4.14E-05	3.19E-05	3.62E-02	11	
Dumpers/Tenders	Orange	SC	SC	1.53E+02	6.24E+01	2.33E+01	2.16E-03	1.12E-03	6.88E-02	3.11E-06	9.01E-04	1.09E-01	1.32E-04	1.24E-04	1.52E-01	48	
Dumpers/Tenders	Orange	SC	SC	2.83E+01	1.16E+01	9.26E+00	8.25E-04	3.98E-04	2.77E-02	1.08E-06	3.53E-04	4.26E-02	3.45E-05	4.73E-05	5.43E-02	17	
Dumpers/Tenders	Orange	SC	SC	2.05E+00	7.14E-01	1.84E+00	3.91E-05	1.46E-04	7.11E-04	1.59E-07	1.28E-06	1.65E-02	4.89E-06	2.24E-06	1.80E-02	6	
Other Construction Equipment	Orange	SC	SC	7.97E+00	8.11E+00	4.44E+01	1.80E-04	6.40E-04	1.32E-02	4.04E-06	3.24E-05	4.07E-01	3.60E-05	1.03E-05	4.18E-01	132	
Pavers	Orange	SC	SC	2.15E+00	4.84E+00	4.11E+00	5.96E-05	3.63E-04	1.93E-04	5.72E-07	1.82E-05	4.51E-02	0.00E+00	5.38E-06	4.52E-02	14	
Pavers	Orange	SC	SC	1.25E+02	2.86E+02	3.74E+02	1.95E-02	4.21E-02	5.13E-02	5.16E-05	4.40E-03	3.99E+00	0.00E+00	1.76E-03	4.03E+00	1,269	
Pavers	Orange	SC	SC	1.47E+02	3.37E+02	1.07E+03	2.34E-02	1.41E-01	8.51E-02	1.37E-04	1.23E-02	1.16E+01	0.00E+00	2.11E-03	1.17E+01	3,678	
Pavers	Orange	SC	SC	9.16E+01	2.09E+02	1.23E+03	1.86E-02	1.44E-01	8.14E-02	1.51E-04	8.06E-03	1.34E+01	0.00E+00	1.68E-03	1.34E+01	4,234	
Pavers	Orange	SC	SC	1.10E+01	2.52E+01	2.23E+02	2.61E-03	2.46E-02	7.65E-03	2.76E-05	9.52E-04	2.45E+00	0.00E+00	2.35E-04	2.45E+00	773	
Pavers	Orange	SC	SC	1.13E+01	2.59E+01	2.74E+02	2.74E-03	2.94E-03	1.19E-02	2.96E-05	1.06E-03	3.02E+00	0.00E+00	2.65E-04	3.02E+00	951	
Plate Compactors	Orange	SC	SC	4.62E+01	7.59E+01	1.49E+01	1.90E-04	1.19E-03	9.99E-04	2.55E-06	4.67E-05	1.64E-01	0.00E+00	1.72E-05	1.64E-01	52	
Rollers	Orange	SC	SC	8.67E+01	1.65E+02	4.77E+01	6.07E-04	3.80E-03	3.19E-03	8.12E-06	1.48E-04	5.22E-01	0.00E+00	5.48E-05	5.23E-01	165	
Rollers	Orange	SC	SC	3.63E+01	6.91E+01	4.20E+01	5.57E-04	3.53E-03	1.90E-03	5.84E-06	1.41E-04	4.61E-01	0.00E+00	5.03E-05	4.62E-01	145	
Rollers	Orange	SC	SC	1.13E+02	2.17E+02	2.62E+02	1.11E-02	2.80E-02	3.16E-02	3.64E-05	2.66E-03	2.82E+00	0.00E+00	1.00E-03	2.84E+00	893	
Rollers	Orange	SC	SC	6.06E+02	1.17E+03	3.15E+03	5.75E-02	3.64E-01	2.37E-01	4.03E-04	3.11E-02	3.43E+01	0.00E+00	5.19E-03	3.44E+01	10,841	
Rollers	Orange	SC	SC	2.44E+02	4.68E+02	2.31E+03	2.92E-02	2.37E-01	1.45E-01	2.85E-04	1.29E-02	2.53E+01	0.00E+00	2.64E-03	2.54E+01	7,985	
Rollers	Orange	SC	SC	3.45E+01	6.65E+01	4.61E+02	4.19E-03	4.36E-02	1.29E-02	5.72E-05	1.50E-03	5.08E+00	0.00E+00	3.78E-04	5.09E+00	1,602	
Rollers	Orange	SC	SC	2.42E+01	4.66E+01	4.63E+02	3.85E-03	3.92E-02	1.47E-02	5.01E-05	1.38E-03	5.10E+00	0.00E+00	3.47E-04	5.11E+00	1,608	
Scrapers	Orange	SC	SC	5.59E+00	1.70E+01	7.35E+01	1.60E-03	9.49E-03	5.91E-03	9.38E-06	8.39E-04	8.00E-01	0.00E+00	1.44E-04	8.03E-01	253	
Scrapers	Orange	SC	SC	5.12E+01	1.56E+02	1.06E+03	1.62E-02	1.21E-01	7.10E-02	1.30E-04	6.90E-03	1.15E+01	0.00E+00	1.46E-03	1.16E+01	3,643	
Scrapers	Orange	SC	SC	4.99E+01	1.52E+02	1.45E+03	1.71E-02	1.56E-01	4.86E-02	1.79E-04	6.01E-03	1.59E+01	0.00E+00	1.54E-03	1.60E+01	5,021	
Scrapers	Orange	SC	SC	1.37E+02	4.19E+02	6.12E+03	6.66E-02	5.92E-01	2.53E-01	6.60E-04	2.30E-02	6.72E+01	0.00E+00	6.01E-03	6.74E+01	21,207	
Scrapers	Orange	SC	SC	1.14E+01	3.47E+01	8.76E+02	9.59E-03	8.66E-02	3.62E-02	9.68E-05	3.33E-03	9.63E+00	0.00E+00	8.65E-04	9.65E+00	3,038	
Paving Equipment	Orange	SC	SC	3.73E+00	8.47E+00	4.87E+00	6.46E-05	4.10E-04	2.20E-04	6.78E-07	1.64E-05	5.34E-02	0.00E+00	5.83E-06	5.36E-02	17	
Paving Equipment	Orange	SC	SC	3.15E+00	7.23E+00	8.10E+00	4.22E-04	9.08E-04	1.10E-03	1.12E-06	9.51E-05	8.64E-02	0.00E+00	3.81E-05	8.72E-02	27	
Paving Equipment	Orange	SC	SC	4.54E+01	1.04E+02	2.60E+02	5.67E-03	3.42E-02	2.06E-02	3.33E-05	2.99E-03	2.84E+00	0.00E+00	5.11E-04	2.85E+00	896	
Paving Equipment	Orange	SC	SC	2.14E+01	4.90E+01	2.26E+02	3.40E-03	2.65E-02	1.49E-02	2.78E-05	1.48E-03	2.47E+00	0.00E+00	3.07E-04	2.48E+00	780	
Paving Equipment	Orange	SC	SC	6.02E+00	1.38E+01	7.66E+01	8.81E-04	8.42E-03	2.59E-03	9.49E-06	3.22E-04	8.43E-01	0.00E+00	7.95E-05	8.45E-01	266	
Surfacing Equipment	Orange	SC	SC	2.87E+00	3.56E+00	2.33E+00	8.49E-05	2.42E-04	2.50E-04	3.24E-07	2.11E-05	2.51E-02	0.00E+00	7.66E-06	2.52E-02	8	
Surfacing Equipment	Orange	SC	SC	5.73E-01	7.12E-01	2.08E+00	3.46E-05	2.32E-04	1.50E-04	2.66E-07	1.84E-05	2.27E-02	0.00E+00	3.12E-06	2.27E-02	7	
Surfacing Equipment	Orange	SC	SC	4.30E-01	5.34E-01	2.09E+00	2.39E-05	2.07E-04	1.26E-04	2.57E-07	1.05E-05	2.29E-02	0.00E+00	2.16E-06	2.29E-02	7	
Surfacing Equipment	Orange	SC	SC	8.60E-01	1.07E+00	6.52E+00	5.47E-05	5.97E-04	1.80E-04	8.09E-07	2.00E-05	7.19E-02	0.00E+00	4.93E-06	7.20E-02	23	
Surfacing Equipment	Orange	SC	SC	7.17E+00	8.89E+00	8.92E+01	6.80E-04	7.38E-03	2.85E-03	9.65E-06	2.52E-04	9.83E-01	0.00E+00	6.14E-05	9.84E-01	310	
Surfacing Equipment	Orange	SC	SC	2.18E+00	2.70E+00	4.25E+01	3.29E-04	3.60E-03	1.36E-03	4.71E-06	1.21E-04	4.68E-01	0.00E+00	2.97E-05	4.69E-01	148	
Signal Boards	Orange	SC	SC	4.03E+02	8.30E+02	2.34E+02	2.98E-03	1.86E-02	1.56E-02	3.98E-05	7.28E-04	2.56E+00	0.00E+00	2.69E-04	2.56E+00	807	
Signal Boards	Orange	SC	SC	2.01E+00	2.94E+00	4.93E+00	1.70E-04	5.02E-04	5.09E-04	6.88E-07	4.36E-05	5.32E-02	0.00E+00	1.53E-05	5.35E-02	17	
Signal Boards	Orange	SC	SC	3.28E+01	4.82E+01	1.77E+02	2.83E-03	1.88E-02	1.25E-02	2.26E-05	1.55E-03	1.93E+00	0.00E+00	2.56E-04	1.93E+00	609	
Signal Boards	Orange	SC	SC	2.04E+01	2.99E+01	2.10E+02	2.30E-03	1.99E-02	1.24E-02	2.59E-05	1.02E-03	2.31E+00	0.00E+00	2.07E-04	2.31E+00	727	

Construction

Construction	Tons/Day											MTons/Year				
Equipment	County	Air Basin	Air Dist.	Population	Activity	Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e
Signal Boards	Orange	SC	SC	4.30E+00	6.31E+00	7.29E+01	5.15E-04	6.30E-03	1.69E-03	9.05E-06	1.83E-04	8.04E-01	0.00E+00	4.65E-05	8.05E-01	254
Trenchers	Orange	SC	SC	1.07E+01	1.82E+01	7.04E+00	8.97E-05	5.62E-04	4.70E-04	1.20E-06	2.19E-05	7.70E-02	0.00E+00	8.09E-06	7.72E-02	24
Trenchers	Orange	SC	SC	1.13E+01	1.92E+01	2.87E+01	3.81E-04	2.41E-03	1.30E-03	4.00E-06	9.33E-05	3.16E-01	0.00E+00	3.44E-05	3.16E-01	100
Trenchers	Orange	SC	SC	4.31E+02	7.46E+02	1.15E+03	5.84E-02	1.28E-01	1.52E-01	1.59E-04	1.32E-02	1.23E+01	0.00E+00	5.27E-03	1.24E+01	3,895
Trenchers	Orange	SC	SC	5.84E+02	1.01E+03	3.01E+03	6.48E-02	3.97E-01	2.37E-01	3.84E-04	3.38E-02	3.28E+01	0.00E+00	5.85E-03	3.29E+01	10,352
Trenchers	Orange	SC	SC	6.39E+01	1.11E+02	7.27E+02	1.08E-02	8.58E-02	4.77E-02	8.95E-05	4.70E-03	7.95E+00	0.00E+00	9.76E-04	7.97E+00	2,509
Trenchers	Orange	SC	SC	5.73E+00	9.92E+00	1.00E+02	1.17E-03	1.12E-02	3.51E-03	1.24E-05	4.36E-04	1.10E+00	0.00E+00	1.05E-04	1.11E+00	348
Trenchers	Orange	SC	SC	7.31E+00	1.26E+01	1.79E+02	1.88E-03	1.80E-02	8.20E-03	1.93E-05	6.97E-04	1.97E+00	0.00E+00	1.70E-04	1.97E+00	620
Trenchers	Orange	SC	SC	4.35E-01	7.53E-01	2.01E+01	2.13E-04	2.06E-03	9.20E-04	2.22E-06	7.90E-05	2.21E-01	0.00E+00	1.92E-05	2.21E-01	70
Bore/Drill Rigs	Orange	SC	SC	1.43E+00	3.19E+00	1.50E+00	1.92E-05	1.20E-04	1.01E-04	2.56E-07	4.66E-06	1.65E-02	0.00E+00	1.73E-06	1.65E-02	5
Bore/Drill Rigs	Orange	SC	SC	4.30E+00	9.56E+00	6.96E+00	9.24E-05	5.86E-04	3.14E-04	9.69E-07	2.35E-05	7.64E-02	0.00E+00	8.34E-06	7.65E-02	24
Bore/Drill Rigs	Orange	SC	SC	1.88E+01	4.34E+01	6.15E+01	6.26E-04	5.57E-03	4.95E-03	8.70E-06	2.59E-04	6.73E-01	0.00E+00	5.65E-05	6.74E-01	212
Bore/Drill Rigs	Orange	SC	SC	5.76E+01	1.33E+02	4.67E+02	2.97E-03	3.05E-02	3.12E-02	6.02E-05	1.71E-03	5.13E+00	0.00E+00	2.68E-04	5.14E+00	1,617
Bore/Drill Rigs	Orange	SC	SC	1.33E+01	3.08E+01	1.98E+02	1.08E-03	1.07E-02	1.16E-02	2.44E-05	4.64E-04	2.17E+00	0.00E+00	9.77E-05	2.17E+00	684
Bore/Drill Rigs	Orange	SC	SC	1.15E+01	2.65E+01	2.25E+02	1.05E-03	1.01E-02	4.54E-03	2.80E-05	2.92E-04	2.49E+00	0.00E+00	9.48E-05	2.49E+00	784
Bore/Drill Rigs	Orange	SC	SC	2.55E+01	5.90E+01	8.29E+02	3.81E-03	3.45E-02	1.62E-02	9.00E-05	1.06E-03	9.17E+00	0.00E+00	3.44E-04	9.18E+00	2,889
Bore/Drill Rigs	Orange	SC	SC	6.74E+00	1.56E+01	4.33E+02	2.00E-03	1.82E-02	8.49E-03	4.81E-05	5.57E-04	4.79E+00	0.00E+00	1.80E-04	4.79E+00	1,509
Bore/Drill Rigs	Orange	SC	SC	1.13E+01	2.61E+01	1.10E+03	5.43E-03	7.77E-02	2.18E-02	1.22E-04	2.02E-03	1.21E+01	0.00E+00	4.90E-04	1.21E+01	3,816
Excavators	Orange	SC	SC	5.30E+00	2.03E+01	1.52E+01	2.01E-04	1.27E-03	6.86E-04	2.12E-06	4.76E-05	1.67E-01	0.00E+00	1.81E-05	1.67E-01	53
Excavators	Orange	SC	SC	2.00E+02	7.78E+02	9.04E+02	3.18E-02	9.56E-02	1.11E-01	1.26E-04	8.27E-03	9.73E+00	0.00E+00	2.87E-03	9.79E+00	3,082
Excavators	Orange	SC	SC	5.42E+02	2.11E+03	7.12E+03	1.15E-01	7.18E-01	5.47E-01	9.12E-04	6.21E-02	7.78E+01	0.00E+00	1.04E-02	7.80E+01	24,546
Excavators	Orange	SC	SC	1.05E+03	4.08E+03	2.09E+04	2.47E-01	1.82E+00	1.36E+00	2.57E-03	1.05E-01	2.29E+02	0.00E+00	2.23E-02	2.29E+02	72,124
Excavators	Orange	SC	SC	4.25E+02	1.66E+03	1.19E+04	1.03E-01	9.43E-01	2.93E-01	1.48E-03	3.09E-02	1.31E+02	0.00E+00	9.29E-03	1.32E+02	41,452
Excavators	Orange	SC	SC	3.07E+02	1.20E+03	1.27E+04	1.04E-01	8.83E-01	3.15E-01	1.37E-03	3.09E-02	1.40E+02	0.00E+00	9.36E-03	1.40E+02	44,042
Excavators	Orange	SC	SC	3.41E+00	1.33E+01	2.33E+02	1.92E-03	1.68E-02	5.80E-03	2.59E-05	5.78E-04	2.57E+00	0.00E+00	1.73E-04	2.58E+00	811
Concrete/Industrial Saws	Orange	SC	SC	5.73E-01	9.31E-01	6.98E-01	9.25E-06	5.84E-05	3.15E-05	9.72E-08	2.27E-06	7.66E-03	0.00E+00	8.34E-07	7.68E-03	2
Concrete/Industrial Saws	Orange	SC	SC	5.02E+00	7.98E+00	1.12E+01	3.81E-04	1.14E-03	1.16E-03	1.56E-06	9.84E-05	1.20E-01	0.00E+00	3.44E-05	1.21E-01	38
Concrete/Industrial Saws	Orange	SC	SC	8.74E+00	1.39E+01	4.71E+01	7.41E-04	4.97E-03	3.36E-03	6.04E-06	4.10E-04	5.15E-01	0.00E+00	6.69E-05	5.16E-01	163
Concrete/Industrial Saws	Orange	SC	SC	2.87E-01	4.56E-01	3.33E+00	3.58E-05	3.10E-04	1.98E-04	4.11E-07	1.61E-05	3.65E-02	0.00E+00	3.23E-06	3.66E-02	12
Cement and Mortar Mixers	Orange	SC	SC	7.32E+01	6.02E+01	1.74E+01	2.24E-04	1.41E-03	1.16E-03	2.96E-06	6.42E-05	1.90E-01	0.00E+00	2.02E-05	1.91E-01	60
Cement and Mortar Mixers	Orange	SC	SC	6.59E+00	5.42E+00	4.34E+00	7.32E-05	4.09E-04	2.20E-04	6.04E-07	2.25E-05	4.76E-02	0.00E+00	6.61E-06	4.77E-02	15
Cranes	Orange	SC	SC	4.87E+00	1.71E+01	1.85E+01	8.69E-04	2.05E-03	2.47E-03	2.56E-06	2.05E-04	1.98E-01	0.00E+00	7.84E-05	2.00E-01	63
Cranes	Orange	SC	SC	5.35E+01	1.88E+02	4.32E+02	8.63E-03	5.17E-02	3.39E-02	5.52E-05	4.63E-03	4.70E+00	0.00E+00	7.79E-04	4.72E+00	1,486
Cranes	Orange	SC	SC	5.35E+01	1.88E+02	6.89E+02	9.69E-03	7.29E-02	4.52E-02	8.48E-05	4.18E-03	7.53E+00	0.00E+00	8.74E-04	7.55E+00	2,378
Cranes	Orange	SC	SC	1.04E+02	3.64E+02	1.85E+03	1.89E-02	1.81E-01	5.35E-02	2.29E-04	6.38E-03	2.04E+01	0.00E+00	1.71E-03	2.04E+01	6,429
Cranes	Orange	SC	SC	3.80E+01	1.33E+02	1.09E+03	1.03E-02	9.48E-02	3.52E-02	1.18E-04	3.45E-03	1.20E+01	0.00E+00	9.32E-04	1.20E+01	3,783
Cranes	Orange	SC	SC	1.41E+01	4.97E+01	6.82E+02	6.51E-03	6.10E-02	2.21E-02	7.56E-05	2.19E-03	7.52E+00	0.00E+00	5.87E-04	7.53E+00	2,370
Cranes	Orange	SC	SC	1.78E+01	6.23E+01	2.75E+03	2.96E-02	3.23E-01	1.04E-01	3.04E-04	9.93E-03	3.02E+01	0.00E+00	2.67E-03	3.03E+01	9,530
Graders	Orange	SC	SC	2.01E+00	5.23E+00	6.71E+00	2.83E-04	7.25E-04	8.53E-04	9.30E-07	6.86E-05	7.20E-02	0.00E+00	2.55E-05	7.25E-02	23
Graders	Orange	SC	SC	1.34E+02	3.49E+02	1.20E+03	2.19E-02	1.35E-01	9.26E-02	1.53E-04	1.18E-02	1.31E+01	0.00E+00	1.98E-03	1.31E+01	4,127
Graders	Orange	SC	SC	4.57E+02	1.19E+03	6.74E+03	8.76E-02	6.68E-01	4.37E-01	8.30E-04	3.77E-02	7.38E+01	0.00E+00	7.90E-03	7.40E+01	23,284
Graders	Orange	SC	SC	2.84E+02	7.40E+02	5.77E+03	5.52E-02	5.25E-01	1.60E-01	7.16E-04	1.83E-02	6.36E+01	0.00E+00	4.98E-03	6.37E+01	20,054
Graders	Orange	SC	SC	8.03E+00	2.09E+01	2.18E+02	1.94E-03	1.76E-02	6.57E-03	2.35E-05	6.35E-04	2.40E+00	0.00E+00	1.75E-04	2.40E+00	756
Graders	Orange	SC	SC	2.18E-01	5.67E-01	1.25E+01	1.12E-04	1.04E-03	3.77E-04	1.38E-06	3.70E-05	1.38E-01	0.00E+00	1.01E-05	1.38E-01	43
Off-Highway Trucks	Orange	SC	SC	9.32E+00	5.08E+01	2.90E+02	3.66E-03	2.62E-02	1.92E-02	3.57E-05	1.53E-03	3.17E+00	0.00E+00	3.31E-04	3.18E+00	1,001
Off-Highway Trucks	Orange	SC	SC	6.88E+01	3.75E+02	2.83E+03	2.62E-02	2.32E-01	7.19E-02	3.51E-04	7.73E-03	3.12E+01	0.00E+00	2.37E-03	3.13E+01	9,840
Off-Highway Trucks	Orange	SC	SC	9.69E+01	5.28E+02	6.52E+03	5.73E-02	4.72E-01	1.68E-01	7.05E-04	1.67E-02	7.19E+01	0.00E+00	5.17E-03	7.20E+01	22,660
Off-Highway Trucks	Orange	SC	SC	4.56E+01	2.49E+02	4.98E+03	4.40E-02	3.71E-01	1.28E-01	5.52E-04	1.30E-02	5.49E+01	0.00E+00	3.97E-03	5.50E+01	17,303

Construction

Construction						Tons/Day										MTons/Year				
Equipment	County	Air Basin	Air Dist.	Population	Activity	Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e				
Off-Highway Trucks	Orange	SC	SC	2.14E+01	1.17E+02	3.30E+03	3.19E-02	3.48E-01	9.72E-02	3.66E-04	1.05E-02	3.64E+01	0.00E+00	2.88E-03	3.64E+01	11,467				
Crushing/Proc. Equipment	Orange	SC	SC	2.29E+01	6.01E+01	1.23E+02	5.24E-03	1.31E-02	1.50E-02	1.71E-05	1.27E-03	1.32E+00	0.00E+00	4.72E-04	1.33E+00	419				
Crushing/Proc. Equipment	Orange	SC	SC	6.46E+01	1.69E+02	6.44E+02	1.19E-02	7.24E-02	4.88E-02	8.25E-05	6.61E-03	7.03E+00	0.00E+00	1.07E-03	7.05E+00	2,220				
Crushing/Proc. Equipment	Orange	SC	SC	2.74E+01	7.17E+01	5.47E+02	6.97E-03	5.47E-02	3.44E-02	6.74E-05	3.10E-03	5.99E+00	0.00E+00	6.29E-04	6.00E+00	1,890				
Crushing/Proc. Equipment	Orange	SC	SC	2.72E+00	7.13E+00	7.90E+01	6.59E-04	7.21E-03	1.93E-03	9.80E-06	2.21E-04	8.71E-01	0.00E+00	5.95E-05	8.72E-01	275				
Crushing/Proc. Equipment	Orange	SC	SC	1.53E+01	4.02E+01	6.79E+02	5.24E-03	5.44E-02	1.70E-02	7.36E-05	1.77E-03	7.50E+00	0.00E+00	4.72E-04	7.51E+00	2,363				
Crushing/Proc. Equipment	Orange	SC	SC	3.63E-01	9.49E-01	2.53E+01	1.97E-04	2.11E-03	6.26E-04	2.81E-06	6.72E-05	2.79E-01	0.00E+00	1.77E-05	2.80E-01	88				
Crushing/Proc. Equipment	Orange	SC	SC	3.63E-01	9.49E-01	5.63E+01	5.35E-04	6.32E-03	1.74E-03	6.24E-06	1.84E-04	6.20E-01	0.00E+00	4.82E-05	6.21E-01	196				
Rough Terrain Forklifts	Orange	SC	SC	1.59E+01	4.94E+01	7.77E+01	2.92E-03	8.19E-03	9.33E-03	1.08E-05	7.43E-04	8.36E-01	0.00E+00	2.64E-04	8.41E-01	265				
Rough Terrain Forklifts	Orange	SC	SC	7.62E+02	2.37E+03	6.76E+03	1.13E-01	7.09E-01	5.12E-01	8.66E-04	6.27E-02	7.38E+01	0.00E+00	1.02E-02	7.40E+01	23,303				
Rough Terrain Forklifts	Orange	SC	SC	9.76E+01	3.03E+02	1.73E+03	2.05E-02	1.58E-01	1.10E-01	2.13E-04	8.99E-03	1.89E+01	0.00E+00	1.85E-03	1.90E+01	5,965				
Rough Terrain Forklifts	Orange	SC	SC	5.45E+00	1.69E+01	1.31E+02	1.09E-03	1.10E-02	3.21E-03	1.62E-05	3.52E-04	1.44E+00	0.00E+00	9.87E-05	1.45E+00	455				
Rough Terrain Forklifts	Orange	SC	SC	3.58E+00	1.11E+01	1.29E+02	1.01E-03	9.51E-03	3.18E-03	1.40E-05	3.25E-04	1.43E+00	0.00E+00	9.15E-05	1.43E+00	450				
Rubber Tired Loaders	Orange	SC	SC	2.01E+00	5.27E+00	4.06E+00	5.37E-05	3.40E-04	1.83E-04	5.65E-07	1.32E-05	4.45E-02	0.00E+00	4.85E-06	4.46E-02	14				
Rubber Tired Loaders	Orange	SC	SC	3.90E+01	1.04E+02	1.51E+02	6.26E-03	1.62E-02	1.90E-02	2.10E-05	1.52E-03	1.62E+00	0.00E+00	5.65E-04	1.63E+00	514				
Rubber Tired Loaders	Orange	SC	SC	1.06E+03	2.83E+03	7.64E+03	1.38E-01	8.52E-01	5.88E-01	9.78E-04	7.45E-02	8.34E+01	0.00E+00	1.24E-02	8.37E+01	26,334				
Rubber Tired Loaders	Orange	SC	SC	5.97E+02	1.60E+03	7.75E+03	9.90E-02	7.59E-01	5.01E-01	9.54E-04	4.28E-02	8.48E+01	0.00E+00	8.93E-03	8.50E+01	26,761				
Rubber Tired Loaders	Orange	SC	SC	5.94E+02	1.59E+03	1.07E+04	9.99E-02	9.64E-01	2.92E-01	1.33E-03	3.31E-02	1.18E+02	0.00E+00	9.01E-03	1.18E+02	37,269				
Rubber Tired Loaders	Orange	SC	SC	2.47E+02	6.61E+02	7.10E+03	6.17E-02	5.67E-01	2.11E-01	7.68E-04	2.02E-02	7.83E+01	0.00E+00	5.56E-03	7.84E+01	24,673				
Rubber Tired Loaders	Orange	SC	SC	8.77E+00	2.35E+01	5.16E+02	4.51E-03	4.24E-02	1.53E-02	5.72E-05	1.49E-03	5.69E+00	0.00E+00	4.07E-04	5.70E+00	1,794				

Construction

Equipment	County	Air Basin	Air Dist.	Population	Activity	Tons/Day							MTons/Year				
						Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e	
Rubber Tired Loaders	Orange	SC	SC	9.43E-01	2.52E+00	6.78E+01	6.53E-04	7.50E-03	2.31E-03	7.51E-06	2.26E-04	7.47E-01	0.00E+00	5.89E-05	7.48E-01	236	
Rubber Tired Dozers	Orange	SC	SC	1.43E+00	6.40E+00	3.79E+01	6.78E-04	4.98E-03	2.70E-03	4.66E-06	2.86E-04	4.14E-01	0.00E+00	6.12E-05	4.15E-01	131	
Rubber Tired Dozers	Orange	SC	SC	3.51E+01	1.57E+02	1.31E+03	1.91E-02	1.63E-01	5.34E-02	1.62E-04	6.89E-03	1.44E+01	0.00E+00	1.72E-03	1.44E+01	4,536	
Rubber Tired Dozers	Orange	SC	SC	5.40E+01	2.41E+02	2.91E+03	3.87E-02	3.29E-01	1.71E-01	3.13E-04	1.36E-02	3.19E+01	0.00E+00	3.49E-03	3.20E+01	10,073	
Rubber Tired Dozers	Orange	SC	SC	9.64E+00	4.31E+01	7.83E+02	1.04E-02	8.99E-02	4.60E-02	8.63E-05	3.69E-03	8.58E+00	0.00E+00	9.41E-04	8.60E+00	2,707	
Rubber Tired Dozers	Orange	SC	SC	6.53E-01	2.91E+00	7.86E+01	1.09E-03	1.08E-02	5.00E-03	8.65E-06	3.77E-04	8.61E-01	0.00E+00	9.84E-05	8.63E-01	272	
Tractors/Loaders/Backhoes	Orange	SC	SC	4.04E+01	1.04E+02	7.54E+01	1.02E-03	6.45E-03	3.42E-03	1.05E-05	2.94E-04	8.27E-01	0.00E+00	9.18E-05	8.29E-01	261	
Tractors/Loaders/Backhoes	Orange	SC	SC	2.42E+02	6.40E+02	8.99E+02	2.87E-02	9.25E-02	1.02E-01	1.25E-04	7.64E-03	9.70E+00	0.00E+00	2.59E-03	9.76E+00	3,071	
Tractors/Loaders/Backhoes	Orange	SC	SC	3.23E+03	8.56E+03	2.02E+04	2.98E-01	1.95E+00	1.51E+00	2.59E-03	1.64E-01	2.21E+02	0.00E+00	2.69E-02	2.22E+02	69,806	
Tractors/Loaders/Backhoes	Orange	SC	SC	2.41E+02	6.39E+02	2.95E+03	3.16E-02	2.46E-01	1.87E-01	3.64E-04	1.37E-02	3.24E+01	0.00E+00	2.85E-03	3.24E+01	10,204	
Tractors/Loaders/Backhoes	Orange	SC	SC	7.80E+01	2.07E+02	1.61E+03	1.24E-02	1.21E-01	3.78E-02	1.99E-04	3.82E-03	1.77E+01	0.00E+00	1.12E-03	1.77E+01	5,587	
Tractors/Loaders/Backhoes	Orange	SC	SC	1.26E+02	3.33E+02	5.20E+03	3.82E-02	3.45E-01	1.24E-01	6.46E-04	1.17E-02	5.74E+01	0.00E+00	3.44E-03	5.75E+01	18,106	
Tractors/Loaders/Backhoes	Orange	SC	SC	4.39E+01	1.16E+02	2.72E+03	2.01E-02	1.86E-01	6.48E-02	3.38E-04	6.22E-03	3.00E+01	0.00E+00	1.81E-03	3.01E+01	9,468	
Crawler Tractors	Orange	SC	SC	2.01E+00	5.76E+00	6.71E+00	3.39E-04	7.56E-04	9.35E-04	9.26E-07	7.79E-05	7.16E-02	0.00E+00	3.06E-05	7.22E-02	23	
Crawler Tractors	Orange	SC	SC	1.14E+03	3.27E+03	9.87E+03	2.12E-01	1.26E+00	7.93E-01	1.26E-03	1.11E-01	1.07E+02	0.00E+00	1.91E-02	1.08E+02	33,955	
Crawler Tractors	Orange	SC	SC	3.85E+02	1.11E+03	6.12E+03	9.27E-02	6.93E-01	4.12E-01	7.54E-04	3.95E-02	6.70E+01	0.00E+00	8.36E-03	6.71E+01	21,136	
Crawler Tractors	Orange	SC	SC	3.31E+02	9.51E+02	7.17E+03	8.37E-02	7.58E-01	2.37E-01	8.88E-04	2.91E-02	7.89E+01	0.00E+00	7.56E-03	7.91E+01	24,885	
Crawler Tractors	Orange	SC	SC	2.27E+02	6.51E+02	7.67E+03	8.27E-02	7.29E-01	3.09E-01	8.28E-04	2.82E-02	8.44E+01	0.00E+00	7.46E-03	8.45E+01	26,606	
Crawler Tractors	Orange	SC	SC	5.80E+00	1.67E+01	3.52E+02	3.81E-03	3.41E-02	1.41E-02	3.89E-05	1.31E-03	3.87E+00	0.00E+00	3.43E-04	3.87E+00	1,219	
Crawler Tractors	Orange	SC	SC	5.80E+00	1.66E+01	4.98E+02	5.74E-03	6.13E-02	2.24E-02	5.50E-05	1.96E-03	5.47E+00	0.00E+00	5.18E-04	5.48E+00	1,725	
Skid Steer Loaders	Orange	SC	SC	2.75E+02	6.29E+02	3.96E+02	6.34E-03	3.67E-02	1.95E-02	5.50E-05	1.98E-03	4.34E+00	0.00E+00	5.72E-04	4.35E+00	1,369	
Skid Steer Loaders	Orange	SC	SC	2.50E+03	5.81E+03	6.82E+03	1.50E-01	6.61E-01	6.57E-01	9.57E-04	4.56E-02	7.40E+01	0.00E+00	1.36E-02	7.43E+01	23,392	
Skid Steer Loaders	Orange	SC	SC	1.31E+03	3.04E+03	5.94E+03	6.53E-02	4.97E-01	4.18E-01	7.62E-04	3.73E-02	6.50E+01	0.00E+00	5.89E-03	6.51E+01	20,498	
Off-Highway Tractors	Orange	SC	SC	1.43E-01	4.39E-01	1.89E+00	4.64E-05	2.71E-04	1.58E-04	2.41E-07	2.37E-05	2.06E-02	0.00E+00	4.19E-06	2.06E-02	6	
Off-Highway Tractors	Orange	SC	SC	1.75E+02	5.37E+02	3.20E+03	5.49E-02	4.12E-01	2.23E-01	3.93E-04	2.34E-02	3.50E+01	0.00E+00	4.95E-03	3.51E+01	11,040	
Off-Highway Tractors	Orange	SC	SC	1.66E+02	5.07E+02	3.01E+03	4.16E-02	3.66E-01	1.19E-01	3.72E-04	1.52E-02	3.31E+01	0.00E+00	3.75E-03	3.31E+01	10,429	
Off-Highway Tractors	Orange	SC	SC	3.64E+01	1.11E+02	2.88E+03	3.64E-02	3.24E-01	1.61E-01	3.18E-04	1.31E-02	3.16E+01	0.00E+00	3.29E-03	3.17E+01	9,980	
Off-Highway Tractors	Orange	SC	SC	3.84E+00	1.18E+01	4.37E+02	5.77E-03	5.91E-02	2.65E-02	4.81E-05	2.02E-03	4.78E+00	0.00E+00	5.21E-04	4.79E+00	1,509	
Dumpers/Tenders	Orange	SC	SC	3.44E+00	6.24E+00	2.17E+00	3.01E-05	1.87E-04	9.98E-05	3.02E-07	9.04E-06	2.38E-02	0.00E+00	2.72E-06	2.38E-02	8	
Other Construction Equipment	Orange	SC	SC	4.74E+01	8.98E+01	4.14E+01	5.28E-04	3.30E-03	2.77E-03	7.05E-06	1.28E-04	4.53E-01	0.00E+00	4.76E-05	4.54E-01	143	
Other Construction Equipment	Orange	SC	SC	8.03E+00	1.52E+01	9.13E+00	1.21E-04	7.69E-04	4.13E-04	1.27E-06	3.08E-05	1.00E-01	0.00E+00	1.09E-05	1.01E-01	32	
Other Construction Equipment	Orange	SC	SC	1.23E+01	2.37E+01	3.07E+01	8.95E-04	3.07E-03	3.15E-03	4.29E-06	2.43E-04	3.32E-01	0.00E+00	8.08E-05	3.33E-01	105	
Other Construction Equipment	Orange	SC	SC	2.04E+01	3.92E+01	1.45E+02	1.97E-03	1.38E-02	1.03E-02	1.86E-05	1.11E-03	1.58E+00	0.00E+00	1.78E-04	1.59E+00	499	
Other Construction Equipment	Orange	SC	SC	2.81E+01	5.41E+01	2.62E+02	2.53E-03	2.17E-02	1.59E-02	3.24E-05	1.14E-03	2.88E+00	0.00E+00	2.29E-04	2.88E+00	907	
Other Construction Equipment	Orange	SC	SC	6.52E+01	1.26E+02	1.44E+03	9.11E-03	9.53E-02	3.28E-02	1.56E-04	3.08E-03	1.59E+01	0.00E+00	8.22E-04	1.60E+01	5,024	
				33,511	65,989	266,851	3.689	25.222	23.141	0.032	1.530	2,905.673	0.017	0.324	2,918	918,457	
				Population	Activity	Consumption	lbs/day					Tons/Day				MTons/Year	
				37	73	294	8	56	51	0	3	3	0	0	3	1,013	
				Percent							0.11%						

As a percent of Total Building Permits issued.

SOURCE: U.S. Census Bureau. <http://censtats.census.gov/cgi-bin/bldgprmt/bldgdisp.pl>

Annual GHG emissions (MTons/Year) multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology for transportation within the Climate Change Scoping Plan Measure Documentation Supplement.

Buildings Estimates with Imputation			
OC		Los Al	
2009	1,435	0	0.0%
2010	1,801	1	0.1%
2011	2,035	1	0.0%
2012	2,600	0	0.0%
2013	4,027	18	0.4%
avg	2,380	4	0.1%

Lawn & Garden

Equipment	County	Air Basin	Air Dist.	Population	Activity	Tons/Day						MTons/Year				
						Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e
Lawn Mowers	Orange	SC	SC	6.02E+03	3.77E+03	4.62E+02	4.82E-02	1.26E-02	8.66E-01	1.06E-04	8.10E-03	2.57E+00	3.33E-03	3.00E-03	3.66E+00	1,213
Lawn Mowers	Orange	SC	SC	4.52E+04	1.92E+03	2.73E+02	6.20E-02	7.01E-03	6.94E-01	5.39E-05	4.60E-03	1.31E+00	1.70E-03	3.85E-03	1.91E+00	634
Chainsaws	Orange	SC	SC	1.08E+04	8.54E+03	5.09E+02	4.26E-01	6.57E-03	7.70E-01	8.57E-05	1.21E-03	2.08E+00	3.45E-03	2.65E-02	3.71E+00	1,228
Chainsaws	Orange	SC	SC	1.21E+05	1.63E+03	9.10E+01	4.81E-02	1.31E-03	1.90E-01	1.63E-05	8.66E-04	3.97E-01	6.68E-04	2.99E-03	6.66E-01	221
Chainsaws	Orange	SC	SC	7.59E+03	6.02E+03	8.67E+02	7.25E-01	1.12E-02	1.31E+00	1.46E-04	2.06E-03	3.55E+00	3.89E-03	4.51E-02	5.70E+00	1,887
Chainsaws	Orange	SC	SC	8.54E+04	1.15E+03	1.48E+02	7.41E-02	2.19E-03	3.02E-01	2.78E-05	1.63E-03	6.76E-01	7.44E-04	4.60E-03	1.00E+00	332
Chainsaws Preempt	Orange	SC	SC	9.45E+03	7.49E+03	1.08E+03	9.03E-01	1.39E-02	1.63E+00	1.82E-04	2.57E-03	4.41E+00	4.85E-03	5.61E-02	7.09E+00	2,349
Chainsaws Preempt	Orange	SC	SC	1.06E+05	1.43E+03	2.08E+02	1.22E-01	2.26E-03	4.47E-01	3.46E-05	1.12E-03	8.41E-01	8.43E-04	7.58E-03	1.26E+00	418
Trimmers/Edgers/Brush Cutters	Orange	SC	SC	3.51E+04	1.17E+04	5.18E+02	2.80E-01	7.86E-03	9.21E-01	1.03E-04	1.45E-03	2.49E+00	4.40E-03	1.74E-02	4.22E+00	1,396
Trimmers/Edgers/Brush Cutters	Orange	SC	SC	3.92E+05	2.31E+04	9.80E+02	4.43E-01	1.59E-02	1.82E+00	2.02E-04	2.86E-03	4.91E+00	8.78E-03	2.75E-02	8.21E+00	2,719
Leaf Blowers/Vacuums	Orange	SC	SC	5.25E+04	2.82E+04	1.51E+03	1.04E+00	2.11E-02	2.47E+00	2.75E-04	3.89E-03	6.68E+00	1.12E-02	6.46E-02	1.15E+01	3,815
Leaf Blowers/Vacuums	Orange	SC	SC	1.35E+05	1.78E+03	9.66E+01	5.09E-02	1.39E-03	2.02E-01	1.73E-05	9.19E-04	4.21E-01	7.18E-04	3.17E-03	7.10E-01	235
Shredders	Orange	SC	SC	2.65E+02	9.86E+01	4.33E+01	2.43E-03	1.85E-03	1.17E-01	9.23E-06	1.88E-03	2.24E-01	2.19E-04	1.51E-04	2.95E-01	98
Shredders	Orange	SC	SC	9.45E+03	2.33E+01	1.16E+01	2.63E-03	3.37E-04	3.12E-02	2.18E-06	4.44E-04	5.29E-02	4.40E-05	1.63E-04	7.00E-02	23
Commercial Turf Equipment	Orange	SC	SC	1.41E+02	3.08E+02	1.26E+02	5.74E-03	4.25E-03	3.43E-01	2.70E-05	3.06E-04	6.56E-01	5.79E-04	3.57E-04	8.44E-01	279
Commercial Turf Equipment	Orange	SC	SC	6.94E+01	1.52E+02	1.35E+02	5.95E-03	4.46E-03	3.80E-01	2.82E-05	3.19E-04	6.84E-01	4.28E-04	3.70E-04	8.24E-01	273
Other Lawn & Garden Equipment	Orange	SC	SC	5.94E+01	1.12E+01	6.23E-01	3.06E-04	9.68E-06	1.13E-03	1.26E-07	1.78E-06	3.07E-03	4.81E-06	1.90E-05	4.96E-03	2
Other Lawn & Garden Equipment	Orange	SC	SC	1.82E+03	2.15E+01	1.35E+00	7.03E-04	1.94E-05	2.82E-03	2.43E-07	1.29E-05	5.89E-03	9.38E-06	4.37E-05	9.71E-03	3
Other Lawn & Garden Equipment	Orange	SC	SC	2.59E+01	4.86E+00	1.36E+00	6.67E-04	2.11E-05	2.47E-03	3.88E-06	6.67E-03	4.94E-06	4.14E-05	9.07E-03	9.07E-03	3
Other Lawn & Garden Equipment	Orange	SC	SC	7.93E+02	9.34E+00	2.81E+00	1.38E-03	4.15E-05	5.74E-03	5.28E-07	3.09E-05	1.28E-02	9.51E-06	8.58E-05	1.76E-02	6
Lawn Mowers	Orange	SC	SC	3.56E+04	2.23E+04	2.62E+03	3.09E-01	7.76E-02	5.69E+00	5.25E-04	4.80E-02	1.52E+01	1.97E-02	1.77E-02	2.17E+01	7,183
Lawn Mowers	Orange	SC	SC	5.65E+05	2.40E+04	3.28E+03	3.28E-01	8.95E-02	8.92E+00	5.65E-04	3.91E-02	1.63E+01	2.12E-02	1.88E-02	2.33E+01	7,716
Tillers	Orange	SC	SC	3.70E+03	5.66E+02	7.93E+01	7.03E-03	1.75E-03	1.97E-01	1.48E-05	1.13E-03	4.29E-01	4.66E-04	4.03E-04	5.82E-01	193
Tillers	Orange	SC	SC	1.44E+04	7.08E+02	1.08E+02	1.16E-02	3.02E-03	2.91E-01	1.85E-05	1.34E-03	5.36E-01	6.71E-04	6.68E-04	7.58E-01	251
Trimmers/Edgers/Brush Cutters	Orange	SC	SC	6.50E+03	2.42E+03	7.33E+01	9.49E-03	4.20E-03	1.65E-01	1.42E-05	1.34E-04	4.12E-01	1.47E-03	5.44E-04	8.80E-01	291
Trimmers/Edgers/Brush Cutters	Orange	SC	SC	3.03E+04	1.78E+03	6.28E+01	9.09E-03	2.62E-03	1.70E-01	1.05E-05	4.51E-04	3.04E-01	9.92E-04	5.22E-04	6.23E-01	206
Leaf Blowers/Vacuums	Orange	SC	SC	1.66E+03	2.82E+02	1.84E+01	1.36E-03	3.31E-04	4.87E-02	3.32E-06	2.25E-04	9.61E-02	1.39E-04	7.79E-05	1.41E-01	47
Leaf Blowers/Vacuums	Orange	SC	SC	1.42E+03	1.87E+01	1.41E+00	1.33E-04	3.05E-05	4.27E-03	2.20E-07	1.27E-05	6.38E-03	1.07E-05	7.65E-06	9.86E-03	3
Rear Engine Riding Mowers	Orange	SC	SC	1.95E+04	1.45E+04	4.74E+03	1.20E-01	1.56E-01	1.36E+01	6.69E-04	1.09E-02	2.35E+01	2.34E-02	1.26E-02	3.10E+01	10,262
Rear Engine Riding Mowers	Orange	SC	SC	1.71E+04	1.32E+03	4.36E+02	2.19E-02	1.44E-02	1.26E+00	6.10E-05	8.53E-04	2.14E+00	2.12E-03	1.26E-03	2.82E+00	935
Rear Engine Riding Mowers	Orange	SC	SC	8.92E+01	6.63E+01	4.21E+01	1.88E-03	1.36E-03	1.25E-01	5.14E-06	9.41E-05	2.03E-01	1.51E-04	1.08E-04	2.52E-01	83
Rear Engine Riding Mowers	Orange	SC	SC	7.70E+01	5.95E+00	3.80E+00	1.89E-04	1.14E-04	1.13E-02	4.61E-07	7.25E-06	1.82E-02	1.30E-05	1.08E-05	2.24E-02	7
Front Mowers	Orange	SC	SC	8.94E+02	6.65E+02	3.47E+02	1.61E-02	1.14E-02	9.98E-01	4.90E-05	7.97E-04	1.72E+00	1.37E-03	9.21E-04	2.16E+00	716
Front Mowers	Orange	SC	SC	2.89E+04	2.23E+03	1.18E+03	5.91E-02	3.88E-02	3.41E+00	1.65E-04	2.30E-03	5.77E+00	4.61E-03	3.39E-03	7.27E+00	2,408
Front Mowers	Orange	SC	SC	7.00E+02	5.21E+02	3.66E+02	1.63E-02	1.18E-02	1.09E+00	4.46E-05	8.17E-04	1.76E+00	1.25E-03	9.37E-04	2.17E+00	717
Front Mowers	Orange	SC	SC	2.26E+04	1.75E+03	1.24E+03	6.15E-02	3.71E-02	3.68E+00	1.50E-04	2.36E-03	5.91E+00	4.02E-03	3.53E-03	7.23E+00	2,395
Shredders	Orange	SC	SC	7.02E+02	2.61E+02	7.04E+01	9.11E-03	4.03E-03	1.59E-01	1.37E-05	1.29E-04	3.95E-01	5.10E-04	5.22E-04	5.65E-01	187
Shredders	Orange	SC	SC	2.61E+04	6.44E+01	2.19E+01	2.06E-03	6.33E-04	6.76E-02	3.37E-06	2.07E-04	9.75E-02	9.88E-05	1.18E-04	1.31E-01	43
Lawn & Garden Tractors	Orange	SC	SC	3.58E+03	1.26E+03	7.92E+02	3.08E-02	2.21E-02	2.29E+00	1.12E-04	1.54E-03	3.94E+00	2.64E-03	1.77E-03	4.79E+00	1,587
Lawn & Garden Tractors	Orange	SC	SC	2.32E+04	9.29E+02	5.89E+02	2.63E-02	1.80E-02	1.71E+00	8.28E-05	1.06E-03	2.90E+00	2.03E-03	1.51E-03	3.57E+00	1,181
Lawn & Garden Tractors	Orange	SC	SC	1.41E+03	4.97E+02	4.97E+02	1.91E-02	1.31E-02	1.48E+00	6.08E-05	9.41E-04	2.40E+00	1.29E-03	1.10E-03	2.82E+00	935
Lawn & Garden Tractors	Orange	SC	SC	9.16E+03	3.66E+02	3.69E+02	1.65E-02	1.02E-02	1.10E+00	4.48E-05	6.44E-04	1.77E+00	9.72E-04	9.46E-04	2.09E+00	692
Lawn & Garden Tractors	Orange	SC	SC	2.04E+01	5.82E+00	8.98E+00	1.74E-04	3.36E-04	6.78E-03	9.16E-07	5.77E-06	7.53E-02	2.14E-05	1.00E-05	8.22E-02	27
Wood Splitters	Orange	SC	SC	1.20E+03	4.23E+02	1.23E+02	1.29E-02	3.22E-03	2.83E-01	2.39E-05	2.03E-03	6.91E-01	5.65E-04	7.40E-04	8.82E-01	292
Wood Splitters	Orange	SC	SC	3.00E+04	9.05E+01	3.27E+01	2.55E-03	6.57E-04	1.01E-01	5.10E-06	2.64E-04	1.48E-01	1.15E-04	1.46E-04	1.86E-01	62
Chippers/Stump Grinders	Orange	SC	SC	1.69E+01	5.85E+01	4.92E+01	3.86E-03	2.80E-03	1.41E-01	6.78E-06	1.99E-03	2.38E-01	2.08E-04	2.18E-04	3.07E-01	102
Chippers/Stump Grinders	Orange	SC	SC	3.02E+01	1.37E+00	1.20E+00	9.01E-05	4.41E-05	3.62E-03	1.58E-07	4.23E-05	5.55E-03	3.96E-06	5.16E-06	6.89E-03	2
Chippers/Stump Grinders	Orange	SC	SC	9.62E+01	3.32E+02	4.71E+02	3.79E-02	2.41E-02	1.39E+00	5.60E-05	1.85E-02	2.21E+00	1.47E-03	2.13E-03	2.71E+00	898
Chippers/Stump Grinders	Orange	SC	SC	1.71E+02	7.74E+00	1.13E+01	8.04E-04	3.70E-04	3.46E-02	1.30E-06	3.92E-04	5.14E-02	2.76E-05	4.61E-05	6.09E-02	20
Commercial Turf Equipment	Orange	SC	SC	1.27E+03	2.77E+03	1.47E+03	8.36E-02	5.86E-02	4.24E+00	2.06E-04	4.04E-03	7.22E+00	6.39E-03	4.75E-03	9.31E+00	3,081
Commercial Turf Equipment	Orange	SC	SC	6.24E+02	1.37E+03	1.29E+03	6.92E-02	5.20E-02	3.83E+00	1.56E-04	3.44E-03	6.15E+00	4.31E-03	3.94E-03	7.57E+00	2,505
Commercial Turf Equipment	Orange	SC	SC	2.52E+02	5.05E+02	8.34E+02	2.35E-02	3.58E-02	1.18E+00	7.42E-05	4.68E-04	6.11E+00	2.13E-03	1.35E-03	6.80E+00	2,250
Commercial Turf Equipment	Orange	SC	SC	1.66E+00	3.34E+00	8.16E+00	3.62E-05	2.13E-04	1.95E-03	7.30E-07	5.85E-06	7.56E-02	1.39E-05	2.07E-06	7.99E-02	26
Other Lawn & Garden Equipment	Orange	SC	SC	1.11E+03	2.09E+02	4.25E+01	3.74E-03	9.24E-04	1.06E-01	7.92E-06	6.03E-04	2.29E-01	2.09E-04	2.15E-04	2.99E-01	99
Other Lawn & Garden Equipment	Orange	SC	SC	3.41E+04	4.01E+02	9.73E+01	8.99E-03	2.09E-03	2.95E-01	1.52E-05	8.66E-04	4.41E-01	4.26E-04	5.16E-04	5.84E-01	193
Other Lawn & Garden Equipment	Orange	SC	SC	4.94E+02	9.28E+01	4.10E+01	1.61E-03	1.16E-03	1.18E-01	5.81E-06	8.09E-05	2.04E-01	1.62E-04	9.26E-05	2.56E-01	85
Other Lawn & Garden Equipment	Orange	SC	SC	1.51E+04	1.78E+02	8.21E+01	4.15E-03	2.51E-03	2.45E-01	1.12E-05	1.35E-04	3.92E-01	3.30E-04	2.38E-04	4.99E-01	165
Other Lawn & Garden Equipment	Orange	SC	SC	1.04E+01	1.96E+00	1.90E+00	7.37E-05	5.07E-05	5.64E-03	2.32E-07	3.63E-06	9.15E-03	5.04E-06	4.23E-06	1.08E-02	4
Other Lawn & Garden Equipment	Orange	SC	SC	3.22E+02	3.79E+00	3.79E+00	1.88E-04	1.02E-04	1.16E-02	4.48E-07	6.10E-06	1.77E-02	9.93E-06	1.08E-05	2.10E-02	7
Other Lawn & Garden Equipment	Orange	SC	SC	7.56E-01	1.26E-01	2.71E-01	5.78E-06	1.14E-05	1.99E-04	1.74E-07	2.28E-03	5.89E-07	3.31E-07	2.47E-03	2.47E-03	1
Other Lawn & Garden Equipment	Orange	SC	SC	1.81E+00	3.03E-01	1.68E+00	2.39E-05	1.07E-04	5.10E-04	1.48E-07	1.19E-06					

Lawn & Garden						Tons/Day						Mtons/Year					
Equipment	County	Air Basin	Air Dist.	Population	Activity	Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e	
Lawn & Garden Tractors	Orange	SC	SC	2.28E+03	3.40E+03	2.21E+03	2.95E-02	1.88E-01	1.00E-01	3.08E-04	8.10E-03	2.43E+01	0.00E+00	2.66E-03	2.44E+01	8,067	
Chippers/Stump Grinders	Orange	SC	SC	1.36E+00	1.73E+00	1.59E+00	2.10E-05	1.33E-04	7.18E-05	2.21E-07	5.17E-06	1.74E-02	0.00E+00	1.90E-06	1.75E-02	6	
Chippers/Stump Grinders	Orange	SC	SC	3.75E+01	4.78E+01	1.66E+02	2.56E-03	1.74E-02	1.16E-02	2.13E-05	1.40E-03	1.81E+00	0.00E+00	2.31E-04	1.82E+00	602	
Chippers/Stump Grinders	Orange	SC	SC	2.57E+00	3.27E+00	1.97E+01	2.07E-04	1.84E-03	1.15E-03	2.43E-06	9.22E-05	2.16E-01	0.00E+00	1.86E-05	2.16E-01	72	
Chippers/Stump Grinders	Orange	SC	SC	6.05E-01	7.70E-01	7.76E+00	5.47E-05	6.65E-04	1.84E-04	9.63E-07	1.99E-05	8.56E-02	0.00E+00	4.94E-06	8.57E-02	28	
Chippers/Stump Grinders	Orange	SC	SC	5.59E+00	7.13E+00	7.97E+01	5.10E-04	6.14E-03	1.97E-03	8.64E-06	1.91E-04	8.80E-01	0.00E+00	4.60E-05	8.81E-01	292	
Chippers/Stump Grinders	Orange	SC	SC	6.35E+00	8.09E+00	2.18E+02	1.43E-03	1.73E-02	5.37E-03	2.42E-05	5.31E-04	2.40E+00	0.00E+00	1.29E-04	2.41E+00	797	
Chippers/Stump Grinders	Orange	SC	SC	1.21E+01	1.54E+01	5.91E+02	4.92E-03	6.35E-02	1.78E-02	6.55E-05	1.78E-03	6.51E+00	0.00E+00	4.44E-04	6.52E+00	2,159	
Commercial Turf Equipment	Orange	SC	SC	7.35E+01	2.15E+02	9.47E+01	1.08E-03	7.56E-03	6.33E-03	1.61E-05	2.96E-04	1.04E+00	0.00E+00	9.70E-05	1.04E+00	344	
Commercial Turf Equipment	Orange	SC	SC	1.38E+03	4.04E+03	2.66E+03	3.53E-02	2.23E-01	1.20E-01	3.71E-04	8.35E-03	2.92E+01	0.00E+00	3.18E-03	2.93E+01	9,703	
Other Lawn & Garden Equipment	Orange	SC	SC	1.06E+00	1.26E+00	7.00E-01	7.96E-06	5.60E-05	4.68E-05	1.19E-07	2.27E-06	7.67E-03	0.00E+00	7.18E-07	7.68E-03	3	
Other Lawn & Garden Equipment	Orange	SC	SC	1.51E-01	1.79E-01	1.33E-01	1.76E-06	1.11E-05	6.01E-06	1.85E-08	4.33E-07	1.46E-03	0.00E+00	1.59E-07	1.46E-03	0	
				1,923,353	192,383	36,426	5.767	1.493	71.393	0.006	0.208	228.828	0.151	0.354	283.197	93,773	
				Population	Activity	Consumption	lbs/day					Tons/Day					Mtons/Year
				13,351	1,335	253	80	21	991	0	3	2	0	0	2	651	
As a percent of 2010 Total Population				OC		3,114,363		Los Al		21,618		Percent		1%			
SOURCE: U.S. Census Bureau.																	

As a percent of 2010 Total Population

SOURCE: U.S. Census Bureau.

Light Commercial

Equipment	County	Air Basin	Air Dist.	Population	Activity	Tons/Day						MTons/Year				
						Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e
Generator Sets	Orange	SC	SC	2.27E+02	8.37E+01	5.05E+00	1.19E-03	2.00E-04	1.10E-02	1.11E-06	1.04E-04	2.69E-02	6.07E-05	7.41E-05	4.73E-02	16
Generator Sets	Orange	SC	SC	1.79E+02	4.42E+01	2.89E+00	8.25E-04	1.04E-04	6.69E-03	5.86E-07	5.86E-05	1.42E-02	3.18E-05	5.13E-05	2.52E-02	8
Generator Sets	Orange	SC	SC	2.29E+00	8.44E-01	4.77E-01	2.77E-05	1.82E-05	1.31E-03	1.01E-07	1.15E-06	2.44E-03	2.00E-06	1.72E-06	3.10E-03	1
Generator Sets	Orange	SC	SC	1.75E+00	4.32E-01	2.62E-01	3.71E-05	8.96E-06	7.22E-04	5.16E-08	1.43E-06	1.25E-03	9.96E-07	2.31E-06	1.61E-03	1
Pumps	Orange	SC	SC	9.04E+02	6.39E+02	3.38E+01	4.91E-03	1.47E-03	6.30E-02	8.59E-06	7.32E-04	2.09E-01	4.57E-04	3.05E-04	3.57E-01	118
Pumps	Orange	SC	SC	7.10E+02	3.37E+02	1.98E+01	4.16E-03	8.19E-04	4.14E-02	4.54E-06	4.13E-04	1.10E-01	2.48E-04	2.58E-04	1.92E-01	64
Pumps	Orange	SC	SC	2.44E+02	1.72E+02	8.74E+01	5.69E-03	4.23E-03	2.37E-01	1.85E-05	3.77E-03	4.50E-01	4.41E-04	3.54E-04	5.94E-01	197
Pumps	Orange	SC	SC	1.92E+02	9.10E+01	4.72E+01	4.00E-03	2.17E-03	1.29E-01	9.79E-06	1.99E-03	2.38E-01	2.29E-04	2.48E-04	3.14E-01	104
Pumps	Orange	SC	SC	2.95E+00	2.08E+00	2.31E+00	1.52E-04	1.01E-04	6.43E-03	4.77E-07	9.70E-05	1.16E-02	7.67E-06	9.43E-06	1.41E-02	5
Pumps	Orange	SC	SC	2.29E+00	1.09E+00	1.21E+00	8.08E-05	5.16E-05	3.39E-03	2.49E-07	5.07E-05	6.05E-03	3.96E-06	5.03E-06	7.39E-03	2
Generator Sets	Orange	SC	SC	2.99E+03	1.10E+03	2.68E+02	4.78E-02	1.10E-02	6.27E-01	4.88E-05	4.88E-03	1.41E+00	1.68E-03	2.74E-03	1.99E+00	660
Generator Sets	Orange	SC	SC	2.35E+03	5.80E+02	1.50E+02	2.83E-02	5.81E-03	3.77E-01	2.58E-05	2.54E-03	7.47E-01	8.86E-04	1.63E-03	1.06E+00	350
Generator Sets	Orange	SC	SC	8.20E+03	3.02E+03	1.80E+03	1.24E-01	7.71E-02	5.22E+00	2.49E-04	4.61E-03	8.74E+00	7.66E-03	7.13E-03	1.13E+01	3,729
Generator Sets	Orange	SC	SC	6.44E+03	1.59E+03	9.98E+02	8.88E-02	3.95E-02	2.98E+00	1.32E-04	2.41E-03	4.62E+00	3.97E-03	5.09E-03	5.96E+00	1,973
Generator Sets	Orange	SC	SC	4.41E+03	1.62E+03	2.09E+03	1.39E-01	8.45E-02	6.22E+00	2.51E-04	5.23E-03	9.91E+00	6.02E-03	7.99E-03	1.19E+01	3,956
Generator Sets	Orange	SC	SC	3.46E+03	8.57E+02	1.14E+03	9.46E-02	4.17E-02	3.46E+00	1.33E-04	2.73E-03	5.24E+00	3.06E-03	5.43E-03	6.30E+00	2,086
Generator Sets	Orange	SC	SC	1.47E+03	4.62E+02	1.05E+03	2.47E-02	4.67E-02	8.59E-01	1.05E-04	6.64E-04	8.67E+00	2.30E-03	1.42E-03	9.42E+00	3,118
Generator Sets	Orange	SC	SC	2.83E+02	8.92E+01	4.75E+02	7.65E-03	3.18E-02	1.63E-01	4.15E-05	3.33E-04	4.30E+00	8.57E-04	4.38E-04	4.57E+00	1,514
Generator Sets	Orange	SC	SC	2.68E+01	8.42E+00	7.58E+01	7.20E-04	5.70E-03	2.17E-02	6.90E-06	5.53E-05	6.94E-01	1.14E-04	4.13E-05	7.31E-01	242
Pumps	Orange	SC	SC	1.06E+03	7.48E+02	1.24E+02	2.04E-02	8.39E-03	2.47E-01	2.53E-05	4.90E-04	7.33E-01	1.23E-03	1.17E-03	1.14E+00	378
Pumps	Orange	SC	SC	8.32E+02	3.95E+02	7.26E+01	1.35E-02	4.17E-03	1.66E-01	1.34E-05	6.12E-04	3.87E-01	6.29E-04	7.75E-04	5.99E-01	198
Pumps	Orange	SC	SC	1.15E+03	8.11E+02	4.35E+02	3.37E-02	2.39E-02	1.24E+00	6.04E-05	1.78E-02	2.12E+00	2.24E-03	1.93E-03	2.85E+00	945
Pumps	Orange	SC	SC	9.02E+02	4.28E+02	2.34E+02	1.95E-02	1.22E-02	6.75E-01	3.19E-05	9.32E-03	1.12E+00	1.16E-03	1.12E-03	1.50E+00	497
Pumps	Orange	SC	SC	2.94E+02	2.08E+02	2.43E+02	1.87E-02	1.20E-02	7.11E-01	2.92E-05	9.67E-03	1.15E+00	8.20E-04	1.07E-03	1.43E+00	474
Pumps	Orange	SC	SC	2.31E+02	1.10E+02	1.29E+02	1.02E-02	6.15E-03	3.79E-01	1.54E-05	5.11E-03	6.09E-01	4.26E-04	5.82E-04	7.53E-01	249
Pumps	Orange	SC	SC	1.17E+02	7.09E+01	1.59E+02	3.81E-03	6.19E-03	1.35E-01	1.59E-05	1.00E-04	1.31E+00	3.20E-04	2.19E-04	1.41E+00	468
Pumps	Orange	SC	SC	1.49E+02	8.99E+01	5.43E+02	8.76E-03	2.93E-02	1.82E-01	4.76E-05	3.81E-04	4.92E+00	7.50E-04	5.03E-04	5.17E+00	1,711
Pumps	Orange	SC	SC	4.48E+00	2.71E+00	2.44E+01	2.25E-04	1.52E-03	7.22E-03	2.22E-06	1.78E-05	2.24E-01	3.01E-05	1.29E-05	2.33E-01	77
Air Compressors	Orange	SC	SC	3.83E+02	5.92E+02	1.29E+02	2.08E-02	9.18E-03	2.45E-01	2.71E-05	2.56E-04	7.85E-01	1.16E-03	1.19E-03	1.17E+00	387
Air Compressors	Orange	SC	SC	3.01E+02	3.13E+02	6.83E+01	1.09E-02	4.85E-03	1.29E-01	1.43E-05	1.35E-04	4.15E-01	6.13E-04	6.27E-04	6.18E-01	205
Air Compressors	Orange	SC	SC	1.94E+02	3.00E+02	1.14E+02	8.90E-03	6.49E-03	3.24E-01	1.59E-05	4.66E-03	5.56E-01	7.02E-04	5.09E-04	7.84E-01	260
Air Compressors	Orange	SC	SC	1.52E+02	1.58E+02	6.01E+01	4.59E-03	3.35E-03	1.71E-01	8.38E-06	2.46E-03	2.94E-01	3.66E-04	2.63E-04	4.13E-01	137
Air Compressors	Orange	SC	SC	2.61E+01	4.04E+01	3.84E+01	3.08E-03	1.96E-03	1.13E-01	4.62E-06	1.53E-03	1.82E-01	1.46E-04	1.76E-04	2.31E-01	76
Air Compressors	Orange	SC	SC	2.05E+01	2.14E+01	2.03E+01	1.60E-03	1.02E-03	5.95E-02	2.44E-06	8.08E-04	9.63E-02	7.62E-05	9.14E-05	1.22E-01	40
Air Compressors	Orange	SC	SC	4.46E+01	5.90E+01	1.29E+02	4.79E-03	6.30E-03	1.46E-01	1.21E-05	7.65E-05	9.99E-01	3.02E-04	2.74E-04	1.10E+00	364
Air Compressors	Orange	SC	SC	1.45E+02	1.91E+02	7.31E+02	2.00E-02	5.28E-02	3.66E-01	6.19E-05	4.96E-04	6.41E+00	1.53E-03	1.14E-03	6.91E+00	2,286
Air Compressors	Orange	SC	SC	9.72E+00	1.29E+01	8.82E+01	1.19E-03	7.66E-03	2.84E-02	7.97E-06	6.39E-05	8.02E-01	1.55E-04	6.81E-05	8.52E-01	282
Welders	Orange	SC	SC	7.48E+02	4.26E+02	2.38E+02	2.06E-02	1.23E-02	6.91E-01	3.23E-05	9.32E-03	1.13E+00	1.16E-03	1.18E-03	1.52E+00	502
Welders	Orange	SC	SC	2.71E+03	1.54E+03	1.34E+03	1.09E-01	6.40E-02	3.96E+00	1.60E-04	5.29E-02	6.32E+00	5.09E-03	6.26E-03	8.03E+00	2,659
Welders	Orange	SC	SC	2.33E+02	1.33E+02	3.23E+02	9.49E-03	1.54E-02	2.88E-01	3.19E-05	2.01E-04	2.63E+00	7.02E-04	5.44E-04	2.86E+00	946
Welders	Orange	SC	SC	2.38E+02	1.35E+02	4.60E+02	9.60E-03	3.24E-02	1.78E-01	3.98E-05	3.20E-04	4.12E+00	9.88E-04	5.51E-04	4.44E+00	1,471
Welders	Orange	SC	SC	1.64E+01	9.33E+00	5.62E+01	6.48E-04	4.60E-03	1.66E-02	5.10E-06	4.09E-05	5.14E-01	1.00E-04	3.71E-05	5.45E-01	181
Pressure Washers	Orange	SC	SC	8.02E+02	2.95E+02	1.03E+02	1.54E-02	4.40E-03	2.15E-01	2.05E-05	2.03E-03	5.93E-01	5.57E-04	8.83E-04	7.85E-01	260
Pressure Washers	Orange	SC	SC	6.30E+02	1.56E+02	6.15E+01	1.12E-02	2.42E-03	1.51E-01	1.08E-05	1.06E-03	3.14E-01	3.01E-04	6.41E-04	4.20E-01	139
Pressure Washers	Orange	SC	SC	7.16E+02	2.63E+02	1.53E+02	1.05E-02	6.54E-03	4.43E-01	2.11E-05	3.91E-04	7.41E-01	6.58E-04	6.04E-04	9.58E-01	317
Pressure Washers	Orange	SC	SC	5.62E+02	1.39E+02	8.47E+01	7.54E-03	3.35E-03	2.52E-01	1.12E-05	2.04E-04	3.92E-01	3.41E-04	4.32E-04	5.07E-01	168
Pressure Washers	Orange	SC	SC	1.34E+02	4.94E+01	7.53E+01	4.74E-03	3.02E-03	2.23E-01	9.07E-06	1.87E-04	3.58E-01	2.00E-04	2.72E-04	4.26E-01	141
Pressure Washers	Orange	SC	SC	1.06E+02	2.61E+01	4.09E+01	3.23E-03	1.51E-03	1.23E-01	4.79E-06	9.82E-05	1.89E-01	1.02E-04	1.85E-04	2.25E-01	74
Pressure Washers	Orange	SC	SC	1.31E+01	4.13E+00	1.05E+01	2.27E-04	4.00E-04	7.83E-03	1.07E-06	6.73E-06	8.78E-02	1.95E-05	1.30E-05	9.42E-02	31
Generator Sets	Orange	SC	SC	2.11E+01	6.64E+00	4.16E+01	3.07E-05	2.03E-03	8.75E-03	0.00E+00	2.48E-05	2.79E-01	0.00E+00	2.57E-04	2.84E-01	94
Generator Sets	Orange	SC	SC	1.75E+01	5.50E+00	6.01E+01	3.52E-05	2.92E-03	1.05E-02	0.00E+00	3.61E-05	4.06E-01	0.00E+00	2.95E-04	4.12E-01	137
Gas Compressors	Orange	SC	SC	3.28E+00	7.63E+01	2.61E+02	1.49E-04	5.39E-03	2.63E-02	0.00E+00	1.37E-04	1.79E+00	0.00E+00	1.24E-03	1.82E+00	602
Gas Compressors	Orange	SC	SC	6.77E+00	1.58E+02	1.53E+03	8.10E-04	3.19E-02	4.21E-01	0.00E+00	7.80E-04	1.01E+01	0.00E+00	6.79E-03	1.02E+01	3,382
Gas Compressors	Orange	SC	SC	1.09E+00	2.54E+01	3.92E+02	2.26E-04	8.54E-03	8.56E-02	0.00E+00	2.09E-04	2.62E+00	0.00E+00	1.89E-03	2.66E+00	881
Gas Compressors	Orange	SC	SC	8.74E-01	2.04E+01	4.06E+02	1.74E-04	8.26E-03	9.85E-02	0.00E+00	2.40E-04	2.70E+00	0.00E+00	1.46E-03	2.73E+00	905
Gas Compressors	Orange	SC	SC	7.65E-01	1.78E+01	5.72E+02	2.45E-04	1.16E-02	1.39E-01	0.00E+00	3.38E-04	3.80E+00	0.00E+00	2.05E-03	3.85E+00	1,274
Generator Sets	Orange	SC	SC	5.56E+02	5.14E+02	2.40E+02	3.78E-03	2.58E-02	1.75E-02	4.08E-05	1.46E-03	2.62E+00	0.00E+00	3.41E-04	2.63E+00	870
Generator Sets	Orange	SC	SC	4.06E+02	3.76E+02	3.02E+02	4.94E-03	2.98E-02	1.68E-02	4.20E-05	1.68E-03	3.31E+00	0.00E+00	4.46E-04	3.32E+00	1,099
Generator Sets	Orange	SC	SC	4.96E+02	4.59E+02	6.48E+02	1.95E-02	6.49E-02	5.98E-02	9.08E-05	5.27E-03	7.02E+00	0.00E+00	1.76E-03	7.06E+00	2,338
Generator Sets	Orange	SC	SC	7.54E+02	6.98E+02	2.48E+03	3.78E-02	2.61E-01	1.70E-01	3.19E-04	2.02E-02	2.72E+01	0.00E+00	3.41E-03	2.72E+01	9,018
Generator Sets	Orange	SC	SC	4.46E+01	4.12E+01	2.67E+02	2.71E-03	2.50E-02	1.52E-02	3.29E-05	1.20E-03	2.92E+00	0.00E+00	2.45E-04	2.93E+00	870
Generator Sets	Orange	SC	SC	2.49E+01	2.30E+01	2.22E+02	1.44E-03	1.90E-02	4.97E-03	2.75E-05	5.23E-04	2.45E+00	0.00E+00	1.30E-04</		

Light Commercial						Tons/Day						MTons/Year									
Equipment	County	Air Basin	Air Dist.	Population	Activity	Consumption	ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	CO2e					
Pumps	Orange	SC	SC	4.17E+02	4.60E+02	1.56E+02	2.83E-03	1.71E-02	1.14E-02	2.66E-05	1.11E-03	1.71E+00	0.00E+00	2.55E-04	1.71E+00	567					
Pumps	Orange	SC	SC	1.25E+02	1.37E+02	1.22E+02	2.41E-03	1.20E-02	6.80E-03	1.70E-05	7.35E-04	1.34E+00	0.00E+00	2.18E-04	1.34E+00	445					
Pumps	Orange	SC	SC	2.17E+02	2.40E+02	3.80E+02	1.22E-02	3.84E-02	3.68E-02	5.31E-05	3.23E-03	4.11E+00	0.00E+00	1.11E-03	4.13E+00	1,369					
Pumps	Orange	SC	SC	4.26E+02	4.70E+02	1.67E+03	2.64E-02	1.79E-01	1.17E-01	2.15E-04	1.42E-02	1.83E+01	0.00E+00	2.38E-03	1.83E+01	6,076					
Pumps	Orange	SC	SC	4.61E+01	5.08E+01	3.24E+02	3.44E-03	3.09E-02	1.88E-02	4.00E-05	1.52E-03	3.56E+00	0.00E+00	3.10E-04	3.57E+00	1,181					
Pumps	Orange	SC	SC	3.32E+01	3.66E+01	3.34E+02	2.27E-03	2.91E-02	7.62E-03	4.15E-05	8.19E-04	3.68E+00	0.00E+00	2.05E-04	3.69E+00	1,222					
Pumps	Orange	SC	SC	6.56E-01	7.23E-01	1.13E+01	6.89E-05	8.81E-04	2.70E-04	1.22E-06	2.59E-05	1.25E-01	0.00E+00	6.21E-06	1.25E-01	41					
Pumps	Orange	SC	SC	1.09E-01	1.20E-01	3.11E+00	1.96E-05	2.51E-04	7.45E-05	3.45E-07	7.28E-06	3.44E-02	0.00E+00	1.77E-06	3.44E-02	11					
Pumps	Orange	SC	SC	2.40E+00	2.65E+00	1.63E+02	1.37E-03	1.75E-02	4.80E-03	1.80E-05	4.86E-04	1.79E+00	0.00E+00	1.23E-04	1.80E+00	595					
Air Compressors	Orange	SC	SC	5.68E+00	1.27E+01	4.19E+00	7.57E-05	4.58E-04	3.05E-04	7.11E-07	2.99E-05	4.57E-02	0.00E+00	6.83E-06	4.59E-02	15					
Air Compressors	Orange	SC	SC	1.13E+01	2.51E+01	1.66E+01	3.26E-04	1.63E-03	9.21E-04	2.30E-06	9.95E-05	1.81E-01	0.00E+00	2.94E-05	1.82E-01	60					
Air Compressors	Orange	SC	SC	1.02E+02	2.28E+02	2.36E+02	1.02E-02	2.52E-02	2.86E-02	3.28E-05	2.46E-03	2.22E+00	0.00E+00	9.22E-04	2.56E+00	847					
Air Compressors	Orange	SC	SC	6.81E+02	1.52E+03	3.27E+03	6.13E-02	3.74E-01	2.46E-01	4.18E-04	3.40E-02	3.56E+01	0.00E+00	5.53E-03	3.57E+01	11,836					
Air Compressors	Orange	SC	SC	2.58E+01	5.75E+01	2.32E+02	2.98E-03	2.37E-02	1.45E-02	2.86E-05	1.33E-03	2.54E+00	0.00E+00	2.69E-04	2.55E+00	844					
Air Compressors	Orange	SC	SC	3.63E+01	8.09E+01	4.81E+02	4.00E-03	4.50E-02	1.18E-02	5.97E-05	1.37E-03	5.30E+00	0.00E+00	3.61E-04	5.31E+00	1,758					
Air Compressors	Orange	SC	SC	4.73E+01	1.06E+02	1.11E+03	8.41E-03	9.13E-02	2.80E-02	1.20E-04	2.94E-03	1.22E+01	0.00E+00	7.59E-04	1.22E+01	4,050					
Air Compressors	Orange	SC	SC	1.77E+01	3.95E+01	6.40E+02	4.93E-03	5.46E-02	1.62E-02	7.10E-05	1.73E-03	7.06E+00	0.00E+00	4.45E-04	7.07E+00	2,342					
Air Compressors	Orange	SC	SC	4.37E-01	9.75E-01	2.15E+01	2.00E-04	2.45E-03	6.75E-04	2.38E-06	7.05E-05	2.37E-01	0.00E+00	1.80E-05	2.37E-01	79					
Welders	Orange	SC	SC	1.89E+02	3.32E+02	9.43E+01	1.70E-03	1.03E-02	6.86E-03	1.60E-05	6.72E-04	1.03E+00	0.00E+00	1.54E-04	1.03E+00	342					
Welders	Orange	SC	SC	1.66E+02	2.92E+02	1.51E+02	2.97E-03	1.48E-02	8.37E-03	2.09E-05	9.05E-04	1.65E+00	0.00E+00	2.68E-04	1.65E+00	547					
Welders	Orange	SC	SC	5.11E+02	8.99E+02	1.08E+03	4.28E-02	1.13E-01	1.22E-01	1.51E-04	1.06E-02	1.17E+01	0.00E+00	3.86E-03	1.17E+01	3,888					
Welders	Orange	SC	SC	3.97E+02	6.98E+02	1.26E+03	2.23E-02	1.41E-01	9.24E-02	1.62E-04	1.23E-02	1.38E+01	0.00E+00	2.02E-03	1.38E+01	4,578					
Welders	Orange	SC	SC	1.97E+00	3.46E+00	1.55E+01	1.86E-04	1.55E-03	9.40E-04	1.91E-06	8.31E-05	1.70E-01	0.00E+00	1.68E-05	1.70E-01	56					
Welders	Orange	SC	SC	4.37E-01	7.69E-01	4.15E+00	3.22E-05	3.79E-04	9.94E-05	5.15E-07	1.13E-05	4.57E-02	0.00E+00	2.90E-06	4.58E-02	15					
Welders	Orange	SC	SC	1.09E+00	1.92E+00	1.46E+01	1.03E-04	1.18E-03	3.63E-04	1.58E-06	3.70E-05	1.61E-01	0.00E+00	9.26E-06	1.61E-01	53					
Pressure Washers	Orange	SC	SC	2.58E+01	1.02E+01	2.29E+00	3.60E-05	2.46E-04	1.67E-04	3.89E-07	1.40E-05	2.50E-02	0.00E+00	3.25E-06	2.51E-02	8					
Pressure Washers	Orange	SC	SC	6.01E+00	2.38E+00	7.78E-01	1.27E-05	7.65E-05	4.33E-05	1.08E-07	4.32E-06	8.51E-03	0.00E+00	1.15E-06	8.54E-03	3					
Pressure Washers	Orange	SC	SC	1.19E+01	4.73E+00	3.10E+00	7.25E-05	3.02E-04	2.42E-04	4.36E-07	2.17E-05	3.37E-02	0.00E+00	6.54E-06	3.39E-02	11					
Pressure Washers	Orange	SC	SC	4.92E+00	1.95E+00	2.14E+00	2.89E-05	2.15E-04	1.40E-04	2.75E-07	1.51E-05	2.35E-02	0.00E+00	2.61E-06	2.35E-02	8					
				50,951	26,653	35,734	1.282	2.588	34.185	0.004	0.279	303.680	0.051	0.097	321.502	106,457					
				Population	Activity	Consumption	lbs/day					Tons/Day					MTons/Year				
				517	271	363	26	53	694	0	6	3	0	0	3	1,081					

As a percent of 2010 Total Employment

OC 1,444,097 Los Al 14,660 Percent 1%

SOURCE: U.S. Census Bureau. 2010. Longitudinal Employer-Household Dynamics. <http://lehd.ces.census.gov/> for Orange County. Third Quarter 2012 total employment in Orange County.

Building Permits
 2013 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Orange County
 California (059)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	3,670	3,670	\$1,176,572,804	3,617	3,617	\$1,143,838,259
Two Family	54	108	\$25,776,143	50	100	\$23,065,407
Three and Four Family	103	363	\$72,904,547	98	348	\$70,663,821
Five or More Family	200	6,281	\$1,012,840,832	200	6,281	\$1,012,840,832
Total	4,027	10,422	\$2,288,094,326	3,965	10,346	\$2,250,408,319

Source: U.S. Census Bureau

Building Permits
 2012 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Orange County
 California (059)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	2,271	2,271	\$667,148,849	2,245	2,245	\$660,927,555
Two Family	123	246	\$39,509,452	123	246	\$39,509,452
Three and Four Family	39	131	\$29,167,951	35	119	\$27,988,623
Five or More Family	167	3,434	\$407,745,166	167	3,434	\$407,745,166
Total	2,600	6,082	\$1,143,571,418	2,570	6,044	\$1,136,170,796

Source: U.S. Census Bureau

Building Permits
 2011 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Orange County
 California (059)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	1,822	1,822	\$490,068,932	1,777	1,777	\$464,195,339
Two Family	31	62	\$15,805,574	28	56	\$13,688,336
Three and Four Family	27	87	\$16,487,065	24	78	\$15,602,569
Five or More Family	155	2,381	\$297,879,210	155	2,381	\$297,879,210
Total	2,035	4,352	\$820,240,781	1,984	4,292	\$791,365,454

Source: U.S. Census Bureau

Building Permits
 2010 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Orange County
 California (059)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	1,624	1,624	\$494,627,842	1,534	1,534	\$448,877,260
Two Family	30	60	\$15,081,616	24	48	\$10,735,644
Three and Four Family	75	264	\$43,272,685	71	252	\$42,343,888
Five or More Family	72	1,186	\$138,600,050	72	1,186	\$138,600,050
Total	1,801	3,134	\$691,582,193	1,701	3,020	\$640,556,842

Source: U.S. Census Bureau

Building Permits
 2009 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Orange County
 California (059)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	1,341	1,341	\$421,287,968	1,313	1,313	\$403,809,540
Two Family	24	48	\$12,509,695	22	44	\$11,478,983
Three and Four Family	26	86	\$12,174,003	25	83	\$11,879,171
Five or More Family	44	668	\$82,855,591	44	668	\$82,855,591
Total	1,435	2,143	\$528,827,257	1,404	2,108	\$510,023,285

Source: U.S. Census Bureau

Building Permits
 2013 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Los Alamitos
 California (Orange County - 241000)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family		18 18	\$3,743,668		18 18	\$3,743,668
Two Family		0 0	\$0		0 0	\$0
Three and Four Family		0 0	\$0		0 0	\$0
Five or More Family		0 0	\$0		0 0	\$0
Total		18 18	\$3,743,668		18 18	\$3,743,668

Source: U.S. Census Bureau

Building Permits
 2012 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Los Alamitos
 California (Orange County - 241000)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family		0	0	0	0	0
Two Family		0	0	0	0	0
Three and Four Family		0	0	0	0	0
Five or More Family		0	0	0	0	0
Total		0	0	0	0	0

Source: U.S. Census Bureau

Building Permits
 2011 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Los Alamitos
 California (Orange County - 241000)

	Estimates with Imputation			Reported Only			
Item	Buildings	Units	Construction cost	Buildings	Units	Construction cost	
Single Family		0	0	\$0	0	0	\$0
Two Family		0	0	\$0	0	0	\$0
Three and Four Family		1	4	\$400,000	1	4	\$400,000
Five or More Family		0	0	\$0	0	0	\$0
Total		1	4	\$400,000	1	4	\$400,000

Source: U.S. Census Bureau

Building Permits
 2010 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Los Alamitos
 California (Orange County - 241000)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	0	0	\$0	0	0	\$0
Two Family	1	2	\$450,000	1	2	\$450,000
Three and Four Family	0	0	\$0	0	0	\$0
Five or More Family	0	0	\$0	0	0	\$0
Total	1	2	\$450,000	1	2	\$450,000

Source: U.S. Census Bureau

Building Permits
 2009 Building Permits
 Monthly New Privately-Owned Residential Building Permits
 Los Alamitos
 California (Orange County - 241000)

Item	Estimates with Imputation			Reported Only		
	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	0	0	0	0	0	0
Two Family	0	0	0	0	0	0
Three and Four Family	0	0	0	0	0	0
Five or More Family	0	0	0	0	0	0
Total	0	0	0	0	0	0

Source: U.S. Census Bureau

Appendices

Appendix D Paleontological and Cultural Resources Report

Appendices

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PALEONTOLOGICAL AND CULTURAL RESOURCES OF LOS ALAMITOS FOR THE GENERAL PLAN UPDATE, CITY OF LOS ALAMITOS, CALIFORNIA

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Principal Investigator:

Sherri Gust
Registered Professional Archaeologist and Qualified Principal Paleontologist

December 2013

Project Number: 2061

Type of Study: Paleontological and Cultural Resources Assessment

Fossil Localities: None

Archaeological Sites: P-30-176854 (Navy Golf Course); P-30-179863 (Miniature Cruiser Replica)

USGS 7.5' Quadrangles: Los Alamitos 7.5' 1964, Photorevised 1981

Area: 2,617 acres

Key Word: Older Quaternary Deposits, Young Quaternary Alluvium, Gabrielino/Tongva, Rancho Los Alamitos, Bixby Land Company, Sugar Beet Factory, Historic Military Base, Rossmoor

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Federal Certifications 8(a), SDB, 8(m) WOSB
State Certifications DBE, WBE, SBE, UDBE

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MANAGEMENT SUMMARY

The proposed project is an Update to the City of Los Alamitos General Plan. The Update is intended to shape development in the City of Los Alamitos and the adjacent, unincorporated community of Rossmoor over the next 20+ years, incorporating a set of values and priorities developed by the Los Alamitos City Council and Commissions with community input. The Los Alamitos City limits include the adjacent Joint Forces Training Base, formerly known as the Los Alamitos Armed Forces Reserve Center. The City consists of 2,617 acres in Orange County, California.

Paleontological records searches were conducted in October, 2011, resulting in negative findings for fossil resources within the City boundaries. Archaeological and historical records were searched at the South Central Coastal Information Center (SCCIC) of the California Historic Resources Inventory System (CHRIS) on September 22, 2011. In addition, a variety of additional sources were consulted in September, 2011, such as the National Register of Historical Places, California Register of Historic Resources, California Historical Resources Inventory, California Historical Landmarks, and California Points of Historical Interest. No archaeological sites are known. The records searches resulted in the identification of 32 historic built environment resources within the city of Los Alamitos; all on federal property of the Navy Golf Course or the Joint Forces Training Base. None of the previously-recorded historic resources is listed as eligible for the National Register of Historic Places (NRHP).

A Sacred Lands File search was requested from the Native American Heritage Commission on September 15, 2011. On September 19, the Commission replied that there were known Native American cultural resources within a half-mile of the City boundaries, and provided a list of thirteen Native American tribes or individuals to contact for further information. Letters requesting information on any heritage sites and containing maps and project information were sent by mail on September 29 to the thirteen Native American contacts. Alfred Cruz of the Juaneño Band of Mission Indians responded that the undeveloped areas within the Joint Forces Base are sensitive for prehistoric resources. No other responses were received.

Changes to land use from existing, to that proposed under the General Plan Update, are minor within the City. Potential impacts are limited to unanticipated discovery of buried fossils, cultural deposits or burials and to significant historical structures, features and landscapes. Remaining historic neighborhoods, the Joint Armed Forces Base and Navy Golf Course are considered to have the highest potential for adverse impacts. However, no changes are proposed to the land use designations of the Los Alamitos JFTB. The City of Los Alamitos has no jurisdiction or land use authority on this U.S. military installation. Consequently, no changes from existing conditions are assumed within the Los Alamitos JFTB as part of the City's General Plan Update and no impact would occur.

It is recommended that the City have a standard condition in every grading and excavation permit that requires applicants to halt work upon discovery of any unanticipated buried resources such as fossils, cultural deposits or burials until it can be evaluated by qualified professionals. Work may resume immediately at least 50 feet away from the discovery.

It is recommended that the City require applicants for future proposed projects with intact extant building(s) or other aspects of the built environment more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. All work must be performed by a qualified architectural historian meeting Secretary of the Interior Standards.

INTRODUCTION

PURPOSE OF STUDY

This study was conducted to provide available information on paleontological and cultural resources of the City of Los Alamitos to support an update of the General Plan environmental documents. The City consists of 2,617 acres in Orange County, California (Figure 1). Adjacent to the city is the community of Rossmore, which is within the City's Sphere of Influence (SOI) (Figure 2).

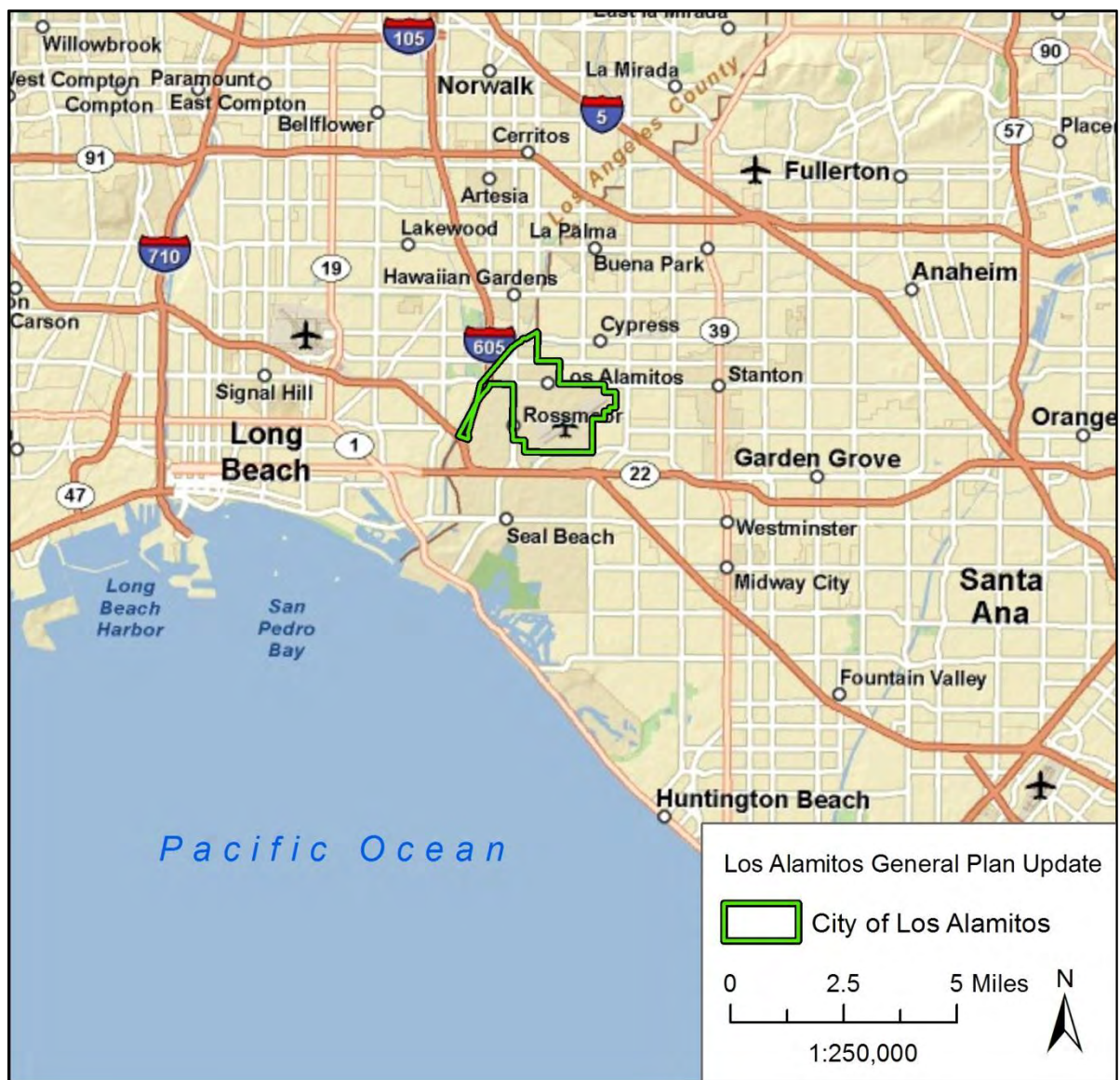


Figure 1. Project vicinity map

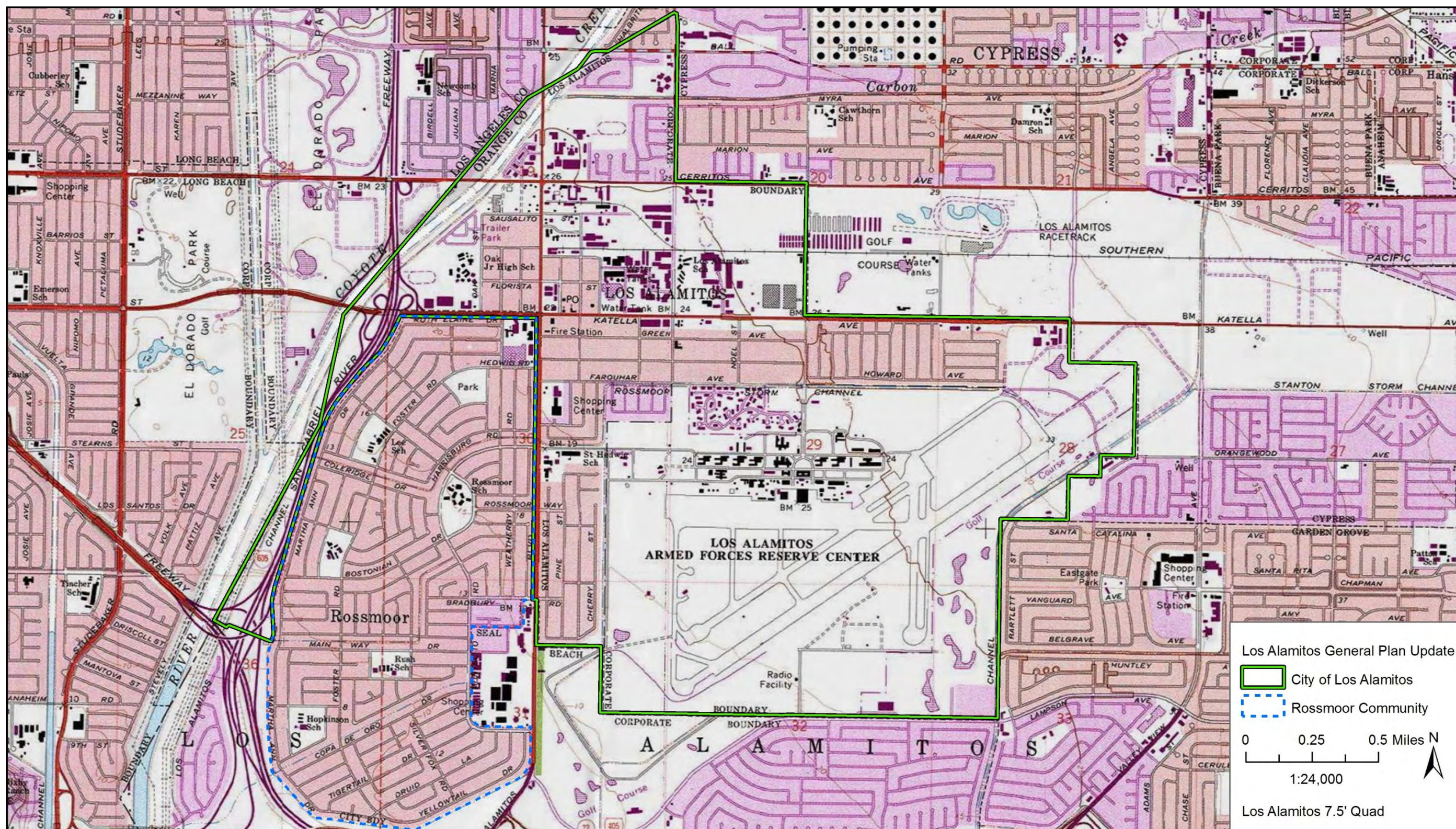


Figure 2. Study Area Map

PROJECT DESCRIPTION

The proposed project is an Update to the City of Los Alamitos General Plan. The Update is intended to shape development in the City of Los Alamitos and the unincorporated community of Rossmoor (sphere of influence) over the next 20+ years. The Update is guided by a set of community values and priorities developed by the Los Alamitos City Council and Commissions with input from the community in Los Alamitos and Rossmoor.

The values and priorities set forth include:

- Maintain high levels of safety and service
- Create an attractive and pedestrian-friendly downtown
- Introduce pedestrian bridges
- Maximize retail opportunities along Katella Ave
- Relocate City Hall
- Offer incentives to preserve and attract business
- Improve the look and identity of the City
- Provide consistent and effective code enforcement
- Maintain a good relationship with the school district
- Create more open space, park, trail, community garden, and recreation areas
- Evaluate annexation carefully
- Establish centralized parking options
- Enhance cultural uses and historical preservation

Six elements are required for the General Plan Update and two more are optional in considering the current uses within Los Alamitos and Rossmoor and changes to them. Those required are Land Use, Circulation and Transportation, Open Space and Recreation, Conservation, Safety, and Noise Elements, and optional Economic Development and Growth Management Elements. This Paleontological and Cultural Resources Assessment report informs the Conservation Element.

PROJECT PERSONNEL

Cogstone Resource Management Inc. performed the studies reported here. Sherri Gust served as Principal Paleontologist and Archaeologist for the project, supervised all work, performed historical research and wrote many of the sections. Gust is a Qualified Principal Paleontologist and Registered Professional Archaeologist with a M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California at Davis, and over 30 years of experience in California.

Lynn Furnis wrote the historic setting and drafted the conclusions and recommendations. She has an M.A. in Anthropology from the University of Nevada Reno, a B.A. in Anthropology from the University of California at Davis and more than 40 years of experience. Molly Valasik conducted the archaeological records search, wrote that section of the report, and prepared the report maps. Valasik has a M.A. in Anthropology from Kent State University in Ohio and over five years of experience in California archaeology. Courtney Richards and Kim Scott prepared portions of the report related to paleontology. Richards has a M.S. in Biological Sciences with an emphasis in Paleontology from Marshall University, a B.S. in Earth and Space Sciences from the University of Washington and more than two years of experience in California. Scott has an M.S. in Biology from California State University San Bernardino with a Paleontology emphasis and a B.S. in Geology with an emphasis in Paleontology from the University of California, Los Angeles, and over 18 years of experience in California. Further qualifications of Cogstone staff are provided (Appendix A).

REGULATORY ENVIRONMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970, AS AMENDED

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

CEQA includes historic and archaeological resources as integral features of the environment. If paleontological resources are identified as being within the proposed project area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The State Historical Resources Commission has designed this program for use by state and local agencies, private groups and citizens to identify, evaluate, register and protect California's historical resources. The Register is the authoritative guide to the state's significant historical and archeological resources.

The California Register program encourages public recognition and protection of resources of

architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under the California Environmental Quality Act.

To be eligible for listing in the California Register, a resource must meet at least one of the following criteria:

- 1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States
- 2) Associated with the lives of persons important to local, California or national history
- 3) Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values
- 4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

CALIFORNIA HISTORICAL LANDMARKS

California Historical Landmarks are buildings, structures, sites, or places that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors or the City/Town Council in whose jurisdiction it is located; be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

CALIFORNIA POINTS OF HISTORICAL INTEREST

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural,

economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy.

Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important. Paleontological remains are recognized as nonrenewable resources significant to the history of life (Scott and Springer 2003).

BACKGROUND

PALEONTOLOGICAL SETTING

The project area was completely submerged beneath the ocean until the Pliocene epoch (5.3 to 2.5 million years ago). Bedrock of the project area was emplaced 23 to three million years ago in the marine environment (Figure 3). Some terrestrial animals were washed into the ocean by rivers and fossilized along with marine animals. About three million years ago the ocean receded and deposition of terrestrial sediment through the action of streams and rivers began.

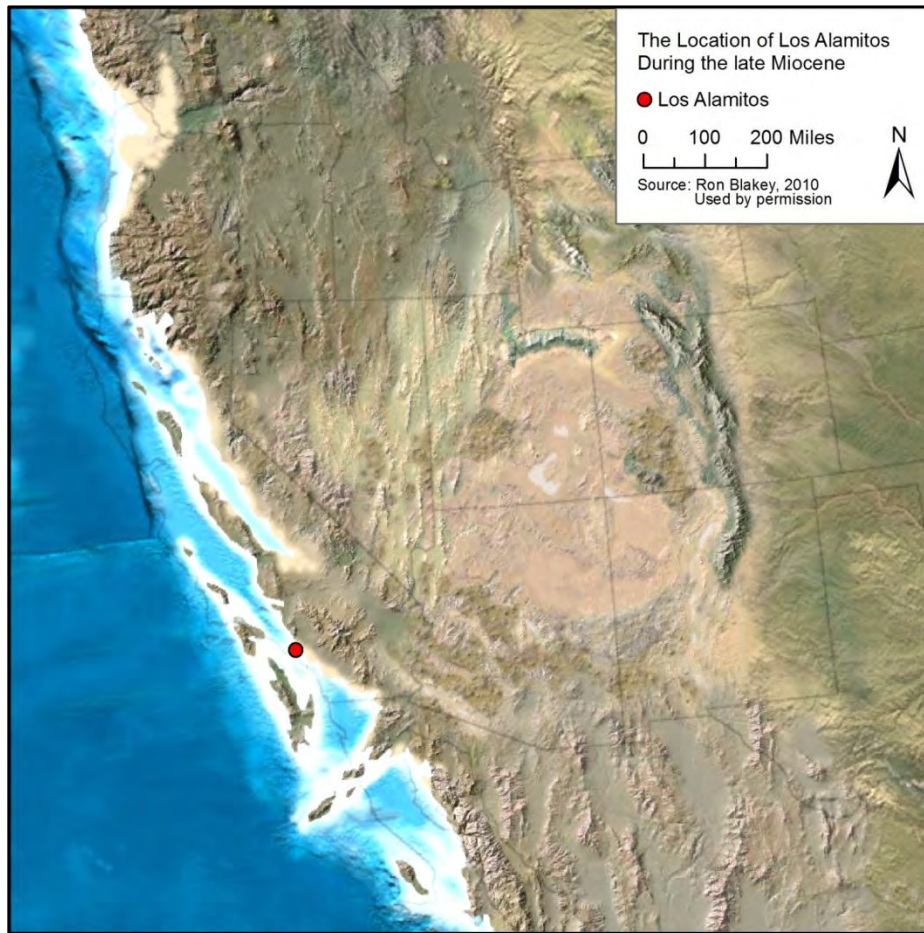


Figure 3. Miocene Paleoenvironment of Los Alamitos

GEOLOGICAL SETTING

The project area is situated in the northern Peninsular Ranges Geomorphic Province. This province is comprised of a series of mountain ranges separated by northwest trending valleys

paralleling faults that branch off from the San Andreas Fault to the east. The Peninsular Ranges Province is located in the southwestern corner of California and is bound by the Transverse Range Province to the north and the Transverse Range and Colorado Desert to the east (Wagner 2002).

STRATIGRAPHY

The project area is mapped entirely as young Quaternary alluvium (Figure 4; Jennings 1962, Roffers and Bedrossian 2010). This formation is typically underlain by older Quaternary deposits (McLeod 2011).

The young Quaternary alluvium was deposited in the Los Angeles Basin floodplain as fluvial deposits from the Los Angeles, San Gabriel, and Santa Ana Rivers (McLeod 2011) during the Holocene epoch (11,700 years ago to present) (Roffers and Bedrossian 2010). These deposits are comprised of unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt (Roffers and Bedrossian 2010).

Older Quaternary sediments are not exposed at the surface within the project area. However, they typically underlie younger Quaternary deposits at various depths (McLeod 2011). The older Quaternary deposits are similar to the younger deposits, consisting of slightly to moderately consolidated moderately dissected boulder, cobble, gravel, sand and silt deposited during the Pleistocene epoch (2.5 million years ago to 11,700 years ago) (Roffers and Bedrossian 2010).

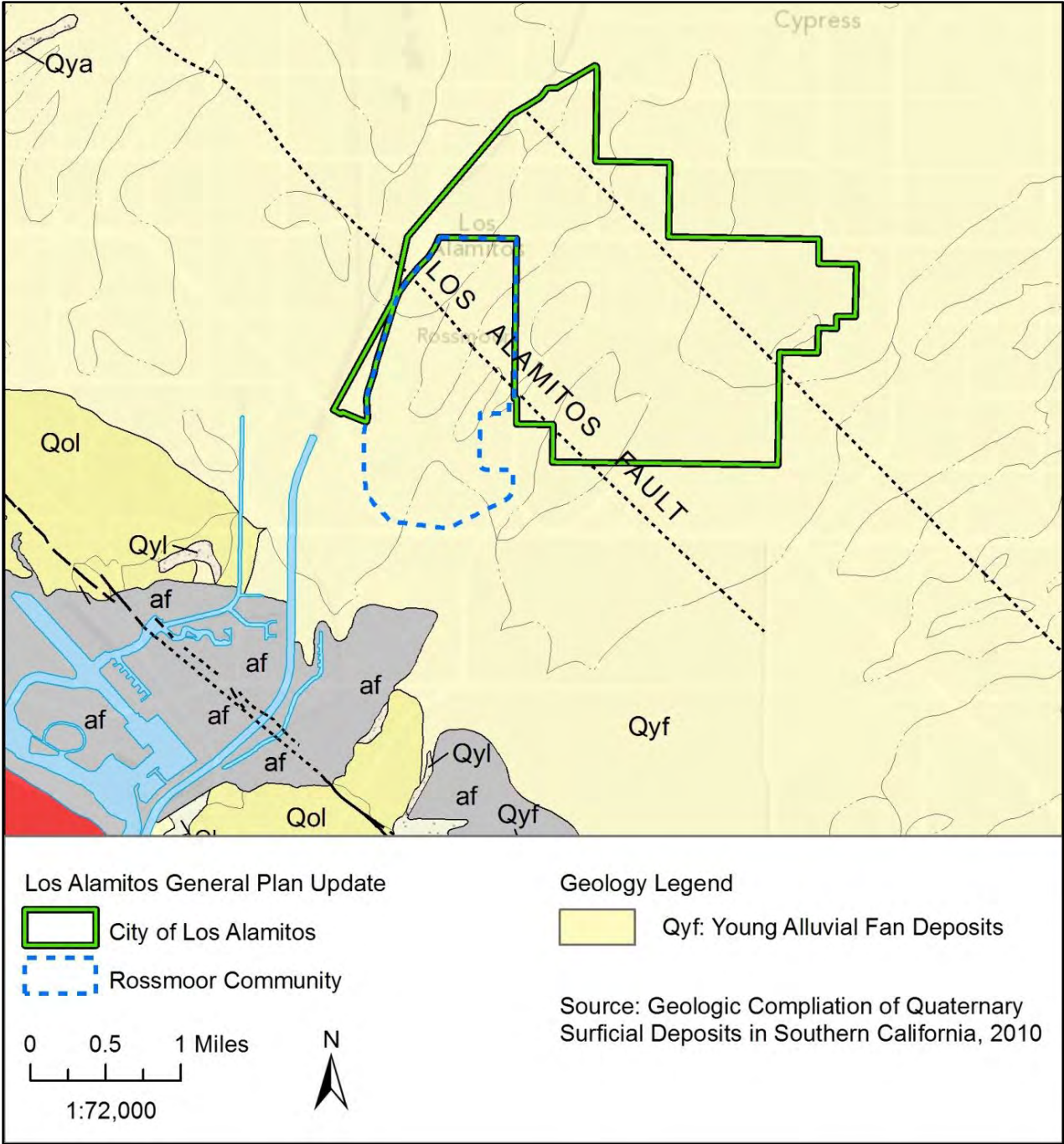


Figure 4. Geology Map

PREHISTORIC SETTING

Approaches to prehistoric frameworks have changed over the years from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Archaeologists defined a material complex consisting of an abundance of milling stones (for grinding food items) with few projectile points or vertebrate faunal remains dating from about 7-3 thousand years before the present as the “Millingstone Horizon”. Later, the “Millingstone Horizon” was redefined as a cultural tradition named the Encinitas Tradition with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, some continued to use “Millingstone Horizon” and some used Middle Holocene (the time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2).

Recently the fact that generalized terminology is suppressing the identification of cultural, spatial and temporal variation and the movement of peoples throughout space and time was noted. These factors are critical to understanding adaptation and change (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics are abundant metates and manos, crudely made core and flake tools, bone tools, shell ornaments, very few projectile points with subsistence focusing on collecting (plants, shellfish, etc.). Faunal remains vary by location but include shellfish, land animals, marine mammals and fish. [Sutton and Gardner 2010:7]

The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These are (1) Topanga in coastal Los Angeles and Orange counties, (2) La Jolla in coastal San Diego County, (3) Greven Knoll in inland San Bernardino, Riverside, Orange and Los Angeles counties, and (4) Pauma in inland San Diego County.

About 3,500 years before present the Encinitas Tradition was replaced by a new archaeological entity, the Del Rey Tradition, in the greater Los Angeles Basin. This new entity has been generally assigned to the Intermediate and Late time periods. The changes that initiated the beginning of the Intermediate Period included new settlement patterns, economic foci and artifact types that coincided with the arrival of a new, biologically distinctive population. The Intermediate and Late periods have not been well-defined. However, many have proposed that the beginning of the Intermediate marked the arrival of Takic groups (from the Mojave Desert, southern Sierra Nevada and San Joaquin Valley) and that the Late Period reflected Shoshonean groups (from the Great Basin). Related cultural and biological changes occurred on the southern Channel Islands about 300 years later. [Sutton 2010]

The Del Rey Tradition replaces the Intermediate and Late designations for both the southern California mainland and the southern Channel Islands. Within the Del Rey Tradition are two

regional patterns named Angeles and Island. The Del Rey Tradition represents the arrival, divergence, and development of the Gabrielino in southern California. [Sutton 2010]

Project Area Cultures

The latest cultural revisions for the project area define traits for time phases of the Topanga pattern of the Encinitas Tradition applicable to coastal Los Angeles and Orange counties (Sutton and Gardner 2010; Table 1). This pattern is replaced in the project area by the Angeles pattern of the Del Rey Tradition later in time (Sutton 2010; Table 1).

Topanga Pattern groups were relatively small and highly mobile. Sites known are temporary campsites, not villages and tend to be along the coast in wetlands, bays, coastal plains, near-coastal valleys, marine terraces and mountains. The Topanga toolkit is dominated by manos and metates with projectile points scarce. [Sutton and Gardner 2010:9]

In Topanga Phase I other typical characteristics were a few mortars and pestles, abundant core tools (scraper planes, choppers and hammerstones), relatively few large, leaf-shaped projectile points, cogged stones, and early discoidals (Table 1). Secondary inhumation under cairns was the common mortuary practice. In Orange County as many as 600 flexed burials were present at one site and dated 6,435 radiocarbon years before present. [Sutton and Gardner 2010:9, 13]

In Topanga Phase II, flexed burials and secondary burial under cairns continued. Adoption of the mortar and pestle is a marker of this phase. Other typical artifacts include manos, mutates, scrapers, core tools, discoidals, charmstones, cogged stones and an increase in the number of projectile points. In Orange County stabilization of sea level during this time period resulted in increased use of estuary, near shore and local terrestrial food sources. [Sutton and Gardner 2010:14-16]

In Topanga Phase III, there was continuing abundance of mutates, manos, and core tools plus increasing amounts of mortars and pestles. More numerous and varied types of projectile points are observed along with the introduction of stone-line earthen ovens. Cooking features such as these were possibly used to bake yucca or agave. Both flexed and extended burials are known. [Sutton and Gardner 2010:17]

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. [Sutton 2010]

Table 1. Cultural Patterns and Phases

Phase	Dates BP	Material Culture	Other Traits
Topanga I	8,500 to 5,000	Abundant manos and metates, many core tools and scraper s, few but large points, charmstones, cogged stones, early discoidals, faunal remains rare	Shellfish and hunting important, secondary burials under metate cairns (some with long bones only), some extended inhumations, no cremations
Topanga II	5,000 to 3,500	Abundant but decreasing manos and metates, adoption of mortars and pestles, smaller points, cogged stones, late discoidals, fewer scraper planes and core tools, some stone balls and charmstones	Shellfish important, addition of acorns, reburial of long bones only, addition of flexed inhumations (some beneath metate cairns), cremations rare
Topanga III	3,500 to 1,300	Abundant but decreasing manos and metates, increasing use of mortars and pestles, wider variety of small projectile points, stone-lined ovens	Hunting and gathering important, flexed inhumations (some under rock cairns), cremations rare, possible subsistence focus on yucca/agave
Angles IV	1,000 to 800	Cottonwood points for arrows appear, <i>Olivella</i> cupped beads and <i>Mytilus</i> shell disks appear, some imported pottery appears, possible appearance of ceramic pipes	Changes in settlement pattern to fewer but larger permanent villages, flexed primary inhumations, cremations uncommon
Angeles V	800 to 450	Artifact abundance and size increases, steatite trade from islands increases, larger and more elaborate effigies	Development of mainland dialect of Gabrielino, settlement in open grasslands, exploitation of marine resources declined and use of small seeds increased, flexed primary inhumations, cremations uncommon
Angeles VI	450 to 150	Addition of locally made pottery, metal needle-drilled <i>Olivella</i> beads, addition of Euroamerican material culture (glass beads and metal tools)	Use of domesticated animals, flexed primary inhumations continue, some cremations

The Angeles IV phase is marked by new material items including Cottonwood points for arrows, *Olivella* cupped beads and *Mytilus* shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. It appears that populations increased and that there was a change in the settlement pattern to fewer but larger permanent villages. Presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. The settlement pattern altered to one of fewer and larger permanent villages. Smaller special-purpose sites continued to be used. [Sutton 2010]

Angeles V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not. [Sutton 2010]

The Angeles VI phase reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles VI material culture is essentially Angeles V augmented by a number of Euroamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euroamerican material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled *Olivella* disk beads.

The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering, although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation. [Sutton 2010]

Ethnography

Early Native American peoples of the project area are poorly understood. They were replaced about 3,500 years ago by Native Americans now known as the Gabrielino (Tongva). Later in time, other Native Americans, now known as the Juaneño (Acjachemen) moved into southern Orange County and are likely to have also used the project area at some points in time. Material culture was very similar between these two groups but the Juaneño were known to produce Tizon brownware ceramics which might differentiate sites.

Gabrielino Tongva

The Gabrielino speak a language that is part of the Takic language family. Their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978, McCawley 1996) (Figure 5). At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area. Some of the villages could be quite large, housing up to 150 people.

The Gabrielino are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1976:621). Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).

The main food zones utilized were marine, woodland and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages. [Bean and Smith 1978:538-540]

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turban, mussels, clams, scallops, bubble shells, and others. [Bean and Smith 1978:538-540]

Povuu'nga

The nearest Gabrielino community to the city of Los Alamitos is the Povuu'nga community located along the San Gabriel River within the coastal region (figure 6). It is one of three important Gabrielino communities within the region and was founded by refugees from the San Gabriel area. Povuu'nga most likely served as a ritual center for the Gabrielino communities of the area based on the description given by Father Geronimo Boscana. Povuu'nga was described as the birthplace of both Wewyoot, the first tomyaar, and the creator-god and spiritual being Chengiichngech (McCawley 1996).

Povuu'nga is likely located on a hilltop site occupied by historic Rancho Los Alamitos in the city of Long Beach. The community existed until at least 1805 based on baptismal records from the San Gabriel mission and the San Juan Capistrano mission.

A map of Southern California highlighting Gabrielino communities as green dots and the Los Alamitos area as a red-outlined polygon. The map includes major cities like Los Angeles, San Diego, Anaheim, and Irvine, along with highways such as I-5, I-10, and SR-78. A legend in the bottom left corner identifies the symbols for Gabrielino Communities and Los Alamitos. A scale bar indicates distances up to 10 miles, and a north arrow is present. The map also shows geographical features like the San Gabriel River and various mountain ranges.

14

SPANISH & MEXICAN ERA SETTING

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). Between 1769 and 1822 the Spanish had colonized California and established missions, presidios and pueblos (Bean and Rawls 1993).

In 1821 Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, giving the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of grants, to private owners. Ranchos in California numbered over 500 by 1846, all but approximately 30 of which resulted from land grants (Bean and Rawls 1993; Robinson 1948).

The project area lies within the boundaries of the Rancho Los Alamitos (Figure 5). This land grant was originally part of the Rancho Los Nietos given to Manuel Nieto, a retired Spanish soldier, in 1784 (Robinson 1966). This land grant was one of the first and largest Spanish land concessions created by Mexican governor Pedro Fages. It included all the land between the San Gabriel and Santa Ana rivers, from the foothills to the sea. After Nieto's death in 1804 the large rancho was divided into five ranchos. Manuel's son – Juan Jose Nieto – received the Rancho Los Alamitos portion which consisted of 28,027 acres. The Mexican governor, Jose Figueroa, in 1834 recognized the division of the Rancho Los Nietos and officially issued the five grants in 1834.

By 1807, Juan Jose Nieto had built an adobe home within the Rancho Los Alamitos which was the original structure on the historic Los Alamitos Ranch (now part of Long Beach) still standing today (Robinson 1966). In 1834, the same year the subdivided rancho grant was made official, Nieto sold his large rancho to Governor Figueroa for \$500. Robinson conjectures that the rancho sale was a reward for the governor for enabling the subdivision of Rancho Los Nietos for Nieto family members. Within 15 months, Figueroa died and his brother Francisco Figueroa moved to the rancho, where he and the superintendent arranged for the sale of the rancho and worked to settle the governor's estate.

In 1842, a Yankee who had become a Mexican citizen and married into a Californio family (Arcadia Bandini) named Abel Stearns purchased the Rancho Los Alamitos for approximately \$6,000.00 (Robinson 1966). It was the first of his vast land holdings in the region which led to a large fortune in later years. He used the ranch for raising cattle and refurbished the ranch house as a summer home for his wife.

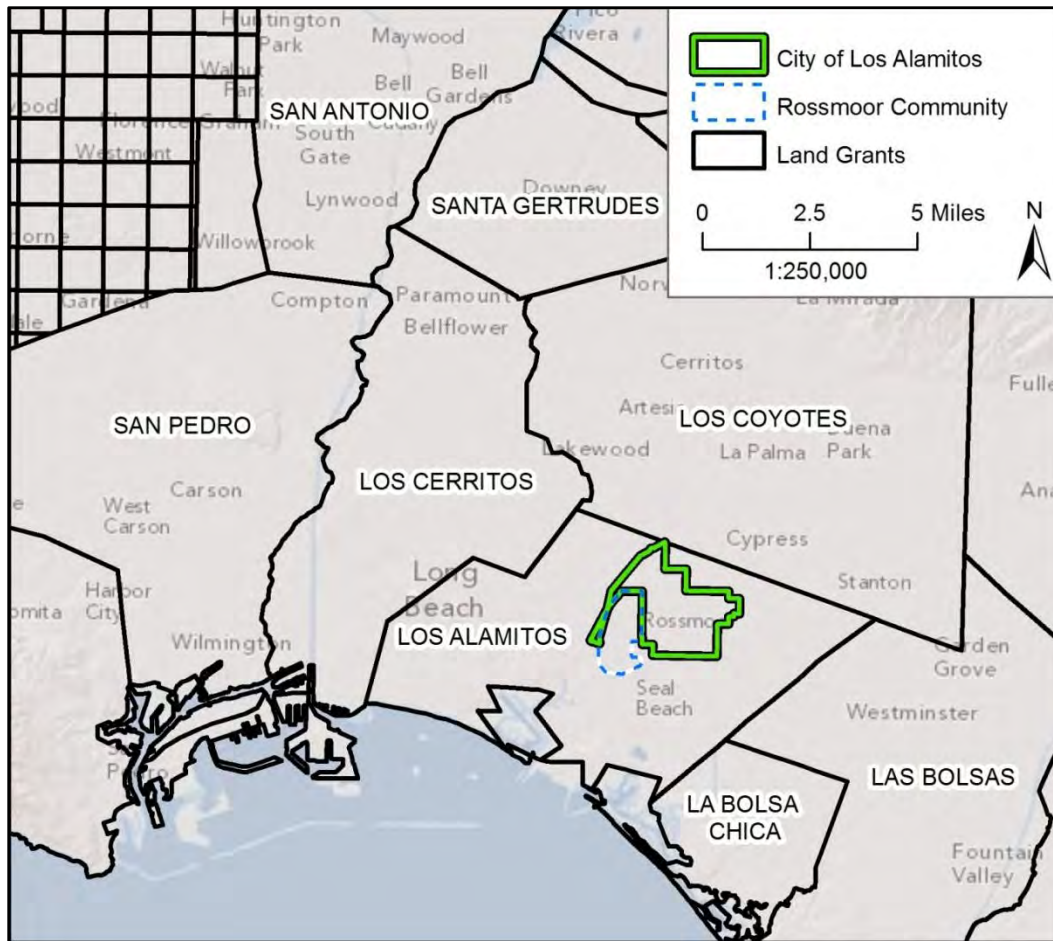


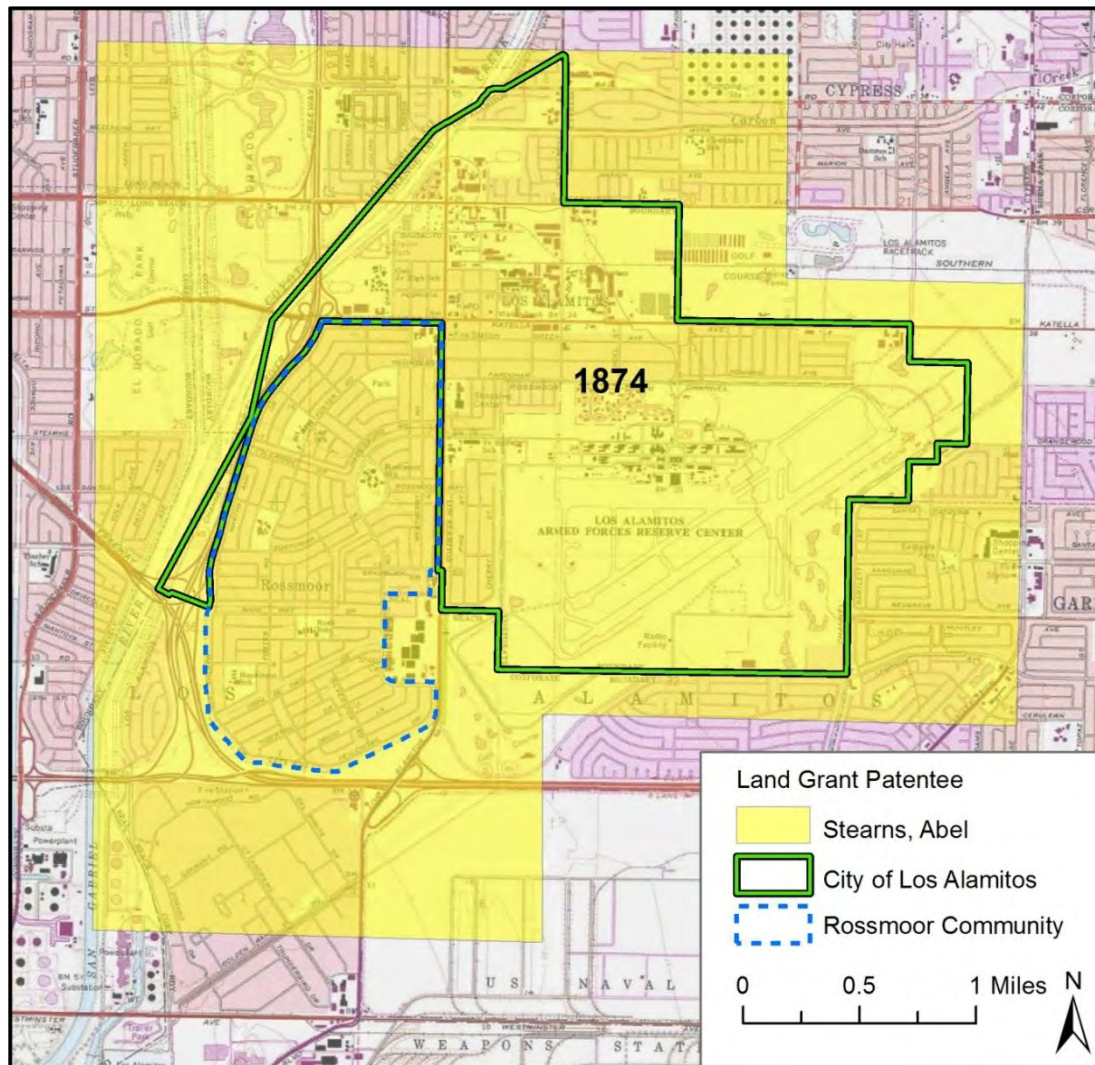
Figure 7. Land Grant Map

AMERICAN ERA SETTING (1848-1896)

When the United States took possession of California in 1848, one of the major problems was sorting out land ownership claims. Abel Stearns was fortunate in that the Board of Land Commissioners and the United States District Court upheld his title to Rancho Los Alamitos in 1850 (Robinson 1966). But he lost the rancho through foreclosure in the early 1860s, as prolonged drought caused the death of thousands of his cattle. A San Francisco money-lender named Michael Reese acquired the rancho and in 1878 leased part of it to John W. Bixby, a cousin of the Bixbys who had purchased the adjacent Rancho Los Cerritos. John and his family lived in the rancho house and eventually purchased Los Alamitos from the Reese heirs. In a search of U.S. Bureau of Land Management land grant records, Cogstone found that Abel Stearns was still affiliated in name, at least, with the rancho land as late as 1874 (Table 2; Figure 8a and 8b; BLM GLO 2008). After John Bixby's death in 1887, his wife, Susanna Patterson Hathaway Bixby, leased the rancho.

Table 2. Land grant patentees within the study area

Name	Date	Section	Township	Range
Stearns, Abel	1874	24, 25, 36	4S	12W
		19, 20, 28, 29, 30, 31, 32, 33	4S	11W
		6	5S	11W
		1	5S	12W
Ocampo, Francesca Uribe and Pico, Francisco	1875	20	4S	11W
McClure, Alfred	1893	6	5S	11W

**Figure 8a. Map of land grant patentees 1 of 2**

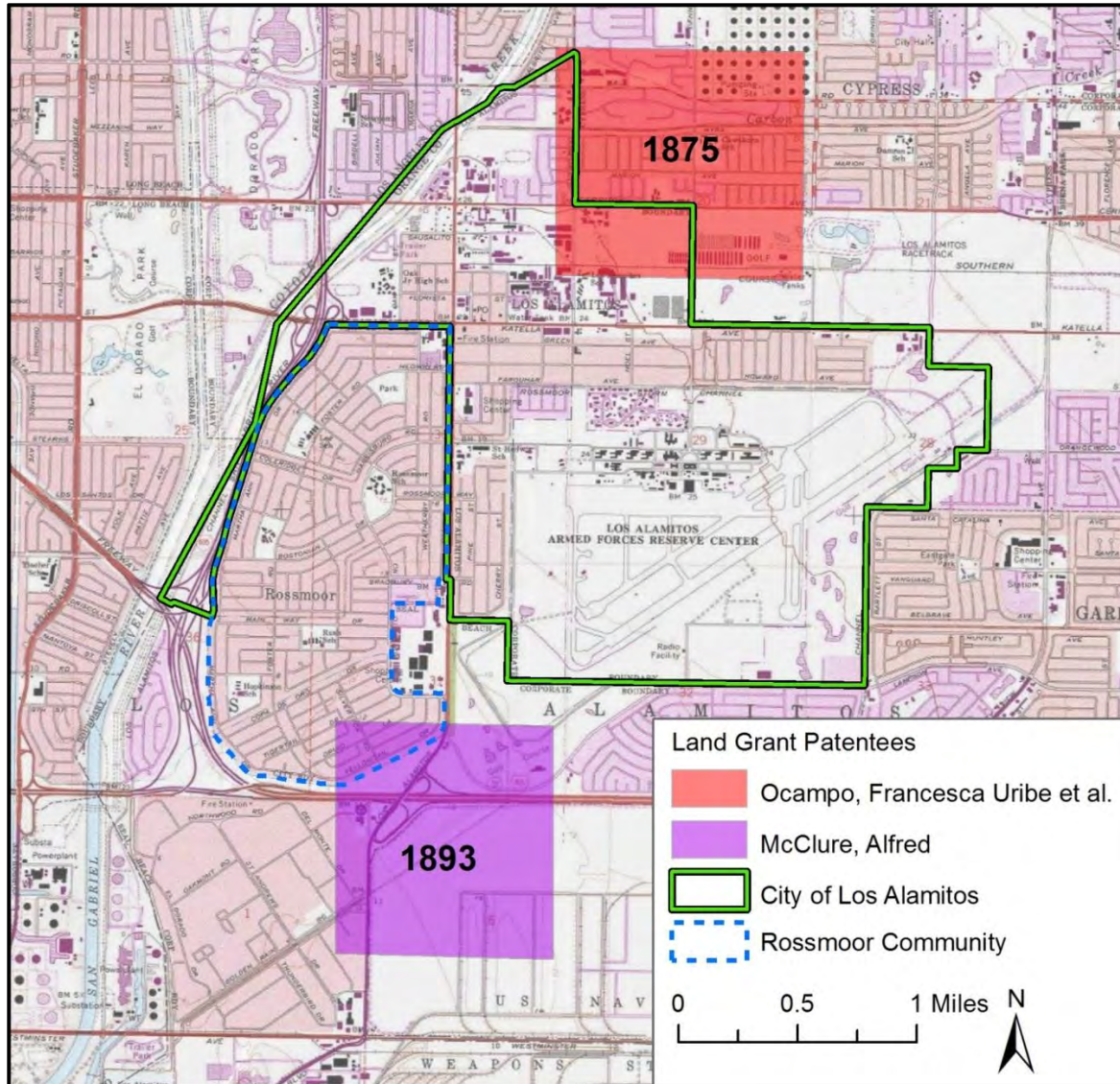


Figure 8b. Map of land grant patentees 2 of 2

EARLY 20TH CENTURY SETTING (1897-1943)

Ranching

In the early twentieth century, the Los Alamitos area was rural in character. The Los Alamitos Ranch continued to blanket the future town site with grazing cattle and sheep, owned and managed by Fred H. Bixby beginning in 1906 (Robinson 1966). Bixby occupied the ranch house with his young family. Over time, he established a very successful ranch, but on less and less acreage. During his life, Bixby served as Secretary of the Interior during President Coolidge's administration (Strawther 2011). He continued to ranch until his death in 1952. As mentioned above, 3,000 acres were devoted to sugar beet cultivation for some years after 1896. As other

kinds of development took place in the neighborhood, Los Alamitos lost land “through partition, condemnation, and subdivision” (Robinson 1966:30). By 1966, only 7.5 acres remained of this ranch. The house, barn, and remaining acreage are located approximately 3.0 miles southwest of present-day Los Alamitos, in Long Beach, California.

Industry – Sugar Beet Farming and Processing

Beginning in 1897, Mrs. Bixby and other partners in the Bixby Land Company put 3,000 acres of Rancho Los Alamitos under sugar beet cultivation (Magnuson 1918). They did this after contracting with William A. and James R. Clark of Montana, who financed and organized the Los Alamitos Sugar Company and agreed to build a beet sugar processing factory on ranch property (Magnuson 1918; LAHM 2013). In 1897 the Clark Brothers established the factory on 40 acres of ranch land, bounded by present-day Cerritos Avenue on the north, by Sausalito Street on the south, by Bloomfield Street on the east and by Los Alamitos Boulevard on the west (Figure 9).

The timing of the Bixby Land Company’s interest in sugar beets was no accident. For many years before 1897, American and European researchers, industrialists, and farmers had been experimenting with sugar beet growing and processing (Arrington 1967). The U.S. Department of Agriculture was actively promoting the industry through a special agent and reports to farmers and businessmen. USDA believed sugar beet factories were beneficial economically in rural areas by providing jobs, towns and improved social opportunities. In addition, the crop was beneficial for soil enrichment, crop rotation and animal feed (Arrington 1967). This trend was particularly successful in southern California

In the first year, the Los Alamitos factory sliced 29,542 tons of beets resulting in the manufacture of more than 6,000,000 pounds of sugar (Magnuson 1918). The factory operated 24 hours a day, every day during the three to four-month long processing season. They began each season with a special bell-ringing ceremony and picnic celebration (LAHM 2013: Swinging Panels Exhibit).

When in full swing, the Los Alamitos Sugar Co. Factory employed 200-400 seasonal employees, most of them from Mexico (LAHM 2013: Swinging Panels Exhibit). By 1912, the enlarged factory was processing 850 tons of beets per day (127,500 tons for a five-month year). The beets were grown on more than 10,000 acres located from “Bellflower to Seal Beach, and from Signal Hill to Stanton,” mostly by Euroamerican tenant farmers (LAHM 2013: Swinging Panels Exhibit). The factory relied on water from nearby artesian wells, while Los Alamitos fields were irrigated with impounded water from Coyote Creek.

Other beet sugar factories opened in nearby California towns between 1908 and 1912; Santa Ana had two, Huntington Beach had one, and Anaheim had one such factory (Magnuson 1918). The Los Alamitos Sugar Factory closed in 1926 and the Clark family, which had their own Montana

Ranch with large sugar beet crops shipped them to the Holly Company sugar factory in Santa Ana (called Dyer, at the time) (Strawther 2011).

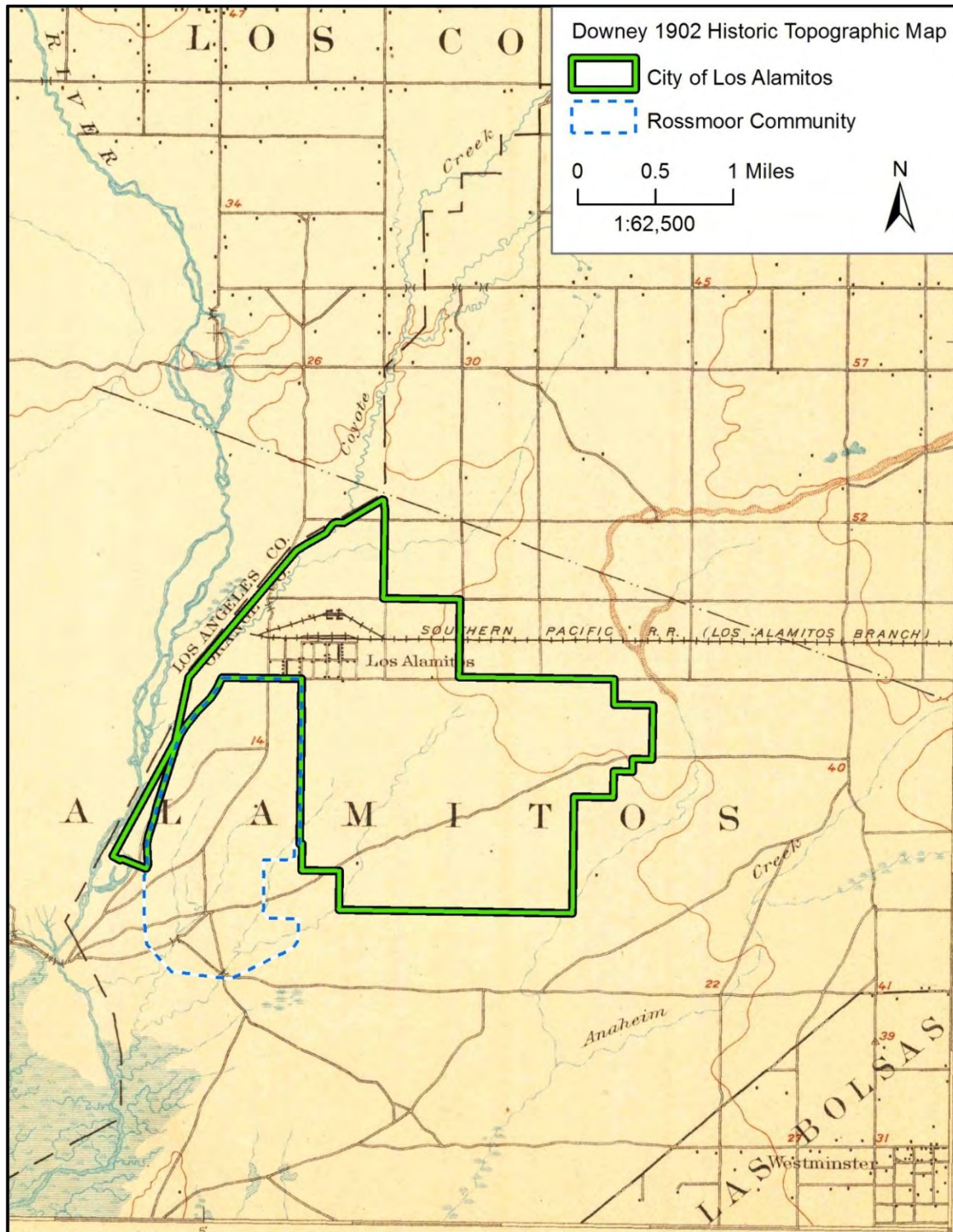


Figure 9. Historic Downey 1902 topographic map

The Railroad

In order to expedite the transport of sugar beets to the factory from surrounding, widespread farms and to ship sugar to market from the beet sugar factory, the Los Alamitos Sugar Company paid the Southern Pacific Railroad Company to build a nine-mile long branch line from Anaheim to the factory, as well as a depot to serve the factory and the fledgling town of Los Alamitos that formed next to the factory (Figure 9, Figure 10) (LAH 2013: Swinging Panels Exhibit).

Once the beet sugar factory closed, the railroad service stopped to Los Alamitos until 1932, when Dr. Ross rented the old factory building for dog food production (LAHM 2013: Swinging Panels Exhibit). The railroad continued operation of this branch line until 1998, transporting freight for the Barr Lumber Company. Then in 1999 Ganahl Lumber replaced Barr Lumber and constructed a new building where the old Southern Pacific Railroad Depot had stood.

Los Alamitos Townsite

Prior to the construction of the beet sugar factory, only the Rancho Los Alamitos and its own buildings and infrastructure occupied present-day Los Alamitos and Rossmoor community sites (refer to Figure 9). The factory was built in 1897 and within two months the Bixby Land Company had gridded the town of Los Alamitos, offering 500 lots for sale (Figure 10). Various business establishments soon set up shop along Main Street, the north end of which terminated at the factory. Some “factory” houses were constructed for workers, apparently, as photographs at the Los Alamitos Historical Museum show them and refer to them as such on Serpentine Drive, which was within the sugar factory property (Figure 11; LAHM 2013: Swinging Panels Exhibit).

The town in the early years had a run-down look because of its many shabby wooden buildings, which attracted the attention of movie-makers. Several silent movies were filmed in this “Old West” atmosphere, including the “Bond of Blood” in 1919, starring Al Jennings (LAHM 2013: Swinging Panels Exhibit). Several real life murders took place on Main Street and it was considered a rough area by many. Once the sugar factory closed in 1926, businesses moved out of Main Street and within a few years were settling in on Los Alamitos Boulevard, with the advent of automobiles, a paved road, and the establishment of Dr. Ross’s dog food factory in the sugar factory building.

Industry – Dr. Ross Dog Food

From 1932 to 1943, the veterinarian Dr. Ross operated a dog and cat food factory in the old sugar factory buildings (Strawther 2011). Strawther (2011) refers to Dr. Ross in the 1930s or 1940s “living in the old [sugar] factory General Manager’s quarters at Sausalito and Reagan [streets].” Reagan Street originally was Man Street. His business in Los Alamitos was a major one for the small community, providing employment during the Depression years and later. He was infamous, however, for the food sources he used for his products and the way they were procured. In the early years, he relied on horse meat, supplied by southwest Native American

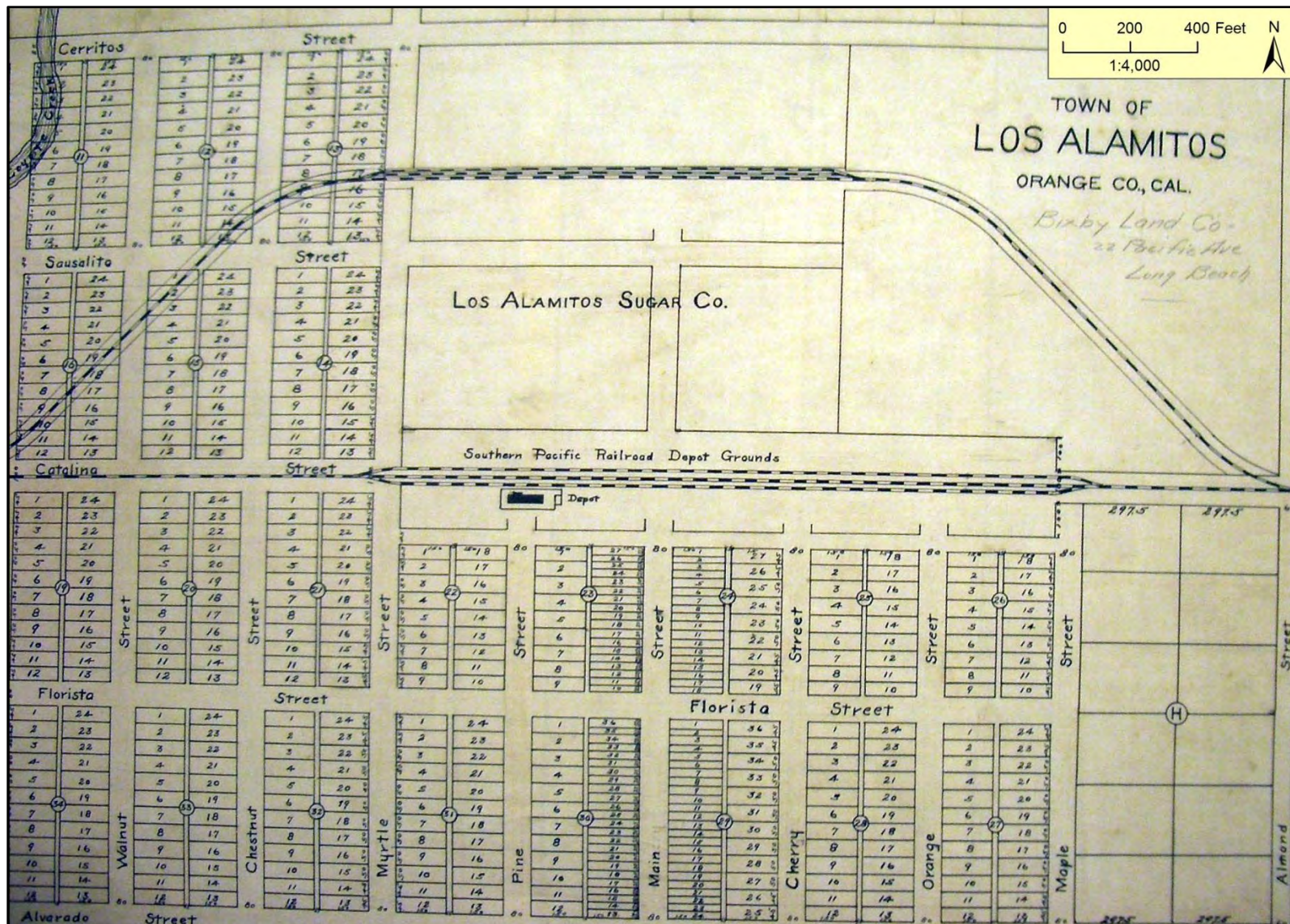


Figure 10. Historic Map of Los Alamitos Township
 [Map courtesy of Huntington Library; Bixby Land Company Archives]



Figure 11. Historic Los Alamitos Township map overlaid on modern aerial

groups who caught and shipped wild mustangs to Los Alamitos. He also used whale meat, sometimes from whale calves, and later obtained hundreds of sea lions caught in Mexico and on the California coast, much to the chagrin and harassment of American conversationalists.

Ross filed for bankruptcy in 1943, following numerous legal battles with conservationists, with other food companies over product name infringements, and following the increasing scarcity of metal for making cans during the war years (Strawther 2011).

The Air Base (Los Alamitos Joint Forces Training Base)

Adjacent to the city of Los Alamitos is a facility larger than the city itself, located immediately to the south. This is the Los Alamitos Army Airfield (LAAAF), which has played an important role in the economic and social life of Los Alamitos. It has had many names over the years, since the land was first purchased from Susanna Bixby Bryant in 1940, during World War II (Anonymous 2013). The site began as a Naval Reserve Air Base, the personnel and equipment of which moved from the nearby Long Beach Municipal Airport (later Daugherty Field) in 1942 where the base had been located since 1928. Works Progress Administration (WPA) funds financed the building of the new facilities at Los Alamitos. Land planes, carrier-borne aircraft and patrol planes utilized the base.

By 1942, Los Alamitos was used as a training station for aviation cadets and had a regular staff of some 2,500 officers and men (Anonymous 2013). The airfield was expanded in 1943 to accommodate its increasing wartime use.

LATE 20TH CENTURY SETTING (1943-1999)

Development of Rossmoor Unincorporated Community

In the 1940s, only a few houses were present in the present Rossmoor area (Figure 12). Rossmoor was established between 1956 and 1961 by developer Ross W. Cortese, (Kendrick 2013). It was envisioned and designed as an exclusive, planned, unincorporated community within Orange County, situated between Los Alamitos and Seal Beach, both of which have attempted to annex it in recent years. The community was designed for trees lining the streets, large yards, and well-designed homes of good quality, and included six schools, a medical facility, and two shopping centers. The community includes 3,445 single-family units and two multi-family complexes at present (Ricardo The Realtor 2013). Its population, as of 2012, is 10,234, nearly as large as neighboring Los Alamitos at 11,374 (Los Alamitos General Plan Update Proposal 2012). Rossmoor is one of many large developments undertaken by Cortese in the mid-1900s in southern California (Ricardo The Realtor 2013). These include nearby Seal Beach Leisure World, the Lakewood Rancho Estates in Long Beach, and the Frematic Homes in

Anaheim.

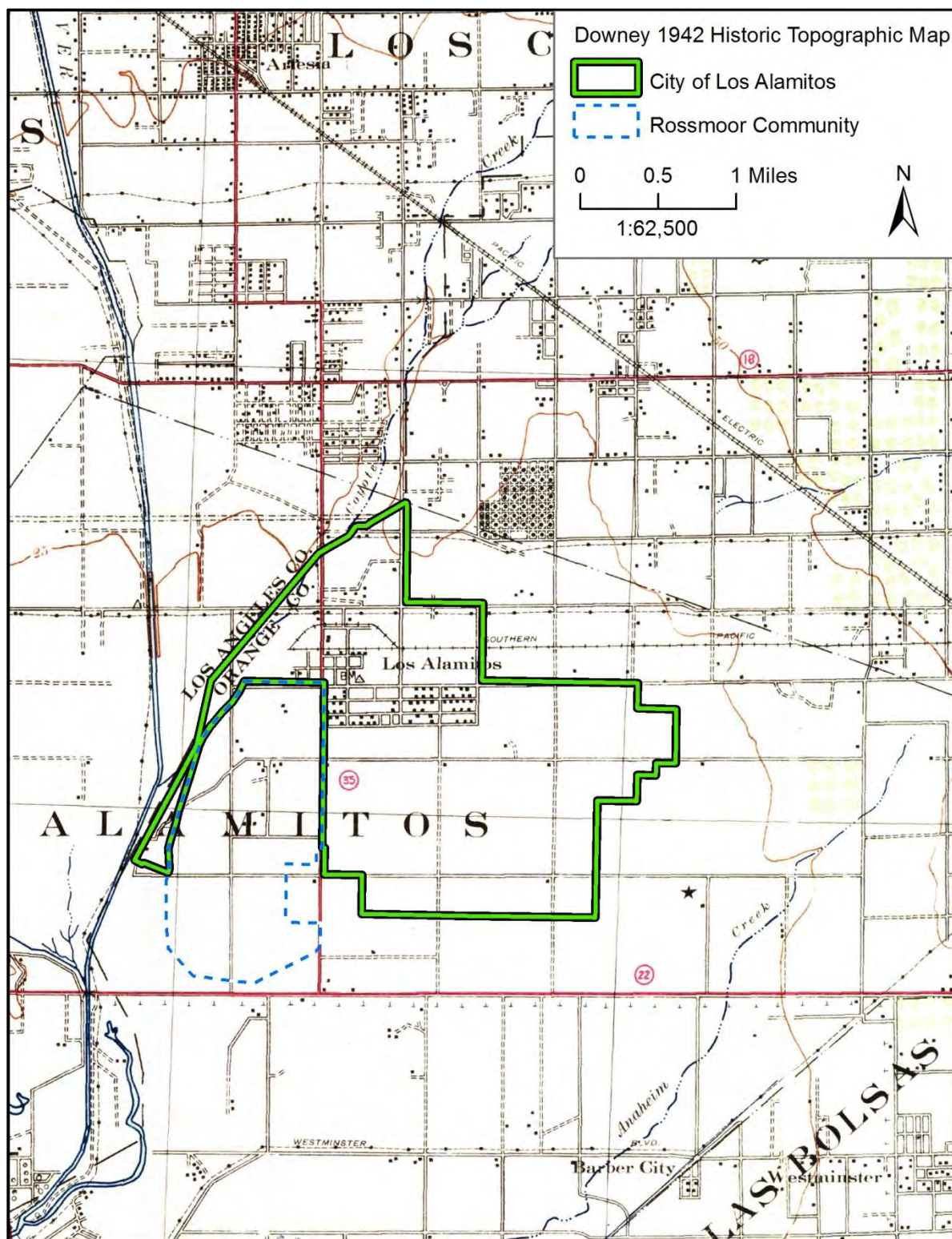


Figure 12. Historic 1942 topographic map

Military Presence (Los Alamitos Joint Forces Training Base)

Over time, the base at Los Alamitos has changed in size, name, and function, but it has always contributed in important ways to local, regional, and national events, wars, natural disasters, and more. By 1945, Los Alamitos “had become one of the Navy’s most important air stations” (Anonymous 2013:2). Following World War II, the base became the Navy’s largest training station for reservists and also was responsible for servicing the fleet. It was used during the Korean War, as well, for training of pilots and for mobilizing personnel, supplies, and equipment. During the floods of 1951, personnel from the base assisted in rescue of flood victims and in saving property.

During the 1970s, it became an Armed Forces Reserve Center as well as a facility for the California National Guard and began to house helicopters for both groups (Anonymous 2013). In the intervening decades, the base has hosted Air Force One, the United States Marine Corps (USMC) Presidential helicopter, National Air and Space Administration (NASA) mission efforts, and has supported Gulf War, Panama, and Bosnia military deployments, as well as assembly of personnel and supplies for local events such as the Los Angeles riots, major earthquake relief efforts, the Olympics, and emergency preparedness training.

KNOWN RESOURCES

PALEONTOLOGICAL RESOURCES

Information on known fossil localities was obtained from the Natural History Museum of Los Angeles County and online record searches of the University of California, Berkeley paleontology database and the Paleobiology Database. No vertebrate fossil localities lie within the proposed project boundary though there are localities adjacent to the project area from sedimentary deposits similar to those that occur within the project boundaries (McLeod 2011 (Appendix A), UCMP 2012, PBDB 2012).

Surface sediments within the project area consist of younger terrestrial Quaternary alluvium, with older Quaternary sediments at various depths with fluvial deposits from the Los Angeles, San Gabriel, and Santa Ana Rivers. The upper most layers of the younger Quaternary deposits typically do not contain significant vertebrate fossils, however, the older Quaternary deposits are known to bare significant vertebrate fossils.

Fossil vertebrate localities closest to the project area from the older Quaternary deposits have produced specimens including rays, sharks, bony fish, turtle, birds, sea otter, camels, dog, gopher, horse, and mammoth (Table 3, McLeod 2011). Depth of recovery was not reported with the exception of one camel specimen that was collected from a depth of 8.5 feet below the surface (McLeod 2011).

Table 3. Fossils from localities near Los Alamitos

Common Name	Taxon	Formation	Source
Marine Sharks and Rays			
Shark	<i>Carcharodon</i>	older Quaternary deposits	McLeod (2011)
Shark, Blue	<i>Prionace</i>	older Quaternary deposits	McLeod (2011)
Shark, Requiem	<i>Carcharhinidae</i>	older Quaternary deposits	McLeod (2011)
Ray, Eagle	<i>Myliobatis</i>	older Quaternary deposits	McLeod (2011)
Guitarfish	<i>Rhinobatidae</i>	older Quaternary deposits	McLeod (2011)
Fish			
Croaker	<i>Genyonemus</i>	older Quaternary deposits	McLeod (2011)
Fish, Bony	<i>Damalichthys</i>	older Quaternary deposits	McLeod (2011)
Surfperch	<i>Rhacochilus</i>	older Quaternary deposits	McLeod (2011)
Birds			
Loon	<i>Gavia</i>	older Quaternary deposits	McLeod (2011)
Sea Duck	<i>Chendytes</i>	older Quaternary deposits	McLeod (2011)
Terrestrial Mammals			
Camel	<i>Camelidae</i>	older Quaternary deposits	McLeod (2011)
Camel	<i>Hemiauchenia</i>	older Quaternary deposits	McLeod (2011)
Dog	<i>Canis</i>	older Quaternary deposits	McLeod (2011)
Gopher, Pocket	<i>Thomomys</i>	older Quaternary deposits	McLeod (2011)
Horse	<i>Equus</i>	older Quaternary deposits	McLeod (2011)
Mammoth	<i>Mammuthus</i>	older Quaternary deposits	McLeod (2011)
Miscellaneous			
Otter, Sea	<i>Enhydra</i>	older Quaternary deposits	McLeod (2011)
Turtle	<i>Clemmys</i>	older Quaternary deposits	McLeod (2011)

CULTURAL RESOURCES

California Historic Resources Inventory System

A search for archaeological and historical records was completed at the South Central Coastal Information Center (SCCIC) of the California Historic Resources Inventory System (CHRIS) on September 22, 2011 by Molly Valasik. The record search covered the city limits of Los Alamitos and Rossmoor and the immediately adjacent areas.

The records search determined that there are two historic cultural resources within the city of Los Alamitos. Six prehistoric shell midden sites and one historic building are located within close proximity to Los Alamitos (Table 4). None of the previously-recorded resources are listed as eligible for the National Register of Historic Places (NRHP).

Table 4. Recorded sites within Los Alamitos and adjacent areas

Reference	Site Type	Date	Distance from APEs
P-30-001352	Prehistoric shell midden	Nd	½ mile
P-30-001505	Prehistoric shell midden	1999	Adjacent to Project Area
P-30-001568	Prehistoric shell midden	2000	¼ mile
P-30-001570	Prehistoric shell midden	2000	½ mile
P-30-001571	Prehistoric shell midden	2000	½ mile
P-30-001572	Prehistoric shell midden	2000	¼ mile
P-30-176752	Historic Parasol Restaurant	2004	¼ mile
P-30-176854	Historic Navy Golf Course	1998	Within Project Area
P-30-179863	Historic U.S.S. Los Angeles Heavy Cruiser Model at Golf Course	1998	Within Project Area

The first historic resource within the Los Alamitos city limits is Site P-30-176854 – the Navy Golf Course. The site includes 15 buildings within its boundaries. All were built between 1966 and 1968, except for one (an auxiliary building dating to 1950). They include three core buildings for the complex, all of wood frame and stucco, which are the pro shop and cart house, the coffee shop and lounge, and the locker room (Bunse 1998: Navy Golf Course Site Record). Eleven more buildings are support and auxiliary structures scattered within the course, and are of many styles, sizes, and functions. One of these dates from 1950. Three of these are prefabricated Butler-style, metal-frame buildings.

The second historic resource within the project area (Site P-30-179863) is a scaled-down replica of the USS Los Angeles Heavy Cruiser which plied the sea early in the Korean War and has long since been scrapped. This model was first made in 1967 and appeared in the John Wayne movie “In Harm’s Way.” It now rests in a small lake within the Navy Golf Course where it has been since 1997 (Bissell 1998: Site Record). Additional historic resources were reported in the California Historic Resources Inventory and are reported below. Previously, 15 archaeological studies were conducted within parts of the project study area (Table 5).

Table 5. Previous archaeological studies

Author	Ref (OR)	Title	Date	Quad
Bissell, Ronald M.	01100	Cultural Resources Reconnaissance of Six Small Parcels Located on or Near the Armed Forces Reserve Center, Los Alamitos, Orange County, California	1991	Los Alamitos
Demcak, Carol R.	01524	Report of Archaeological Survey for L.A. Cellular Site #85, 10652 ½ Reagan Street, Los Alamitos, Orange County	1996	Los Alamitos

Author	Ref (OR)	Title	Date	Quad
Maxwell, Pamela	01676	Cultural Resources Assessment for Jp-8 Fuel Storage Facility, Los Alamitos Armed Forces Reserve Center (AFRC), Los Alamitos, California	1993	Los Alamitos
Bissell, Ronald M.	01732	Cultural and Paleontological Study in Support of Irrigation Improvements to the Navy Golf Course, Weapons Support Facility Command, Los Alamitos Armed Forces Reserve Center, Orange County, California	1998	Los Alamitos
Mason, Roger D. and W.H. Bonner	01811	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 133-11 in the City of Los Alamitos, California	1998	Los Alamitos
Mason, Roger D.	02033	Research Design for Evaluation of Coastal Archaeological Sites in Northern Orange County, California	1987	Los Alamitos, Newport Beach, Seal Beach
Romani, John F.	02161	Archaeological Survey for Proposed Construction of Connector Ramp and Auxiliary Lane Northbound at Seal Beach Boulevard	1981	Los Alamitos
Demcak, Carol R.	02256	Cultural Resources Assessments for Orange County Sanitation Districts	1999	Anaheim, La Habra, Los Alamitos, Newport Beach, Orange, Seal Beach, Tustin, Yorba Linda
Ritchie, Michael	03371	Determination of Effect State Route 22/west Orange County Connection	2000	Anaheim, Los Alamitos, Orange
Tang, Bai	03735	Due-diligence historical archaeological resources review, city of Seal Beach Sewer Capital Improvement Projects, City of Seal Beach, Orange County, California	2008	Los Alamitos, Seal Beach
Tang, Bai and M. Hogan	03819	Identification and Evaluation of Historic Properties City of Seal Beach Sewer Capital Improvement Projects	2009	Los Alamitos, Seal Beach
Tang, Bai and M. Hogan	03820	Identification and Evaluation of Historic Properties City of Seal Beach Sewer Capital Improvement Projects College Park East/Lampson Phase I	2009	Los Alamitos

Author	Ref (OR)	Title	Date	Quad
Mason, Roger	03870	Historic Property Survey Report for the West Orange County Connection, Phase II – I-405/I-605 HOV Connector Project, Orange County, California	2009	Los Alamitos
Fulton, Phil	03976	Cultural Resource Assessment, Verizon Wireless Services, Oak Academy Facility, City of Los Alamitos, Orange County, California	2008	Los Alamitos
Bonner, Wayne	03984	Cultural Resources Records Search and Site Visit Results for American Tower Corporation Candidate 301025 (Los Alamitos Commerce Center), 10851 Portal Drive, Los Alamitos, Orange County, California	2006	Los Alamitos

Other sources

In addition to the records at the SCCIC, a variety of additional sources were consulted by Valasik in September 2011 to obtain information regarding the project study area (Table 6). Sources include the National Register of Historical Places, California Register of Historic Resources, California Historical Resources Inventory, California Historical Landmarks, California Points of Historical Interest and local historical registers (Table 6). Based on the California Historical Resources Inventory, 30 more historic resources were identified within the Los Alamitos city limits, located on the Joint Forces Training Base (Table 7). The Los Alamitos Historical Society maintains a list of local historical resources, many of which are, or will be, marked by plaques (Table 8).

Table 6. Additional sources consulted

Source	Results
National Register of Historic Places (NRHP; 1979-2002 & supplements)	Negative
Historic United States Geological Survey topographic maps	Shown history of development
California Register of Historical Resources (CRHR; 1992-2010)	Negative
California Historical Resources Inventory (HRI; 1976-2010)	Positive only for Base
California Historical Landmarks (CHL; 1995 & supplements to 2010)	Negative
California Points of Historical Interest (CPHI; 1992 to 2010)	Negative
Local Historical Register Listings (Local; City of Los Alamitos 2011)	See Table 8
Bureau of Land Management General Land Office Records	Positive

Table 7. Historical resources at the Joint Forces Training Base

HRI number	Street	Property Name
170438	Farquhar Ave	Naval Air Station HQ
170440	Doolittle Ave	Building 1
170441	Doolittle Ave	Building 2
170442	Constitution Ave	Building 09
170443	Doolittle Ave	Building 37
170444	Doolittle Ave	Building 79
170445	Constitution Ave	Building 03
170446	Minuteman Circle	Building 28
170447	Constitution Ave	Building 10
170448	Constitution Ave	Building 11
170449	Constitution Ave	Building 34
170451	Constitution Ave	Building 35
170452	Constitution Ave	Building 4
170453	Liberty Ave	Building 5
170455	Yorktown Ave	Building 06
170456	Constitution Ave	Building 25
170457	Yorktown Ave	Building 25
170458	Valley Forge Dr	Building 44
170459	Valley Forge Dr	Building 57
170461	Valley Forge Dr	Building 104/Pool
170462	Yorktown Ave	Building 15
170463	Yorktown Ave	Building 16
170464	Yorktown Ave	Building 17
170466	Yorktown Ave	Building 18
170467	Yorktown Ave	Building 19
170468	Yorktown Ave	Building 20
170469	Yorktown Ave	Building 21
170471	Yorktown Ave	Building 191
170472	Constitution Ave	Building 07
170473	Constitution Ave	Building 08

The 30 buildings listed above are all located on the base, in the northwest quadrant. They were all constructed between 1941 and 1946, and were recorded by Bissell in 1991 (see Table 5 above - report reference 1100). The California State Historic Preservation Officer (SHPO) has determined that all 30 buildings are ineligible for listing (Status code 6Z) on the National Register of Historic Places (NRHP). The SCCIC does not have the site records on file but is attempting to obtain them from SHPO.

Table 8. Local Historical Resources

Historic Resource	Address
Historic Home built 1925	10772 Pine St.
Historic Home built 1899	10802 Chestnut St.
Historic Home built 1920s (has been demolished)	10852 Pine St.
Historic Home built 1898	10901 Chestnut St.
Historic Home built 1898	10927 Chestnut St.
Historic Home built 1898	10931 Chestnut St.
St. Isidore Catholic Church and Historic Plaza built 1926	10961 Reagan St
Historic Firehouse (currently houses Los Alamitos Historical Society Museum)	11062 Los Alamitos Blvd.
Historic Home built 1912	3372 Florista St.

NATIVE AMERICAN CONSULTATION

A Sacred Lands File search was requested from the Native American Heritage Commission on September 15, 2011. On September 19, the Commission replied that there were known Native American cultural resources within the project study area, and provided a list of thirteen Native American tribes or individuals to contact for further information (Appendix B).

Letters requesting information on any heritage sites and containing maps and project information were sent by post on September 29 to the thirteen Native American contacts. Alfred Cruz of the Juaneno Band of Mission Indians responded that the undeveloped areas within the army airfield are sensitive for prehistoric resources. No other responses were received.

IMPACT ANALYSIS AND MITIGATION

IMPACTS

Changes to land use from existing, to that proposed under the General Plan Update, are minor. For most projects within the City, CEQA will apply. No changes are proposed to the land use designations of the Los Alamitos JFTB. The City of Los Alamitos has no jurisdiction or land use authority on this U.S. military installation. Consequently, no changes from existing conditions are assumed within the Los Alamitos JFTB as part of the City's General Plan Update and no impact would occur.

PC-1. No fossil localities, archaeological sites or burial sites known within the City limits. Generally, remaining historic neighborhoods and undeveloped portions of the Joint Armed

Forces Base are considered to have the highest potential to have unknown buried resources more than 50 years old which may meet significance criteria.

PC-2. Future development may occur in areas that may contain significant historical structures, features and landscapes. Remaining historic neighborhoods, the Joint Armed Forces Base and Navy Golf Course are considered to have the highest potential for adverse impacts to historical built environments although other locations may also have important historical resources.

MITIGATION MEASURES

MM PC-1. The City shall have a standard condition in every grading and excavation permit that requires applicants to halt work upon discovery of any unanticipated buried resources such as fossils, cultural deposits or burial until it can be evaluated by qualified professionals. Work may resume immediately at least 50 feet away from the discovery.

MM PC-2. The City shall require applicants for future proposed projects with intact extant building(s) or other aspects of the built environment more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. All work must be performed by a qualified architectural historian meeting Secretary of the Interior Standards.

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PBDB

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Ricardo The Realtor

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UCMP

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APPENDIX A: PALEONTOLOGICAL RECORDS SEARCH



Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3324
FAX: (213) 746-7431
e-mail: smcleod@nhm.org

17 October 2011

Cogstone Resource Management, Inc.
1518 Taft Avenue
Orange, CA 92865-4157

Attn: Sherri Gust

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed Los Alamitos Project, Cogstone Project # 2061, in the City of Los Alamitos, Orange Angeles County, project area

Dear Sherri:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Los Alamitos Project, Cogstone Project # 2061, in the City of Los Alamitos, Orange County, project area, as outlined on the portion of the Los Alamitos USGS topographic quadrangle map that Molly Valasik sent to me via e-mail on 20 September 2011. We have no vertebrate fossil localities that lie directly within the boundaries of the proposed project area, but we do have localities nearby from sedimentary deposits similar to those that occur at depth in the proposed project area.

Surficial sediments in the entire proposed project site and in the surrounding area consist of younger terrestrial Quaternary Alluvium, with older Quaternary sediments occurring at various depths, as part of the general floodplain in the Los Angeles Basin with fluvial deposits from the Los Angeles, San Gabriel, and Santa Ana Rivers. Carbon Creek flows into Coyote Creek in the northwestern portion of the proposed project area and Coyote Creek flows through the western portion of the proposed project area and then drains into the San Gabriel River adjacent to the southwestern portion of the proposed project area. These younger Quaternary deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, and we have no vertebrate fossil localities anywhere nearby from the younger Quaternary Alluvium, but those deposits are usually underlain by older Quaternary deposit that frequently do contain significant vertebrate fossils.

Inspiring wonder, discovery and responsibility for our natural and cultural worlds.

Our closest fossil vertebrate locality to the proposed project area from older Quaternary deposits is locality LACM 3757, west-southwest of the proposed project area south of 7th Street and east of the Pacific Coast Highway, that produced fossil specimens of rays, *Myliobatis* and *Rhinobatoidea*, sharks, *Carcharodon*, *Prionace* and *Carcharhinidae*, bony fish, *Damalichthys*, *Genyonemus* and *Rhacochilus*, turtle, *Clemmys*, birds *Chendytes* and *Gavia*, and mammals, *Canis*, *Enhydra*, *Equus*, *Hemiauchenia* and *Thomomys*. Further to the west along 7th Street, west of the Pacific Coast Highway, we have locality LACM 6746 that produced fossil mammoth, *Mammuthus*. North of locality LACM 6746 and due west of the southern portion of the proposed project area we have the locality LACM 7393, near the intersection of the Pacific Coast Highway (Highway 1) and Grand Avenue, that produced a fossil specimen of camel, *Camelidae*, at a depth of 8.5 feet below the surface.

Surface grading or very shallow excavations in the younger Quaternary Alluvium exposed in the proposed project area probably will not uncover significant vertebrate fossil remains. Deeper excavations that extend down into the older Quaternary deposits, however, may well encounter significant fossil vertebrate specimens. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: draft invoice

APPENDIX B: NATIVE AMERICAN HERITAGE COMMISSION

STATE OF CALIFORNIA

Edmund G. Brown, Jr. Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net



September 19, 2011

Ms. Sherri Gust, RPA, Principal

COGSTONE CULTURAL RESOURCES

1518 W. Taft Avenue
Orange, CA 92865

Sent by FAX to: 714-974-8303

No. of Pages: 4

Re: Sacred Lands File Search and Native American Contacts list for the "Proposed
"Los Alamitos Project No. 2061" located in the Los Alamitos area of Orange County,
California

Dear Ms. Robbins-Wade:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the 'area of potential effect,' (APE) based on the USGS coordinates provided and **Native American cultural resources were not identified** in the USGS coordinates you specified. Also, please note; the NAHC Sacred Lands Inventory is not exhaustive and do not preclude the discovery of cultural resources during ground braking activity. This area of Orange County is known to the NAHC as very culturally sensitive.

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance.' In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation, even during Initial Study or First Phase surveys with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list of Native American Contacts we attach to this letter in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be

affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C. 4321-43351) and Section 106 4(f), Section 110 (f)(k) of federal NHPA (16 U.S.C. 470 *et seq.*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C. 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

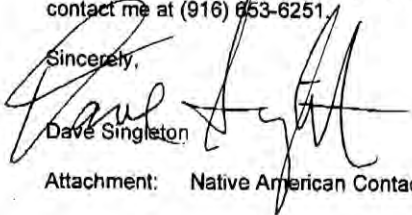
Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of the NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,



Dave Singleton

Attachment: Native American Contact List

Native American Contacts
Orange County
September 19, 2011

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3098 Mace Avenue, Aapt. D Gabrielino
Costa Mesa, , CA 92626
calvitre@yahoo.com
(714) 504-2468 Cell

Juaneno Band of Mission Indians Acjachemen Nation
Anthony Rivera, Chairman
31411-A La Matanza Street Juaneno
San Juan Capistrano CA 92675-2674
arivera@juaneno.com
(949) 488-3484
(949) 488-3294 - FAX
(530) 354-5876 - cell

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
tattnlaw@gmail.com
310-570-6567

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

Juaneno Band of Mission Indians
Alfred Cruz, Culural Resources Coordinator
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
alfredgcruz@sbcglobal.net
714-998-0721
714-998-0721 - FAX
714-321-1944 - cell

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net
(909) 262-9351, - cell

Juaneño Band of Mission Indians
Sonia Johnston, Tribal Chairperson
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
sonia.johnston@sbcglobal.net
(714) 323-8312

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Los Alamitos Project, No. 2061; located in the Los Alamitos area of Orange County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contacts
Orange County
September 19, 2011

Juaneno Band of Mission Indians
Anita Espinoza
1740 Concerto Drive Juaneno
Anaheim, CA 92807
neta777@sbcglobal.net
(714) 779-8832

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393 Gabirelino Tongva
Covina, CA 91723
(626) 926-4131
gabrielenoindians@yahoo.
com

Gabrielino-Tongva Tribe
Bernie Acuna
1875 Century Pk East #1500 Gabrielino
Los Angeles, CA 90067
(619) 294-6660-work
(310) 428-5690 - cell
(310) 587-0170 - FAX
bacuna1@gabrieinotribe.org

Juaneno Band of Mission Indians Acjachemen Nation
Joyce Perry; Representing Tribal Chairperson
4955 Paseo Segovia Juaneno
Irvine, CA 92612
949-293-8522

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Park East, Suite 1500
Los Angeles, CA 90067 Gabrielino
lcandelaria1@gabrielinoTribe.org
626-676-1184- cell
(310) 587-0170 - FAX
760-904-6533-home

This list is current only as of the date of this document.
Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,
Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed
Los Alamitos Project, No. 2061; located in the Los Alamitos area of Orange County, California for which a Sacred Lands File search and Native
American Contacts list were requested.

Appendices

Appendix E Noise Modeling

Appendices

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Noise Measurement Data

CITY OF LOS ALAMITOS NOISE MEASUREMENT RESULTS

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
7	26-Jun	1	12:28:06	60	62.0	79.8	63.4	60.8	79.6	63.4	63.0	62.8	62.6	62.0	61.2
7	26-Jun	2	12:29:06	60	61.3	79.0	63.8	59.0	80.0	63.6	62.9	62.5	62.2	61.0	59.5
7	26-Jun	3	12:30:06	60	60.2	78.0	62.0	58.8	78.2	61.8	61.3	60.9	60.7	60.2	59.2
7	26-Jun	4	12:31:06	60	61.0	78.8	63.3	59.4	81.1	63.3	62.7	61.9	61.4	60.6	59.6
7	26-Jun	5	12:32:06	60	61.1	78.9	65.4	59.1	77.5	65.3	64.3	62.5	61.2	60.1	59.2
7	26-Jun	6	12:33:06	60	60.9	78.7	62.4	59.3	77.1	62.4	62.0	61.8	61.5	60.9	60.0
7	26-Jun	7	12:36:06	60	62.1	79.9	67.9	58.3	83.0	66.9	63.9	62.9	62.6	61.9	59.0
7	26-Jun	8	12:37:06	60	60.7	78.5	63.0	58.3	76.7	62.9	62.6	62.2	61.7	60.1	59.0
7	26-Jun	9	12:38:06	60	61.8	79.5	63.8	60.0	76.1	63.8	63.4	62.9	62.5	61.7	60.5
7	26-Jun	10	12:39:06	60	62.3	80.1	64.4	60.5	86.1	64.0	63.7	63.4	63.0	62.2	60.8
7	26-Jun	11	12:40:06	60	61.9	79.7	66.4	60.1	86.3	65.9	64.3	62.7	62.0	61.5	60.4
7	26-Jun	12	12:41:06	60	61.3	79.0	62.9	59.1	78.3	62.9	62.6	62.1	61.9	61.4	59.7
7	26-Jun	13	12:42:06	60	61.4	79.2	62.6	60.2	75.6	62.6	62.4	62.0	61.8	61.4	60.5
7	26-Jun	14	12:43:06	60	61.0	78.8	62.7	59.6	75.7	62.7	62.6	62.2	61.6	60.7	60.1
					61.1		67.9	58.3							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
6	26-Jun	1	12:56:33	60	48.1	65.9	54.5	45.0	79.0	51.6	50.4	49.6	48.9	47.6	45.9
6	26-Jun	2	12:57:33	60	46.5	64.3	51.4	43.8	68.5	50.1	49.1	48.2	47.4	45.7	44.3
6	26-Jun	3	12:58:33	60	47.4	65.2	52.5	44.4	69.4	51.7	49.9	48.9	48.0	46.6	45.1
6	26-Jun	4	12:59:33	60	48.6	66.4	52.3	46.1	71.0	51.7	50.7	50.0	49.5	48.1	46.9
6	26-Jun	5	13:00:33	60	47.4	65.2	51.5	44.5	73.2	51.5	50.5	49.6	47.9	46.3	45.1
6	26-Jun	6	13:01:33	60	48.6	66.4	52.4	44.8	67.5	52.3	51.7	51.2	50.2	47.2	45.2
6	26-Jun	7	13:02:33	60	47.6	65.4	52.0	45.7	71.2	50.6	49.5	48.7	48.1	47.3	46.2
6	26-Jun	8	13:03:33	60	54.5	72.3	61.2	45.9	73.4	60.4	58.7	57.5	55.9	52.9	46.9
6	26-Jun	9	13:04:33	60	48.2	66.0	53.4	44.5	71.5	52.9	51.8	50.5	49.4	46.6	45.1
6	26-Jun	10	13:05:33	60	47.8	65.6	55.1	44.4	77.2	53.6	51.1	49.0	47.6	46.6	45.2
6	26-Jun	11	13:06:33	60	46.4	64.2	50.5	44.4	69.2	49.9	48.5	47.2	46.8	46.0	44.9
6	26-Jun	12	13:07:33	60	46.3	64.1	54.1	44.1	88.9	49.4	47.7	47.0	46.7	46.1	44.5
6	26-Jun	13	13:08:33	60	48.5	66.3	53.3	44.9	66.0	52.4	50.8	49.9	49.4	48.0	45.9
6	26-Jun	14	13:09:33	60	46.5	64.3	57.5	43.4	68.9	55.3	46.9	45.8	45.5	44.7	43.6
6	26-Jun	15	13:10:33	60	46.5	64.3	52.6	43.6	72.0	51.9	49.3	47.4	46.6	45.6	44.3
					48.3		61.2	43.4							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
2	26-Jun	1	13:25:39	60	70.8	88.6	74.7	61.7	89.8	74.1	73.3	72.6	71.9	70.9	66.2
2	26-Jun	2	13:26:39	60	66.3	84.1	71.0	56.1	88.4	70.7	69.7	68.8	67.9	65.9	58.2
2	26-Jun	3	13:27:39	60	68.8	86.5	75.0	56.8	88.7	74.3	73.3	71.9	70.8	66.0	58.8
2	26-Jun	4	13:28:39	60	68.8	86.6	74.0	60.4	86.8	73.2	72.0	71.1	70.1	68.3	62.7
2	26-Jun	5	13:29:39	60	69.2	87.0	77.2	60.2	90.8	75.6	72.4	71.6	71.1	68.6	61.2
2	26-Jun	6	13:30:39	60	68.9	86.7	74.5	62.7	87.9	73.8	72.3	71.0	69.9	68.1	64.4
2	26-Jun	7	13:31:39	60	64.0	81.8	69.6	58.6	82.7	69.4	67.7	66.2	65.0	62.5	60.1
2	26-Jun	8	13:32:39	60	65.9	83.7	70.8	56.3	86.7	69.9	69.0	68.3	67.6	65.3	57.8
2	26-Jun	9	13:33:39	60	63.5	81.3	71.7	53.4	87.6	70.3	67.8	66.4	65.1	60.8	54.5
2	26-Jun	10	13:34:39	60	70.9	88.7	75.0	65.0	91.7	74.6	73.6	72.8	72.3	70.7	66.3
2	26-Jun	11	13:35:39	60	63.5	81.3	71.4	55.2	84.5	70.7	68.6	65.8	63.4	60.1	57.9
2	26-Jun	12	13:36:39	60	67.8	85.6	74.2	52.2	88.0	73.8	72.6	71.5	69.8	64.9	53.7
2	26-Jun	13	13:37:39	60	67.3	85.1	73.9	58.4	86.5	73.2	70.9	69.8	69.4	64.5	60.2
2	26-Jun	14	13:38:39	60	70.8	88.6	74.7	58.7	88.1	74.3	73.8	73.5	73.2	70.9	60.7
2	26-Jun	15	13:39:39	60	65.5	83.3	72.9	56.9	86.7	72.0	70.2	68.4	67.0	61.8	58.8
					67.8		77.2	52.2							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
5	26-Jun	1	13:52:16	60	72.8	90.6	83.5	65.6	93.6	80.2	76.8	74.6	73.2	70.6	66.2
5	26-Jun	2	13:53:16	60	70.6	88.4	76.9	61.7	89.8	76.2	74.9	73.4	72.0	69.2	63.3
5	26-Jun	3	13:54:16	60	71.3	89.1	77.1	63.6	90.3	76.6	75.1	73.3	72.3	70.5	65.4
5	26-Jun	4	13:55:16	60	68.0	85.8	77.1	59.2	91.6	76.4	73.2	70.6	67.3	63.4	59.8
5	26-Jun	5	13:56:16	60	71.9	89.7	74.2	68.5	89.5	74.0	73.7	73.2	72.8	71.7	69.7
5	26-Jun	6	13:57:16	60	65.9	83.7	72.2	59.5	90.5	71.9	70.3	68.4	66.7	63.7	60.5
5	26-Jun	7	13:58:16	60	72.5	90.3	80.7	59.7	94.1	79.9	76.0	73.8	73.0	71.3	62.3
5	26-Jun	8	13:59:16	60	66.4	84.2	73.2	58.1	86.5	72.8	70.4	68.8	66.9	64.5	59.5
5	26-Jun	9	14:00:16	60	70.1	87.9	76.1	61.7	90.3	75.4	73.7	72.2	71.6	68.9	62.4
5	26-Jun	10	14:01:16	60	66.7	84.5	74.1	58.7	86.5	73.1	70.3	69.0	68.2	64.3	60.5
5	26-Jun	11	14:02:16	60	69.6	87.3	73.5	63.6	93.3	73.4	72.5	71.6	70.8	69.1	64.7
5	26-Jun	12	14:03:16	60	68.2	86.0	74.2	58.6	87.9	73.2	71.7	70.8	70.1	67.5	60.2
5	26-Jun	13	14:04:16	60	69.9	87.7	76.0	57.9	90.5	75.3	74.1	72.6	71.6	68.3	62.2
5	26-Jun	14	14:05:16	60	71.0	88.8	75.9	61.4	87.8	74.8	73.7	73.1	72.4	71.1	62.5
5	26-Jun	15	14:06:16	60	72.2	90.0	81.1	64.1	94.3	80.3	76.5	75.1	73.3	68.0	65.3
					69.9		83.5	57.9							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
4	26-Jun	1	14:16:26	60	59.6	77.4	63.5	56.7	90.1	61.7	60.9	60.6	60.3	59.5	58.0
4	26-Jun	2	14:17:26	60	58.0	75.8	59.7	55.6	76.9	59.7	59.5	59.1	58.8	58.0	56.3
4	26-Jun	3	14:18:26	60	58.7	76.5	60.5	57.1	74.4	60.5	59.9	59.6	59.2	58.5	57.4
4	26-Jun	4	14:19:26	60	60.8	78.6	63.3	58.6	84.4	63.2	62.5	62.0	61.6	60.6	59.0
4	26-Jun	5	14:20:26	60	59.8	77.6	61.5	58.7	74.6	61.5	60.8	60.5	60.2	59.7	59.0
4	26-Jun	6	14:21:26	60	57.3	75.1	60.1	55.8	75.7	59.4	58.5	57.9	57.7	57.2	56.2
4	26-Jun	7	14:22:26	60	58.4	76.2	61.4	56.9	81.2	60.4	59.2	58.9	58.7	58.3	57.4
4	26-Jun	8	14:23:26	60	59.7	77.5	69.9	57.1	88.2	66.1	60.7	60.1	59.7	58.9	57.4
4	26-Jun	9	14:24:26	60	60.3	78.1	64.0	58.4	79.7	62.7	61.7	61.0	60.8	60.1	59.0
4	26-Jun	10	14:25:26	60	60.0	77.8	61.5	58.2	74.6	61.5	61.2	60.8	60.6	59.9	59.0
4	26-Jun	11	14:26:26	60	60.2	78.0	62.8	58.0	79.0	62.7	61.9	61.6	61.1	59.9	58.5
4	26-Jun	12	14:27:26	60	60.3	78.0	61.8	58.7	74.5	61.8	61.5	61.1	60.8	60.3	59.2
4	26-Jun	13	14:28:26	60	59.6	77.4	61.4	58.6	74.4	61.3	60.7	60.1	59.9	59.6	59.0
4	26-Jun	14	14:29:26	60	63.4	81.2	71.1	58.6	84.7	70.6	69.1	65.3	61.8	60.4	59.1
4	26-Jun	15	14:30:26	60	59.1	76.9	60.5	57.4	75.4	60.5	60.3	59.9	59.7	59.3	57.7
					59.6		71.1	55.6							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
3	26-Jun	1	14:40:16	60	68.1	85.9	74.4	55.2	91.3	73.9	72.0	70.6	69.3	67.0	60.3
3	26-Jun	2	14:41:16	60	71.6	89.4	77.5	56.4	90.5	76.9	75.6	74.8	73.7	70.2	61.1
3	26-Jun	3	14:42:16	60	69.7	87.5	76.0	57.4	88.6	75.8	74.9	73.6	72.2	65.8	59.5
3	26-Jun	4	14:43:16	60	69.9	87.7	75.9	51.6	88.7	75.5	74.7	73.9	72.1	67.2	54.2
3	26-Jun	5	14:44:16	60	67.6	85.4	73.5	58.4	87.9	73.4	72.2	70.4	68.8	65.5	60.5
3	26-Jun	6	14:45:16	60	71.3	89.1	77.7	56.8	90.5	76.9	74.3	73.2	72.5	71.2	57.9
3	26-Jun	7	14:46:16	60	67.3	85.1	75.3	54.5	88.7	75.1	74.0	69.1	66.9	62.5	56.3
3	26-Jun	8	14:47:16	60	69.1	86.9	77.1	53.9	89.8	76.3	73.0	72.2	70.9	66.1	55.9
3	26-Jun	9	14:48:16	60	69.8	87.6	75.4	58.1	88.9	74.8	73.0	72.0	71.2	68.9	64.0
3	26-Jun	10	14:49:16	60	69.0	86.8	76.4	53.8	90.6	75.4	74.2	72.7	71.3	64.9	54.4
3	26-Jun	11	14:50:16	60	70.6	88.4	74.8	54.3	88.5	74.8	74.2	73.6	73.1	69.9	58.7
3	26-Jun	12	14:51:16	60	68.8	86.6	74.0	54.2	89.5	73.6	72.3	71.4	70.7	67.9	59.0
3	26-Jun	13	14:52:16	60	69.8	87.6	74.7	56.5	88.1	74.3	73.4	72.6	71.9	68.9	59.9
3	26-Jun	14	14:53:16	60	69.7	87.4	76.7	54.4	90.2	76.1	73.7	72.7	72.0	67.4	57.2
3	26-Jun	15	14:54:16	60	68.7	86.5	74.5	51.5	87.5	74.2	73.2	72.2	71.1	65.7	53.7
					69.4		77.7	51.5							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
8	26-Jun	1	15:01:31	60	65.8	83.6	71.8	52.9	85.1	71.4	69.9	68.4	67.1	65.0	54.4
8	26-Jun	2	15:02:31	60	65.7	83.4	74.2	56.8	89.4	72.8	68.8	67.7	66.6	64.3	58.8
8	26-Jun	3	15:03:31	60	63.1	80.9	70.0	54.3	84.2	68.9	67.0	66.0	64.9	61.5	55.3
8	26-Jun	4	15:04:31	60	64.5	82.3	68.0	56.4	81.9	67.8	67.0	66.4	65.8	64.4	60.5
8	26-Jun	5	15:05:31	60	60.7	78.5	66.0	54.2	77.9	65.5	64.0	63.0	62.2	59.9	55.1
8	26-Jun	6	15:06:31	60	64.5	82.3	71.7	54.9	85.5	71.0	68.7	67.1	65.7	63.0	55.9
8	26-Jun	7	15:07:31	60	60.9	78.7	67.5	53.8	79.4	66.9	64.8	63.0	61.7	59.4	55.1
8	26-Jun	8	15:08:31	60	63.9	81.6	69.7	50.9	82.3	69.0	68.1	66.7	65.4	62.6	52.4
8	26-Jun	9	15:09:31	60	63.5	81.2	70.3	54.7	83.3	69.5	67.0	65.5	64.7	62.5	56.9
8	26-Jun	10	15:10:31	60	62.9	80.7	68.7	52.6	81.8	68.7	67.5	66.2	64.8	60.0	53.1
8	26-Jun	11	15:11:31	60	63.0	80.8	68.4	54.8	83.3	68.1	66.5	64.7	63.9	62.1	58.0
8	26-Jun	12	15:12:31	60	63.4	81.1	67.6	53.2	84.5	67.3	66.4	65.7	65.0	62.7	55.6
8	26-Jun	13	15:13:31	60	62.9	80.7	67.8	52.3	80.3	67.6	66.6	65.5	64.5	62.0	54.6
8	26-Jun	14	15:14:31	60	63.0	80.7	69.3	55.9	81.7	68.8	67.2	65.4	63.9	61.0	57.1
8	26-Jun	15	15:15:31	60	63.1	80.8	68.9	54.4	81.8	67.9	67.0	65.6	64.7	61.4	56.2
					63.5		74.2	50.9							

Location	Date	Min	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
1	26-Jun	1	15:28:05	60	50.2	68.0	59.9	44.1	86.2	56.1	52.9	50.9	50.0	49.2	47.4
1	26-Jun	2	15:29:05	60	46.4	64.2	48.5	44.2	72.9	48.0	47.7	47.4	47.0	46.4	45.1
1	26-Jun	3	15:30:05	60	48.3	66.0	51.9	45.5	75.2	50.3	49.7	49.3	48.9	48.2	47.0
1	26-Jun	4	15:31:05	60	49.7	67.5	54.8	43.6	71.3	53.9	52.8	51.7	51.0	49.4	45.2
1	26-Jun	5	15:32:05	60	45.8	63.6	49.3	42.6	76.1	48.6	47.8	47.3	46.9	45.6	43.3
1	26-Jun	6	15:33:05	60	47.0	64.8	51.1	44.4	73.2	49.3	48.6	48.0	47.7	46.9	45.4
1	26-Jun	7	15:34:05	60	44.0	61.8	47.7	41.9	71.5	46.8	45.9	45.4	44.8	43.5	42.3
1	26-Jun	8	15:35:05	60	48.4	66.2	52.8	44.8	71.7	52.0	51.1	50.0	49.0	47.7	45.8
1	26-Jun	9	15:36:05	60	61.5	79.2	70.3	47.4	82.7	69.0	67.5	64.1	62.0	55.6	51.6
1	26-Jun	10	15:37:05	60	49.1	66.9	55.8	44.2	75.8	54.4	52.6	51.2	50.3	47.6	45.0
1	26-Jun	11	15:38:05	60	48.8	66.6	56.2	44.0	78.7	55.6	52.0	50.4	49.3	47.2	44.4
1	26-Jun	12	15:39:05	60	53.0	70.8	57.5	46.4	76.2	56.4	55.3	54.6	54.1	52.7	50.1
1	26-Jun	13	15:40:05	60	47.6	65.4	50.8	45.0	73.0	50.6	49.7	48.9	48.1	47.1	46.1
1	26-Jun	14	15:41:05	60	46.5	64.3	52.0	43.2	69.5	50.8	49.4	48.0	47.2	45.6	43.8
1	26-Jun	15	15:42:05	60	46.5	64.2	52.5	43.7	70.6	51.5	48.6	47.2	46.7	45.7	44.4
					52.0		70.3	41.9							

Traffic Noise Modeling

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamitos Boulevard Analyst FJS
 Segment: north City Limits to Cerritos Avenue Date: 27-Jun-14

ROADWAY INPUTS	
ADT	24,008
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1569	16	16	549	6	6	340	3	3
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.6	-19.3	-19.3	-3.9	-23.8	-23.8	-6.0	-25.9	-25.9
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.5	59.5	64.4	65.9	54.9	59.8	63.8	52.9	57.7
VEHICULAR NOISE	DAY=	71.7	Leq	EVENING=	67.1	Leq	NIGHT=	65.0	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	73.0
		CNEL=	73.3
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn:	79
		CNEL:	83
		60 dBA	369
			385

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Los Alamos Boulevard** Analyst **FJS**
 Segment: **Cerritos Avenue to Katella Avenue** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	30,437
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1989	20	20	696	7	7	431	4	4
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.7	-18.3	-18.3	-2.9	-22.8	-22.8	-5.0	-24.9	-24.9
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.5	60.5	65.4	66.9	56.0	60.8	64.9	53.9	58.7
VEHICULAR NOISE	DAY=	72.7	Leq	EVENING=	68.2	Leq	NIGHT=	66.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	74.0
		CNEL=	74.3
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	93	200
	CNEL:	97	210
		60 dBA	432
			452

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Los Alamitos Boulevard** Analyst **FJS**
 Segment: **Katella Avenue to Farquhar Avenue** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	44,340
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2897	30	30	1014	10	10	628	6	6
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.3	-16.6	-16.6	-1.3	-21.2	-21.2	-3.3	-23.3	-23.3
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.1	62.2	67.0	68.6	57.6	62.5	66.5	55.5	60.4
VEHICULAR NOISE	DAY=	74.4	Leq	EVENING=	69.8	Leq	NIGHT=	67.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.7
				CNEL= 76.0
NOISE CONTOUR:		70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	120	257	555
	CNEL:	125	269	580

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Los Alamitos Boulevard** Analyst: **FJS**
 Segment: **Farquhar Avenue to Orangewood** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	45,473
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2971	30	30	1040	11	11	644	7	7
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.4	-16.5	-16.5	-1.2	-21.1	-21.1	-3.2	-23.2	-23.2
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.2	62.3	67.1	68.7	57.7	62.6	66.6	55.6	60.5
VEHICULAR NOISE	DAY=	74.5	Leq	EVENING=	69.9	Leq	NIGHT=	67.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.8
				CNEL= 76.1
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 122 262 564
				CNEL: 127 274 590

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Los Alamitos Boulevard** Analyst **FJS**
 Segment: **Orangewood Avenue to Bradbury** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	41,619
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2719	28	28	952	10	10	589	6	6
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.0	-16.9	-16.9	-1.5	-21.5	-21.5	-3.6	-23.5	-23.5
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.9	61.9	66.7	68.3	57.3	62.2	66.2	55.3	60.1
VEHICULAR NOISE	DAY=	74.1	Leq	EVENING=	69.5	Leq	NIGHT=	67.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.4
				CNEL= 75.7
NOISE CONTOUR:		70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	115	247	532
	CNEL:	120	258	556

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Los Alamitos Boulevard** Analyst **FJS**
 Segment: **Bradbury Road to St. Cloud Drive** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	40,805
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2666	27	27	933	10	10	578	6	6
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	2.9	-17.0	-17.0	-1.6	-21.5	-21.5	-3.7	-23.6	-23.6
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.8	61.8	66.7	68.2	57.3	62.1	66.1	55.2	60.0
VEHICULAR NOISE	DAY=	74.0	Leq	EVENING=	69.4	Leq	NIGHT=	67.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.3
				CNEL= 75.6
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 113 244 525
				CNEL: 118 255 549

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Katella Avenue** Analyst: **FJS**
 Segment: **I-605 to Los Alamitos Boulevard** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	64,007
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4182	43	43	1464	15	15	906	9	9
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	4.4	-15.5	-15.5	-0.2	-20.1	-20.1	-2.3	-22.2	-22.2
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.6	64.0	68.5	71.1	59.4	64.0	69.0	57.4	61.9
VEHICULAR NOISE	DAY=	76.7	Leq	EVENING=	72.1	Leq	NIGHT=	70.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 78.0
				CNEL= 78.3
NOISE CONTOUR:	70 dBA 65 dBA 60 dBA			
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	170	366	789
	CNEL:	178	383	826

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Katella Avenue** Analyst: **FJS**
 Segment: **Los Alamitos Boulevard to Bloomfield** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	51,583
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3370	34	34	1180	12	12	730	7	7
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	3.4	-16.5	-16.5	-1.1	-21.0	-21.0	-3.2	-23.1	-23.1
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.7	63.1	67.6	70.1	58.5	63.0	68.1	56.4	60.9
VEHICULAR NOISE	DAY=	75.7	Leq	EVENING=	71.2	Leq	NIGHT=	69.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 77.0
				CNEL= 77.3
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 147 317 684
				CNEL: 154 332 715

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Katella Avenue** Analyst: **FJS**
 Segment: **Bloomfield Street to Lexington** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	46,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3012	31	31	1054	11	11	653	7	7
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	3.0	-17.0	-17.0	-1.6	-21.5	-21.5	-3.7	-23.6	-23.6
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.2	62.6	67.1	69.7	58.0	62.5	67.6	55.9	60.5
VEHICULAR NOISE	DAY=	75.2	Leq	EVENING=	70.7	Leq	NIGHT=	68.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 76.5
				CNEL= 76.8
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 137 294 634
				CNEL: 143 308 663

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**
 Roadway: **Katella Avenue**
 Segment: **Lexington to Walker Street**

Project: **LOS ALAMITOS GENERAL P**
 Analyst **FJS**
 Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	45,890
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2998	31	31	1049	11	11	650	7	7
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	2.9	-17.0	-17.0	-1.6	-21.5	-21.5	-3.7	-23.6	-23.6
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.2	62.6	67.1	69.6	58.0	62.5	67.5	55.9	60.4
VEHICULAR NOISE	DAY=	75.2	Leq	EVENING=	70.6	Leq	NIGHT=	68.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	76.5
		CNEL=	76.8
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	136	293
	CNEL:	142	307
		60 dBA	632
			661

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Bloomfield Street** Analyst: **FJS**
 Segment: **Katella Avenue to Cerritos Avenue** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	14,163
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	44
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	925	9	9	324	3	3	200	2	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.7	-21.6	-21.6	-6.2	-26.1	-26.1	-8.3	-28.2	-28.2
Distance	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.3	55.3	60.2	61.7	50.8	55.6	59.7	48.7	53.5
VEHICULAR NOISE	DAY=	67.5	Leq	EVENING=	63.0	Leq	NIGHT=	60.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 68.8
				CNEL= 69.1
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 42 90 194
				CNEL: 44 94 203

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Bloomfield Street** Analyst: **FJS**
 Segment: **Cerritos Avenue to Ball Road** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	12,471
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	44
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	815	8	8	285	3	3	177	2	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-2.2	-22.1	-22.1	-6.8	-26.7	-26.7	-8.9	-28.8	-28.8
Distance	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.7	54.8	59.6	61.2	50.2	55.1	59.1	48.1	53.0
VEHICULAR NOISE	DAY=	67.0	Leq	EVENING=	62.4	Leq	NIGHT=	60.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 68.3
				CNEL= 68.6
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 38 83 178
				CNEL: 40 87 187

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Cerritos Avenue** Analyst **FJS**
 Segment: **I-605 to Los Alamitos Boulevard** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	29,391
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1920	20	20	672	7	7	416	4	4
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.1	-17.8	-17.8	-2.5	-22.4	-22.4	-4.6	-24.5	-24.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.9	57.8	63.0	63.4	53.2	58.4	61.3	51.1	56.3
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	64.9	Leq	NIGHT=	62.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 70.8
				CNEL= 71.1
NOISE CONTOUR:	70 dBA 65 dBA 60 dBA			
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	56	121	261
	CNEL:	59	127	273

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Cerritos Avenue** Analyst: **FJS**
 Segment: **Los Alamitos Boulevard to Bloomfield** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	29,932
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1956	20	20	684	7	7	424	4	4
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.2	-17.7	-17.7	-2.4	-22.3	-22.3	-4.5	-24.4	-24.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.0	57.8	63.0	63.5	53.3	58.5	61.4	51.2	56.4
VEHICULAR NOISE	DAY=	69.5	Leq	EVENING=	65.0	Leq	NIGHT=	62.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 70.9
				CNEL= 71.1
NOISE CONTOUR:		70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	57	123	264
	CNEL:	60	128	277

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Cerritos Avenue** Analyst: **FJS**
 Segment: **Bloomfield Street to Lexington** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	24,059
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1572	16	16	550	6	6	341	3	3
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	1.2	-18.7	-18.7	-3.3	-23.3	-23.3	-5.4	-25.3	-25.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.1	56.9	62.1	62.5	52.3	57.5	60.4	50.2	55.5
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	64.0	Leq	NIGHT=	61.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 69.9
				CNEL= 70.2
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 49 106 229
				CNEL: 52 111 239

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Farquhar Avenue** Analyst: **FJS**
 Segment: **Los Alamos Boulevard to Bloomfield** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	5,525
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	361	4	4	126	1	1	78	1	1
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-4.5	-24.4	-24.4	-9.1	-29.0	-29.0	-11.1	-31.1	-31.1
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.0	48.6	54.3	53.4	44.1	49.7	51.3	42.0	47.6
VEHICULAR NOISE	DAY=	59.8	Leq	EVENING=	55.3	Leq	NIGHT=	53.2	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	61.2
		CNEL=	61.5
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn:	13
		CNEL:	13
		60 dBA	60
			63

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Farquhar Avenue** Analyst: **FJS**
 Segment: **Bloomfield Street to Lexington** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	3,762
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	246	3	3	86	1	1	53	1	1
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-6.2	-26.1	-26.1	-10.7	-30.6	-30.6	-12.8	-32.7	-32.7
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.3	47.0	52.6	51.7	42.4	48.1	49.6	40.3	46.0
VEHICULAR NOISE	DAY=	58.2	Leq	EVENING=	53.6	Leq	NIGHT=	51.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 59.5
				CNEL= 59.8
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 10 22 46
				CNEL: 10 22 48

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**
 Roadway: **Bloomfield Street**
 Segment: **Farquhar Avenue to Katella Avenue**

Project: **LOS ALAMITOS GENERAL PI**
 Analyst: **FJS**
 Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	2,925
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	191	2	2	67	1	1	41	0	0
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-7.3	-27.2	-27.2	-11.8	-31.7	-31.7	-13.9	-33.8	-33.8
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.2	45.9	51.5	50.6	41.3	47.0	48.5	39.2	44.9
VEHICULAR NOISE	DAY=	57.1	Leq	EVENING=	52.5	Leq	NIGHT=	50.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	58.4
		CNEL=	58.7
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn:	8
		CNEL:	9
			18
			39
			41

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **LOS ALAMITOS GENERAL P**
 Roadway: **Lexington Dr** Analyst: **FJS**
 Segment: **Farquhar Avenue to Katella Avenue** Date: **27-Jun-14**

ROADWAY INPUTS	
ADT	5,671
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	371	4	4	130	1	1	80	1	1
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-4.4	-24.3	-24.3	-8.9	-28.9	-28.9	-11.0	-30.9	-30.9
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.1	48.8	54.4	53.5	44.2	49.8	51.4	42.1	47.8
VEHICULAR NOISE	DAY=	60.0	Leq	EVENING=	55.4	Leq	NIGHT=	53.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			Ldn= 61.3
			CNEL= 61.6
NOISE CONTOUR:			70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			Ldn: 13 28 61
			CNEL: 14 30 64

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamitos Boulevard Analyst FJS
 Segment: north City Limits to Cerritos Avenue Date: 27-Jun-14

ROADWAY INPUTS	
ADT	26,130
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1707	17	17	598	6	6	370	4	4
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.0	-18.9	-18.9	-3.6	-23.5	-23.5	-5.6	-25.6	-25.6
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.8	59.9	64.7	66.3	55.3	60.2	64.2	53.2	58.1
VEHICULAR NOISE	DAY=	72.1	Leq	EVENING=	67.5	Leq	NIGHT=	65.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	73.4
		CNEL=	73.7
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		60 dBA	
	Ldn:	84	181
	CNEL:	88	189
		390	408

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamitos Boulevard Analyst: FJS
 Segment: Cerritos Avenue to Katella Avenue Date: 27-Jun-14

ROADWAY INPUTS	
ADT	30,440
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1989	20	20	696	7	7	431	4	4
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.7	-18.3	-18.3	-2.9	-22.8	-22.8	-5.0	-24.9	-24.9
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.5	60.5	65.4	66.9	56.0	60.8	64.9	53.9	58.7
VEHICULAR NOISE	DAY=	72.7	Leq	EVENING=	68.2	Leq	NIGHT=	66.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	74.0
		CNEL=	74.3
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	93	200
	CNEL:	97	210
		60 dBA	432
			452

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamitos Boulevard Analyst FJS
 Segment: Katella Avenue to Farquhar Avenue Date: 27-Jun-14

ROADWAY INPUTS	
ADT	45,770
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2990	31	31	1047	11	11	648	7	7
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.4	-16.5	-16.5	-1.1	-21.0	-21.0	-3.2	-23.1	-23.1
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.3	62.3	67.2	68.7	57.8	62.6	66.6	55.7	60.5
VEHICULAR NOISE	DAY=	74.5	Leq	EVENING=	69.9	Leq	NIGHT=	67.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.8
				CNEL= 76.1
NOISE CONTOUR:	70 dBA 65 dBA 60 dBA			
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	122	263	567
	CNEL:	128	275	593

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamos Boulevard Analyst FJS
 Segment: Farquhar Avenue to Orangewood Date: 27-Jun-14

ROADWAY INPUTS	
ADT	46,090
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3011	31	31	1054	11	11	652	7	7
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.5	-16.5	-16.5	-1.1	-21.0	-21.0	-3.2	-23.1	-23.1
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.3	62.3	67.2	68.7	57.8	62.6	66.7	55.7	60.5
VEHICULAR NOISE	DAY=	74.5	Leq	EVENING=	70.0	Leq	NIGHT=	67.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.8
				CNEL= 76.1
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 123 264 569
				CNEL: 128 276 595

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamitos Boulevard Analyst: FJS
 Segment: Orangewood Avenue to Bradbury Date: 27-Jun-14

ROADWAY INPUTS	
ADT	42,240
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2760	28	28	966	10	10	598	6	6
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.1	-16.8	-16.8	-1.5	-21.4	-21.4	-3.6	-23.5	-23.5
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.9	62.0	66.8	68.4	57.4	62.2	66.3	55.3	60.2
VEHICULAR NOISE	DAY=	74.1	Leq	EVENING=	69.6	Leq	NIGHT=	67.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.5
				CNEL= 75.8
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 116 249 537
				CNEL: 121 261 562

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Los Alamos Boulevard Analyst FJS
 Segment: Bradbury Road to St. Cloud Drive Date: 27-Jun-14

ROADWAY INPUTS	
ADT	41,770
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	74
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2729	28	28	955	10	10	591	6	6
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.0	-16.9	-16.9	-1.5	-21.4	-21.4	-3.6	-23.5	-23.5
Distance	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.9	61.9	66.8	68.3	57.4	62.2	66.2	55.3	60.1
VEHICULAR NOISE	DAY=	74.1	Leq	EVENING=	69.5	Leq	NIGHT=	67.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 75.4
				CNEL= 75.7
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 115 247 533
				CNEL: 120 259 558

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Katella Avenue Analyst: FJS
 Segment: I-605 to Los Alamitos Boulevard Date: 27-Jun-14

ROADWAY INPUTS	
ADT	74,620
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4875	50	50	1706	17	17	1056	11	11
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	5.0	-14.9	-14.9	0.5	-19.4	-19.4	-1.6	-21.5	-21.5
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.3	64.7	69.2	71.7	60.1	64.6	69.7	58.0	62.5
VEHICULAR NOISE	DAY=	77.3	Leq	EVENING=	72.8	Leq	NIGHT=	70.7	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			Ldn= 78.6
			CNEL= 78.9
NOISE CONTOUR:	70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn: 188	406	874
	CNEL: 197	424	914

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Katella Avenue Analyst: FJS
 Segment: Los Alamitos Boulevard to Bloomfield Date: 27-Jun-14

ROADWAY INPUTS	
ADT	64,730
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4229	43	43	1480	15	15	916	9	9
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	4.4	-15.5	-15.5	-0.1	-20.0	-20.0	-2.2	-22.1	-22.1
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	64.1	68.6	71.1	59.5	64.0	69.0	57.4	61.9
VEHICULAR NOISE	DAY=	76.7	Leq	EVENING=	72.1	Leq	NIGHT=	70.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 78.0
				CNEL= 78.3
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 171 369 795
				CNEL: 179 386 832

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP
 Roadway: Katella Avenue
 Segment: Bloomfield Street to Lexington

Project: LOS ALAMITOS GENERAL P
 Analyst: FJS
 Date: 27-Jun-14

ROADWAY INPUTS	
ADT	59,750
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3904	40	40	1366	14	14	846	9	9
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	4.1	-15.8	-15.8	-0.5	-20.4	-20.4	-2.6	-22.5	-22.5
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.3	63.7	68.2	70.8	59.1	63.7	68.7	57.1	61.6
VEHICULAR NOISE	DAY=	76.4	Leq	EVENING=	71.8	Leq	NIGHT=	69.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 77.7
				CNEL= 78.0
NOISE CONTOUR:		70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	162	350	754
	CNEL:	170	366	789

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP
 Roadway: Katella Avenue
 Segment: Lexington to Walker Street

Project: LOS ALAMITOS GENERAL P
 Analyst: FJS
 Date: 27-Jun-14

ROADWAY INPUTS	
ADT	57,710
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	68
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3770	38	38	1320	13	13	817	8	8
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	3.9	-16.0	-16.0	-0.6	-20.5	-20.5	-2.7	-22.6	-22.6
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.2	63.6	68.1	70.6	59.0	63.5	68.5	56.9	61.4
VEHICULAR NOISE	DAY=	76.2	Leq	EVENING=	71.6	Leq	NIGHT=	69.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 77.5
				CNEL= 77.8
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 159 342 737
				CNEL: 166 358 771

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Bloomfield Street Analyst: FJS
 Segment: Katella Avenue to Cerritos Avenue Date: 27-Jun-14

ROADWAY INPUTS	
ADT	16,710
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	44
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1092	11	11	382	4	4	237	2	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-0.9	-20.9	-20.9	-5.5	-25.4	-25.4	-7.6	-27.5	-27.5
Distance	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.0	56.1	60.9	62.5	51.5	56.3	60.4	49.4	54.3
VEHICULAR NOISE	DAY=	68.2	Leq	EVENING=	63.7	Leq	NIGHT=	61.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 69.6
				CNEL= 69.8
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 47 101 217
				CNEL: 49 105 227

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Bloomfield Street Analyst: FJS
 Segment: Cerritos Avenue to Ball Road Date: 27-Jun-14

ROADWAY INPUTS	
ADT	13,680
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	44
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	894	9	9	313	3	3	194	2	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.8	-21.7	-21.7	-6.4	-26.3	-26.3	-8.5	-28.4	-28.4
Distance	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.1	55.2	60.0	61.6	50.6	55.5	59.5	48.5	53.4
VEHICULAR NOISE	DAY=	67.4	Leq	EVENING=	62.8	Leq	NIGHT=	60.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 68.7
				CNEL= 69.0
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 41 88 190
				CNEL: 43 92 198

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Cerritos Avenue Analyst: FJS
 Segment: I-605 to Los Alamitos Boulevard Date: 27-Jun-14

ROADWAY INPUTS	
ADT	33,280
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2174	22	22	761	8	8	471	5	5
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.6	-17.3	-17.3	-1.9	-21.8	-21.8	-4.0	-23.9	-23.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.5	58.3	63.5	63.9	53.7	58.9	61.8	51.6	56.9
VEHICULAR NOISE	DAY=	70.0	Leq	EVENING=	65.4	Leq	NIGHT=	63.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 71.3
				CNEL= 71.6
NOISE CONTOUR:	70 dBA 65 dBA 60 dBA			
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	61	132	284
	CNEL:	64	138	297

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Cerritos Avenue Analyst: FJS
 Segment: Los Alamos Boulevard to Bloom Date: 27-Jun-14

ROADWAY INPUTS	
ADT	29,940
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1956	20	20	685	7	7	424	4	4
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.2	-17.7	-17.7	-2.4	-22.3	-22.3	-4.5	-24.4	-24.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.0	57.8	63.0	63.5	53.3	58.5	61.4	51.2	56.4
VEHICULAR NOISE	DAY=	69.5	Leq	EVENING=	65.0	Leq	NIGHT=	62.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 70.9
				CNEL= 71.1
NOISE CONTOUR:	70 dBA 65 dBA 60 dBA			
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	57	123	264
	CNEL:	60	128	277

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Cerritos Avenue Analyst: FJS
 Segment: Bloomfield Street to Lexington Date: 27-Jun-14

ROADWAY INPUTS	
ADT	25,520
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1667	17	17	584	6	6	361	4	4
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	1.5	-18.4	-18.4	-3.1	-23.0	-23.0	-5.2	-25.1	-25.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.3	57.1	62.4	62.8	52.6	57.8	60.7	50.5	55.7
VEHICULAR NOISE	DAY=	68.8	Leq	EVENING=	64.3	Leq	NIGHT=	62.2	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 70.2
				CNEL= 70.5
NOISE CONTOUR:		70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	51	110	238
	CNEL:	54	115	249

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Farquhar Avenue Analyst: FJS
 Segment: Los Alamos Boulevard to Bloomfield Date: 27-Jun-14

ROADWAY INPUTS	
ADT	5,530
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	361	4	4	126	1	1	78	1	1
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-4.5	-24.4	-24.4	-9.1	-29.0	-29.0	-11.1	-31.1	-31.1
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.0	48.6	54.3	53.4	44.1	49.7	51.3	42.0	47.7
VEHICULAR NOISE	DAY=	59.9	Leq	EVENING=	55.3	Leq	NIGHT=	53.2	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 61.2
				CNEL= 61.5
NOISE CONTOUR:		70 dBA	65 dBA	60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	13	28	60
	CNEL:	13	29	63

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Farquhar Avenue Analyst: FJS
 Segment: Bloomfield Street to Lexington Date: 27-Jun-14

ROADWAY INPUTS	
ADT	3,770
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	246	3	3	86	1	1	53	1	1
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-6.2	-26.1	-26.1	-10.7	-30.6	-30.6	-12.8	-32.7	-32.7
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.3	47.0	52.6	51.7	42.4	48.1	49.7	40.3	46.0
VEHICULAR NOISE	DAY=	58.2	Leq	EVENING=	53.6	Leq	NIGHT=	51.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):				Ldn= 59.5
				CNEL= 59.8
NOISE CONTOUR:				70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):				Ldn: 10 22 46
				CNEL: 10 23 49

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP
 Roadway: Bloomfield Street
 Segment: Farquhar Avenue to Katella Avenue

Project: LOS ALAMITOS GENERAL PI
 Analyst: FJS
 Date: 27-Jun-14

ROADWAY INPUTS	
ADT	2,930
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	191	2	2	67	1	1	41	0	0
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-7.3	-27.2	-27.2	-11.8	-31.7	-31.7	-13.9	-33.8	-33.8
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.2	45.9	51.5	50.6	41.3	47.0	48.6	39.2	44.9
VEHICULAR NOISE	DAY=	57.1	Leq	EVENING=	52.5	Leq	NIGHT=	50.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	58.4
		CNEL=	58.7
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn:	8
		CNEL:	9
			18
			39
			41

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WP Project: LOS ALAMITOS GENERAL P
 Roadway: Lexington Dr Analyst FJS
 Segment: Farquhar Avenue to Katella Avenue Date: 27-Jun-14

ROADWAY INPUTS	
ADT	5,680
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	98.0%	DAY	80.0%
% MT	1.0%	EVENING	7.0%
% HT	1.0%	NIGHT	13.0%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	371	4	4	130	1	1	80	1	1
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-4.4	-24.3	-24.3	-8.9	-28.9	-28.9	-11.0	-30.9	-30.9
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.1	48.8	54.4	53.5	44.2	49.8	51.4	42.1	47.8
VEHICULAR NOISE	DAY=	60.0	Leq	EVENING=	55.4	Leq	NIGHT=	53.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn=	61.3
		CNEL=	61.6
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	13	28
	CNEL:	14	30

Appendices

Appendix F Service Letter Responses

Appendices

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LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Fire Service Questionnaire – Orange County Fire Authority

If you would like to receive this questionnaire in MS Word format, please email Sarah Yazouri at syazouri@placeworks.com.

1. Please confirm that the Orange County Fire Authority's (OCFA's) service area includes all areas of the City of Los Alamitos and the unincorporated community of Rossmoor as shown in attached Figure 1, *Citywide Aerial*.

Yes—all areas of Los Alamitos and Rossmoor are within OCFA's service area.

2. Please summarize any cooperative/joint service agreements with the City of Los Alamitos and any other agencies for fire protection services.

The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services response to the project area. Services include: structural fire protection, emergency medical and rescue services, hazardous inspections and response, and public education activities. OCFA also participates in disaster planning as it relates to emergency operations, which includes high occupant areas and schools sites and may participate in community disaster drills planned by others.

Resources are deployed based upon a regional service delivery system, assigning personnel and equipment to emergency incidents without regard to jurisdictional boundaries. The equipment used by the department has the versatility to respond to both urban and wildland emergency conditions.

3. Please confirm, correct, or supplement the information below regarding the equipment (i.e. engines, fire trucks, EMT vehicles) and daily staffing for each of the existing fire stations that serve the City.

Station	Location	Equipment	Daily Staffing
OCFA Fire Station #2	3642 Green Avenue Los Alamitos, CA 90720	1 PAU Engine	1 Fire Captain 1 Engineers 1 Firefighter/Paramedic
OCFA Station 48	3131 Beverly Manor Rd, Seal Beach CA	1 BLS Engine 1 Medic Van	1 Fire Captains 1 Engineers 1 Firefighters 2 Firefighter Paramedics
OCFA Station 17	4991 Cerritos Av, Cypress, CA	1 BLS Engine 1 Truck 1Medic Van	2 Fire Captains 2 Engineers 3 Firefighters 2 Firefighter Paramedics

Source: <http://www.ocfa.org/menu/departments/Operations/PopUps/stn02.htm>

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Fire Service Questionnaire – Orange County Fire Authority

4. What is OCFA's performance standard for responding to emergency and non-emergency calls within the service area (i.e., minutes to reach the call location)?

The performance standard is: First Unit to respond within 7 minutes 20 seconds 80% of the time from receipt of call to on scene of call.

5. What is the current average response time (in minutes) for emergency and non-emergency calls?

OCFA does not measure average response times by area. You may process a request for a fee for a report if you require it.

Los Alamitos response times at the 90th percentile are 6 minutes 57 seconds. This is better than the agency response goal.

6. Are existing resources (personnel, equipment) adequate to serve the City of Los Alamitos under current conditions?

Yes. The city of Los Alamitos is currently well served as reflected in the response time performance.

7. Please summarize any plans for fire service improvements plans or expanded capacity (personnel, equipment) that would serve the City. What are the funding sources for the planned improvements?

- Fire Station 2 is not scheduled for capital improvement over the next 5 years.
- Fire Stations 48 and 17 have been recently re-built.

OCFA will continue to monitor the need for additional units. It is not foreseen that additional units will be needed in the next 5 years.

New developments (over 50 units) are required to enter into a "Secured Fire Protection Agreement" to provide for fair share funding of capital improvements. (Includes facilities, equipment and radio/communications systems) Property tax funding pays for staffing.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Fire Service Questionnaire – Orange County Fire Authority

8. Please summarize any additional resources (facilities, equipment, personnel) needed to serve future development under the General Plan Update.

None applicable at this time.

9. How would the proposed General Plan Update affect OCFA's ability to provide services? Please comment on any area of specific concern.

The increase in population, both residential and workplace, are cumulative. Population has a tight correlation to incidents. Increase in population equals increase in system usage. Constant monitoring of workload is maintained and any increase in occupancy type or special event driven assemblies do impact workload which can cause increase in equipment and personnel.

10. Please provide any additional comments and/or information regarding fire service provision in Los Alamitos under the proposed General Plan Update (attach additional pages as necessary).

OCFA would like to request the city to consider adding the policy of preemption devices to any traffic signal or electronic gate proposed in new development areas or areas that are impacting traffic.

OCFA would like to review and comment prior to open review on the "Safety Element" to ensure the current community education messages are included in the general plan.

Response Prepared By:

Michele Hernandez Management Analyst

Name

Title

Orange County Fire Authority March 4, 2014

Agency

Date

Los Alamitos General Plan Update Draft EIR
Police Service Questionnaire – City of Los Alamitos Police Department
January 30, 2014

- 1. Please confirm that all areas of the city of Los Alamitos and unincorporated community of Rossmoor are served by the City of Los Alamitos Police Department.**

Public safety for the unincorporated community of Rossmoor is provided by the Orange County Sheriff's Department, not the Los Alamitos Police Department.

- 2. What is the Los Alamitos Police Department's performance standard for responding to emergency and non-emergency calls within its service area?**

Response times to Calls for Service are among, if not, the fastest in Orange County. A standard has been established to ensure that the response time to urgent or Priority 1 Calls is less than 3 minutes. There is no performance measure for non-emergency calls.

- 3. What is the current average response time for emergency and non-emergency calls in the City?**

The total average response time (including dispatch of call) for calendar year 2013 was 2:37 (two minutes and thirty-seven seconds) for Priority 1 or emergency calls. For non-emergency calls, the average response time in 2013 was 4:23 for Priority 2 calls and 5:07 for Priority 3 calls.

Calls for service are prioritized according to the following criteria: Priority 1 defines emergency calls which are dispatched immediately; Priority 2 calls are dispatched as soon as possible; and, Priority 3 calls are dispatched as soon as a unit is available.

- 4. Are existing resources adequate to serve the City under current conditions?**

Personnel and equipment are adequate to maintain the Department's patrol minimums. Minimums were established for safety and to ensure officer availability for expedited response times. The police facility, however, is experiencing some age related infrastructure issues. The facility is not conducive to booking prisoners with disabilities. The building also lacks adequate space for efficient operations and workflow. As laws and technology expand the scope of work performed by police personnel, additional space is needed for processing/retention of biological evidence and the storage of specialized equipment for officers, etc. Any significant increases in the department's staffing level could not be accommodated within the existing facility.

5. Please summarize any additional resources needed to serve future development under the Los Alamitos General Plan Update.

If the General Plan assumes the Los Alamitos Police Department would provide police services to the unincorporated community of Rossmoor, additional staffing, equipment, and facilities would be necessary to ensure the same level of service to the City's residents and businesses. If the assumption is that police services would only be provided to Los Alamitos proper, then the modifications to the infrastructure, as defined in the response to question #4, would eventually be necessary.

What factors are used to project these needs?

This determination is based on prior needs assessment, industry standards, changes in law, and previous evaluations of service levels.

6. Please describe any existing plans to expand police service and/or facilities in the area that serves the City. Please also describe anticipated funding sources for those improvements.

There are no plans for expansion at this time.

7. Please provide any additional comments and/or information regarding police service for this project under the proposed General Plan Update.

As the costs of public safety increase, regional assets may provide a mechanism for the community to maintain its identity while managing costs. West Cities Police Communications Center, West County CERT, and West County SWAT provide examples of the effective collaboration that exists on the west side of Orange County. Additional partnerships should be explored to maximize this effort.

It is expected that policing strategies will continue to evolve in the use of technologies to mitigate and solve crime. Additionally, it is anticipated that technological crimes will continue to increase and more specialized training and expertise will be necessary for those investigating those crimes. Although we recognize this will occur, it is difficult to predict the impact on resources as the evolution continues. Realistically, dramatic changes are probably more than five years in the future.

Response Prepared By:

<u>TOBY MATTHEW</u>	<u>CHIEF OF POLICE</u>
Name	Title
<u>LOS ALAMITOS POLICE DEPT.</u>	<u>FEB. 3, 2014</u>
Agency	Date

Code-3 Response Time Explanation Codes

Codes for Time Correction	
1	Failure to respond / Log 10-97
2	Responded to original 10-20 (location of incident may have changed while in-route)

Codes for Extended Response Time	
10	Dispatch delay
11	Extended deputy response time
12	No units available

Codes for Exclusion	
20	Other Assistance on Scene (Fire, CHP)
21	Determined not a Code-3 response
22	Call downgraded from a Code-3 response while in-route
23	Call upgraded to a Code-3 while in-route
24	Unable to Locate
25	Duplicate call

Other	
30	All other codes do not apply (explanation required)

Response Time Report – Explanation Code Table – Instructions

Effectively immediately (including the month of October, 2013 data), the attached Explanation Code Table will be used. The purpose of the Response Time information is to identify those areas where improvement can be made, so honesty and accuracy are important.

There are four categories of Codes:

- **Codes for Time Correction** – Adjusted calls **will be counted** in the average. These are Calls where the OnScene time was not recorded properly. Manually adjust the OnScene (or Drive) time and the Response Time on these records.
- **Codes for Extended Response Time** – Call **will be counted** in the average. These are Calls where there was a reason for an extended response time. No adjustment is made to these records.
- **Codes for Exclusion** – Calls **will not be counted** in the average. Calls where the response was not handled in Dispatch as a priority call, or the Unit(s) did not respond Code 3 during the ENTIRE time of responding to the call.
- **Other** – Calls **will not be counted**. An explanation that does not fit any category above prevents this record from counting in the average.
- If the time is **Acceptable**, whether below or above 5 minutes, enter “Acceptable” in the Explanation Code field for that record. These Calls **will be counted**.

Management will monitor the pattern of “Corrections” and “Extended Response” to help identify conditions where Response Times can be improved (more manpower, training issues, etc.).

Some clarifications:

- Time Corrections may be difficult to determine. CAD Narrative may be helpful if there are comments added that could only be made when OnScene.
- Time Correction codes were simplified from earlier versions. It was too difficult to determine if the Deputy or the Dispatcher neglected to because it is too difficult to determine if the Deputy neglected to announce when they were OnScene, or if the Dispatcher neglected to enter it.
- A long response time is **not** a reason for exclusion. These are precisely the records that need researching for improvement.
- An explanation line (below the record) is only needed if using the “Other” code. For the rest of the records, the Explanation Code is sufficient.

If any assistance is needed to complete these reports, please contact Brian Peelle at (714) 834-3652 or bpeelle@ocsd.org.

1. The District provided current enrollment and total capacity rates in June 2012. Please provide any new information available on the capacities and current enrollment if it differs from the data provided in 2012.

Please see the table below.

Year	District Enrollment
2013-14	9,742
2014-15	9,673
2015-16	9,615

2. Are the existing school facilities (classroom, athletic, recreational, or other facilities) adequate to serve the District under current conditions?

As a result of the Measure K bond that was passed in November of 2008, the District has undertaken modernization projects at all of the school sites. As part of the modernization scope of work, aging system infrastructure has been replaced. These systems include HVAC, plumbing, electrical, fire alarm and data systems. Classroom lighting has been replaced with more modern and energy efficient lighting. Classrooms have been upgraded with new casework, projection systems and tack able wall panels and whiteboards. Restrooms have been renovated with new plumbing, fixtures and accessories that meet the current ADA codes. Currently the District is in the process of placing modular classroom buildings at three of its campuses for the purpose of class size reduction. Athletic facilities were upgraded and constructed such as the modernization of the Los Alamitos High School gym, the reconstruction of the Oak Middle School fields and the construction of an all weather track and field at the Los Alamitos High School. Going forward, enrollment is predicted to remain constant. Based upon this and the recent modernization work at the school sites, the majority of the school facilities are adequate to serve the District although there are additional needs at the High School that have not been addressed under the current modernization program.

3. Please indicate the District's most recent student generation rates for residential land uses (e.g., single family, multifamily).

The District has not completed a recent study that would indicate the student generation rates for single family or multifamily residences. Based upon the number of students living within the City of Los Alamitos of 4,086 and the number of dwelling units indicated in table one of the proposed general plan update of 4,772, the overall estimated student generation rate for housing within the City of Los Alamitos is 0.856

4. Please summarize any additional resources (facilities, personnel) needed to serve future development under the General Plan Update.

The Proposed General Plan contemplates an increase of 535 residential units from the current existing conditions. Given the student generation rate of 0.856, the total increase in student population is expected to be 455 students. The impact of the Proposed General plan from the current existing conditions could be as high as two additional classroom facilities per grade level served and two additional teachers per grade level served. The additional classrooms will impact the custodial services and may necessitate an increase in staffing to handle the increase in students. The District provides special education services that include reading specialists and speech pathologists. These services may need to be increased depending upon the population that is served. The added students, facilities, teachers and staff will also equate to an additional cost for utilities such as electrical, water and gas.

5. Please describe any existing plans to expand school facilities in the area that serves the City (see figure 1). Please also describe the anticipated funding source for such improvements.

The District does not have any current plans to expand school facilities.

6. What school impact fees does the District currently charge by land use (e.g., residential, commercial, office)?

The District currently charges \$1.65 per square foot for residential development and \$0.27 per square foot for commercial development.

7. Please provide any additional comments and/or information regarding school service for this project under the proposed General Plan Update (attach additional pages as necessary).

The District currently provides home to school bus services that may or may not be impacted by an increase in ridership and route changes.

Response prepared by:

John Eclevia

Director

Name

Title

Los Alamitos Unified School District

2/21/2014

Agency

Date

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Water Service Questionnaire – Golden State Water Company

If you would like to receive this questionnaire in MS Word format, please email Sarah Yazouri at syazouri@placeworks.com.

1. Please confirm that GSWC currently provides water to consumers using supply from the following three sources. Please identify any sources of water not listed.
 - Orange County Groundwater Basin
 - Colorado River Aqueduct
 - State Water Project

GSWC supplies water to the City of Los Alamitos from groundwater wells and from imported water provided by Metropolitan Water District of Southern California (MWD) through the Municipal Water District of Orange County. The groundwater is pumped from the Orange County Groundwater Basin and the source of water delivered by MWD is primarily water imported through the Colorado River Aqueduct and California Aqueduct which is the State Water Project.

2. Please summarize any additional facilities or infrastructure needed to provide water service to future development under the General Plan Update.

GSWC recently completed an update of the West Orange County System Water Master Plan. The West Orange County System includes the City of Los Alamitos. The analyses have shown the existing facilities are adequate to provide water service for future development based on the projections included in the UWMP.

3. GSWC's 2010 Urban Water Management Plan (UWMP) discusses the ongoing Capital Investment Program and potential Cadiz Valley Water Conservation, Recovery and Storage Project (Cadiz Project). Please describe the current status of these projects.

Capital Investment Program:

GSWC has identified several projects based on our Pipeline Management Program and condition assessments that were prepared as part of the master planning process. The Pipeline Management Program identifies the quantity of pipe that needs to be replaced each year to maintain the distribution system. The condition assessments identify improvements to maintain the condition of other facilities such as wells, pump stations and storage tanks. The current list of projects to be completed in the next three years is:

- Supervisory Control and Data Acquisition (SCADA) Phase III
- Simone Well No. 2, Drill and Equip
- Florista West Tank Recoat and Drainage Improvements
- Howard Plant, Install Pump-to-waste Drain Line
- South Cypress Plant, Install pump drain
- Valley View Plant, Install Variable Frequency Drive on Well No. 2
- Yellowtail Plant, Upgrade electrical panel

Cadiz Project:

GSWC is continuing to evaluate the benefit for participation in this project. The project is currently going through the CEQA process.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Water Service Questionnaire – Golden State Water Company

4. GSWC's 2010 UWMP discusses the ongoing Groundwater Replenishment System (GWRS). Please describe the current status of this system, if known.

The Orange County Water District (OCWD) is currently constructing the initial expansion of the GWRS and in the planning stages for the final expansion of the GWRS. Additional information regarding the status of the project should be obtained from the Orange County Water District.

5. Please provide the GSWC water consumption rates to predict community wide water demand for the City.

GSWC's West Orange County System serves the City of Cypress, City of Stanton, City of Los Alamitos, and portions of the City of Seal Beach and unincorporated Orange County. The historical annual water production has averaged 0.639 acre-feet per year per connection over the last 10 years (2003 – 2012). The average demand per connection varied between 0.560 and 0.683 acre-feet per year per connection.

6. Please provide the total water demand for the City in 2013.

The total demand in the West Orange County System in 2013 was 16,363 acre-feet.

7. Please also describe any additional plans to expand water supply services and wastewater services and/or facilities that would serve the City of Los Alamitos. Please identify how those services and/or facilities would be funded.

GSWC does not have any additional plant to expand water services that would serve the City of Los Alamitos.

8. Please provide any additional comments and/or information regarding water supply service for Los Alamitos under the proposed General Plan Update (attach additional pages as necessary).

None

Response Prepared By:

Robert R. McVicker, P.E., D.WRE

Engineering Planning Manager

Name

Title

Golden State Water Company

March 10, 2014

Agency

Date

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Wastewater Service Questionnaire – Orange County Sanitation District

If you would like to receive this questionnaire in MS Word format, please email Sarah Yazouri at syazouri@planningcenter.com.

1. Please confirm that the Orange County Sanitation District currently transports wastewater to the following two facilities. Please identify any facilities not listed.

- Orange County Sanitation District Plant 1 – Fountain Valley
- Orange County Sanitation District Plant 2 – Huntington Beach

This is correct; these are the only two plants to which OCSD transports wastewater. An additional reclamation plant is operated by IRWD within the district boundaries and treats predominately wastewater from Irvine and east Tustin.

2. Please summarize any additional facilities or infrastructure needed to provide wastewater service to future development under the General Plan Update.

No additional facilities nor infrastructure improvements will be required by the projected build-out of the general plan per the provided data within Table A

3. Please confirm that the Orange County Sanitation District uses water consumption rates to predict wastewater flows for purposes of planning wastewater infrastructure. Please provide the Orange County Sanitation District per-capita wastewater flow rate.

OCSD does not use water consumption rates to predict wastewater flows as this data is not made available to OCSD. OCSD uses the following generation rates:

Land Use Category : Unit Flow Rate (gpd/acre)

Estate Residential : 727
Low Density Residential : 1488
Medium Density Residential : 3451
Medium High Density Residential : 5474
High Density Residential : 7516
Commercial, Office : 2262
Industrial : 3167
Institutional : 2715
High Density Industrial, Commercial : 5429

4. Please provide the total wastewater generated by the City of Los Alamitos and unincorporated community of Rossmoor in 2013.

OCSD has no meters to measure sewer flows from the areas in question. Sewer flows can be estimated per the factors above.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Wastewater Service Questionnaire – Orange County Sanitation District

5. Please also describe any additional plans to expand wastewater services and/or facilities that would serve the City of Los Alamitos and community of Rossmoor. Please identify how those services and/or facilities would be funded.

OCSD has a CIP project scheduled to repair condition defects in the Los Alamitos Subtrunk Sewer and Westside Relief Interceptor. This will improve the capacity with sewer lines servicing Los Alamitos. This project would be funded through the use of OCSD CIP funds.

6. Please provide any additional comments and/or information regarding wastewater service for Los Alamitos and Rossmoor under the proposed General Plan Update (attach additional pages as necessary).

The general plan changes have no effect on the ability of OCSD to provide sewer service to the project area.

7. To estimate greenhouse gas emissions associated with the treatment of the City's wastewater, please provide the average energy use required per million gallons of wastewater treated at the Orange County Sanitation District Plant 1 and the Orange County Sanitation District Plant 2 (i.e, kwh/mg).

The majority of energy used to run the plants is generated on-site through the use of gas collected during the treatment process. The total energy consumed is 66 Mkw and the yearly treated wastewater is 72,635 mg. This results in 909 kwh/mg.

Response Prepared By:

Richard Leon

Engineer, Planning

Name

Title

Orange County Sanitation District

2-14-2014

Agency

Date

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Wastewater Service Questionnaire – Rossmoor/Los Alamitos Area Sewer District

If you would like to receive this questionnaire in MS Word format, please email Sarah Yazouri at syazouri@planningcenter.com.

1. Please confirm that the Rossmoor/Los Alamitos Sewer District provides wastewater service to most areas within the City of Los Alamitos and unincorporated community of Rossmoor (for boundaries, see Figure 1, *Citywide Aerial*).

Rossmoor Los Alamitos Area Sewer District (RLAASD) provides wastewater collection services to most areas of the City of Los Alamitos and the unincorporated community of Rossmoor. RLAASD also provides wastewater collection services to a small portion of City of Seal Beach known as College Park Estates East. RLAASD does not provide wastewater treatment service. Wastewater treatment of sewage collected in the Los Alamitos/Rossmoor area is provided by Orange County Sanitation District (OCSD). Please contact OCSD for specific information on their treatment system.

2. Please confirm that the Rossmoor/Los Alamitos Sewer District currently transports wastewater to the following two facilities. Please identify any facilities not listed.
 - Orange County Sanitation District Plant 1 – Fountain Valley
 - Orange County Sanitation District Plant 2 – Huntington Beach

RLAASD does not transport wastewater to the Orange County Sanitation District Plants. Wastewater generated in Los Alamitos/Rossmoor is discharged into OCSD sub-trunk sewers either by gravity or after being pumped from an OCSD sewage lift station located in the southern end of Rossmoor adjacent to the I-405 Freeway. Those sub-trunk sewers and trunk sewers are all operated by OCSD and deliver the wastewater to the Orange County Sanitation District Treatment Plants. Please contact OCSD for specific information on their delivery system.

3. Please summarize any additional facilities or infrastructure needed to provide wastewater service to future development under the General Plan Update.

Each future project must be evaluated on a case-by-case basis to determine whether RLAASD's existing wastewater collection system has the capacity to handle to additional wastewater that will be generated from the proposed project. While most developments can probably be accommodated by the existing system, there may be some instances where the existing system does not have the capacity to handle additional wastewater flow. In those instances, additional infrastructure may be required. Such additions could include new parallel sewers or upsizing of existing sewers. RLAASD cannot comment on the need for possible additional treatment capacity at the OCSD plants. Please contact OCSD for specific information relating to the adequacy of their treatment capacity.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Wastewater Service Questionnaire – Rossmoor/Los Alamitos Area Sewer District

4. Please confirm that the Rossmoor/Los Alamitos Sewer District uses water consumption rates to predict wastewater flows for purposes of planning wastewater infrastructure. Please provide the Rossmoor/Los Alamitos Sewer District per-capita wastewater flow rate.

Wastewater system planning, including RLAASD's planning projections are generally based on land-use. Wastewater planning projections can vary widely by type of land use. For example, single family residential units will contribute less wastewater than multiple family units; high density developments will contribute more flow than low density developments, etc. Flows from commercial properties (e.g., offices, hotels, restaurants, etc.) and institutional facilities (e.g., parks, schools, civic centers, etc.) can also vary widely depending on the specific type of usage. That being said, and given the fact that most wastewater by volume is primarily composed of water, there is a correlation between residential wastewater generation and water consumption. RLAASD does not have specific information on per capita water consumption within its service area. You may wish to contact the local water purveyor, Golden State Water Company, for that data.

5. Please provide the total wastewater generated by the City in 2013.

RLAASD does not maintain records for total wastewater generated by the City. You may wish to contact OCSD for estimated wastewater generation records.

6. Please also describe any additional plans to expand wastewater services and/or facilities that would serve the City of Los Alamitos. Please identify how those services and/or facilities would be funded.

RLAASD does not have any current plans to expand wastewater services or facilities except as necessary to serve new proposed developments within its service area. As previously noted, each new development will be reviewed on a case-by-case basis. If it is determined the District's existing system does not have sufficient capacity to serve the newly proposed development, then the system will have to be expanded to serve that development. The design and construction of any new required improvements would be funded partially by the developer and partially by RLAASD.

7. Please provide any additional comments and/or information regarding wastewater service for Los Alamitos under the proposed General Plan Update (attach additional pages as necessary).

We have no additional comments.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Wastewater Service Questionnaire – Rossmoor/Los Alamitos Area Sewer District

8. To estimate greenhouse gas emissions associated with the treatment of the City's wastewater, please provide the average energy use required per million gallons of wastewater treated at the Orange County Sanitation District Plant 1 and the Orange County Sanitation District Plant 2 (i.e., kwh/mg).

Please contact OCSD for a response to this question.

Response Prepared By:

Harvey R. Gobas, PE

Name

RLAASD Engineer

Title

Rossmoor Los Alamitos Area Sewer District

Agency

February 21, 2014

Date

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Solid Waste Questionnaire – Republic Services

If you would like to receive this questionnaire in MS Word format, please email Sarah Yazouri at syazouri@placeworks.com.

1. Please identify the solid waste services (trash pickup and disposal, recycling, etc.) provided by Republic Services to the City of Los Alamitos and unincorporated community of Rossmoor.

Republic Services provides comprehensive waste collection services in the City of Los Alamitos; however, a different company, under contract with Orange County, services the unincorporated community of Rossmoor.

Los Alamitos residents separate their trash, recycling and green waste into three separate containers; Republic separately collects these materials and disposes trash in the OC Landfill system, processes all recyclable commodities for future use and effectively manages green waste to ensure its beneficial reuse. Los Alamitos residents also enjoy curbside collection of household hazardous waste (HHW), which Republic subcontracts to a third party, Clean Harbors. Additionally, Republic collects bulky items that do not fit into standard trash carts.

Los Alamitos commercial customers use the same bin for waste and recyclables; Republic collects and processes this mixed waste to separate the trash and recyclables. Republic also provides collection of construction and demolition debris for residential, commercial and industrial projects in the City of Los Alamitos.

2. Please confirm that Republic Services provides trash pickup for all areas within the City of Los Alamitos and unincorporated community of Rossmoor (see Figure 1, *Citywide Aerial*). If there are areas not served by Republic Services, please identify those areas and the providers of trash pickup in those areas, if known.

Republic Services does not provide any service inside the unincorporated area of Rossmoor.

3. Could solid waste services be provided to serve future growth in accordance with buildout of the General Plan Update without significantly impacting existing solid waste services?

Republic Services is capable of providing waste collection services to additional residential and/or commercial units without any change in service level.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Solid Waste Questionnaire – Republic Services

4. Please describe what recycling measures, if any, are currently taken by local residents and businesses.

Los Alamitos residents source separate their recyclables into a 96-gallon cart for weekly collection service by Republic.

Business customers are aware of the State's mandatory commercial recycling under AB 341; however, Republic separates their mixed waste (trash and recycling) at our Material Recovery Facility in Anaheim, CA.

5. What impact will the General Plan Update, in combination with all the other development projects in the area, have on solid waste providers' ability to provide disposal services?

Republic is not aware of any aspects of the General Plan Update that would limit or otherwise impact our ability to provide disposal services in the City of Los Alamitos.

6. Please add any additional comments you may wish to make regarding the Los Alamitos General Plan Update and its impact on the provision of solid waste pickup and disposal.

No additional comments are necessary.

Response Prepared By:

<u>Sam Hall</u> Name	<u>Municipal Relationship Manager</u> Title
<u>Republic Services</u> Agency	<u>March 6, 2014</u> Date

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Library Services Questionnaire – Orange County Public Libraries

If you would like to receive this questionnaire in MS Word format, please email Sarah Yazouri at syazouri@placeworks.com.

- Please summarize existing library facilities, resources, and services (library building square footages, collection volume, capacity), and special services provided (i.e., computer labs, summer reading programs, tutoring) to residents of the City and unincorporated community of Rossmoor.

Existing Library Facility	Square Footage	Annual Circulation	Volumes Held	Population served	Library Space per capita (sq. ft.)	Volume per capita	Circulation per capita
Los Alamitos - Rossmoor Library	9,856	170,840	65,666	21,924	0.45	3.00	7.79

Neighboring Library Facilities	Square Footage	Annual Circulation	Volumes Held	Population served	Library Space per capita (sq. ft.)	Volume per capita	Circulation per capita
Seal Beach/Mary Wilson Library	11,255	94,229	58,392	24,487	0.46	2.38	3.85
Cypress Library	15,090	224,470	97,795	48,547	0.31	2.01	4.62
Garden Grove - Chapman	5,279	86,078	46,837	30,277	0.17	1.55	2.84
Garden Grove - Regional	21,484	325,694	139,390	123,816	0.17	1.13	2.63
Garden Grove - West	5,279	71,369	52,170	18,983	0.28	2.75	3.76
Total	58,387	801,840	394,584	246,110	0.24	1.60	3.26

Data as of 6/30/13

The Los Alamitos/Rossmoor Library of OC Public Libraries offers numerous services and programs during the year to the residents of Los Alamitos and Rossmoor. The branch offers weekly and monthly programs such as Toddler Time, Pre-School Story time, Teen events, an Adult Book Group and cultural programs such as a presentation about the history of the Tuskegee Airmen. The branch holds special events for families on a regular basis and to celebrate seasonal events such as National Children's Book Week, National Library Week and others. The Los Alamitos/Rossmoor branch also offers a Summer Reading program each year which includes children's programs and incentives for reading; this helps children retain their reading skills during the summer. Public access terminals and Wi-Fi for laptops and tablets are located in the library. Volunteering opportunities for adults and teens and tutoring through READOC is also offered.

- Are existing library facilities and resources (books, computers, etc.) adequate for the system's service population? **Yes** If not, what is the estimated deficit of space and/or volumes?

OC Public Libraries (OCPL) performance guideline for library space is 0.2 square feet per capita, library collection of 1.3 volumes per capita and circulation per capita of 4.5. Los Alamitos library's current facility size, volumes held and circulation per capita is above OCPL's current standards. The current average OCPL facility size is at .24 square feet per capita while the average California regional county library systems is at .31 square feet per capita.

LOS ALAMITOS GENERAL PLAN UPDATE DRAFT EIR
Library Services Questionnaire – Orange County Public Libraries

Even with the potential population build out based on the City of Los Alamitos General Plan, the existing library facility and volume would exceed OCPL's standard of 0.2 of square feet, 1.3 volumes per capital and 4.5 circulation per capita.

Potential Population Buildout	Square Footage	Annual Circulation	Volumes Held	Population served	Library Space per capita (sq. ft.)	Volume per capita	Circulation per capita
Los Alamitos - Rossmoor Library	9,856	170,840	65,666	23,003	0.4285	2.85	7.43

3. What factors or standards are used to estimate library facility and resource requirements (e.g. square feet of library facility floor area per capita and book volumes per capita)?

Factors used to determine the amount of library space and number of volumes is the current performance standard for library space of 0.2 square feet per capita and library collection standard of 1.3 volumes per capita.

Even with the population increase at build out, the current library space and volume collection will be above OCPL's performance standards.

4. Please summarize any additional resources and/or facilities needed to provide library services for future development under the General Plan Update.

Based on the proposed build out projections of 8,735 dwelling units and potential population growth of 23,003 for the City of Los Alamitos General plan there is no impact on the existing library facility and resources available to service the population growth within the City of Los Alamitos.

5. Please describe any existing plans to expand library service and/or facilities that would serve the City. Please also describe the anticipated funding sources for those improvements.

None

6. Please provide any additional comments and/or information regarding the provision of library services under the proposed General Plan Update (attach additional pages as necessary).

None

Response Prepared By:

Andrea Cowell

Financial Budget Analyst

Name

Title

Orange County Public Libraries

3/6/14

Agency

Date



1919 S. State College Blvd.
Anaheim, CA 92806-6114



March 15, 2014

Sourceworks
3 MacArthur Place, Ste. 1100
Santa Ana, CA 92707

Attn: Sarah Yazouri

Subject: Environmental Impact Report for Los Alamitos General Plan Update

Thank you for providing the opportunity to respond to this E.I.R. Document. We are pleased to inform you that Southern California Gas Company has facilities in the area where the aforementioned project is proposed. Gas service to the project can be provided from an existing gas main located in various locations. The service will be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission when the contractual arrangements are made.

This letter is not a contractual commitment to serve the proposed project but is only provided as an informational service. The availability of natural gas service is based upon conditions of gas supply and regulatory agencies. As a Public Utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affect gas supply or the conditions under which service is available, gas service will be provided in accordance with the revised conditions.

This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect construction of a main and/or service line extension (i.e., if hazardous wastes were encountered in the process of installing the line). The regulations can only be determined around the time contractual arrangements are made and construction has begun.

Estimates of gas usage for residential and non-residential projects are developed on an individual basis and are obtained from the Commercial-Industrial/Residential Market Services Staff by calling (800) 427-2000 (Commercial/Industrial Customers) (800) 427-2200 (Residential Customers). We have developed several programs, which are available upon request to provide assistance in selecting the most energy efficient appliances or systems for a particular project. If you desire further information on any of our energy conservation programs, please contact this office for assistance.

Sincerely,

Armando Torrez
Technical Services Supervisor
Orange Coast Region- Anaheim

Appendices

Appendix G Transportation Study

Appendices

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City of Los Alamitos

Transportation Study:

Recommendations and Impact Assessment

Prepared for:
City of Los Alamitos

May 15, 2014

IE11-0072

Prepared by:

FEHR  PEERS

8141 E. Kaiser Blvd, Suite 110
Anaheim, CA 92808

Jason D. Pack, P.E.
Principal

Paul Herrmann
Transportation Engineer

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Appendices

Appendix A Existing Intersection and Roadway Segment Counts

Appendix B Existing (2013) Conditions LOS Results

Appendix C General Plan (2035) Conditions LOS Results

I. KEY FINDINGS

1. The transportation system within Los Alamitos and Rossmoor includes roadways, bicycle facilities, pedestrian facilities, transit service, a military airfield, and designated truck routes. The report identifies recommended roadway, bicycle, and pedestrian network improvements, as well as transportation goals and policies for possible inclusion in the Circulation Element.
2. All study intersections and roadway segments operate at LOS D or better under Existing (2013) Conditions, with many operating at LOS C or better.
3. A. An impact assessment was completed to identify potential impacts to the circulation system in a post-2035 build out scenario. Three intersections and five roadway segments (listed below) along Katella and Cerritos Avenues are forecasted to degrade to LOS E or F in 2035.

B. Mitigation measures were recommended that would reduce these impacts to a less than significant level, however, they were not considered feasible given existing right-of-way constraints. Instead, policy refinements were suggested that would exempt these intersections and roadways from the level of service performance thresholds.

C. The degradation of performance is due primarily to growth in regional traffic. The localized growth of the City and Rossmoor associated with the general plan buildout does not significantly contribute to the performance failure of the intersections and roadways.

D. Modeling Los Alamitos Boulevard as a four-lane facility north of Katella Avenue improved the performance of the Los Alamitos Boulevard and Katella Avenue intersection—as a four-lane facility, it would not attract as much regional traffic as a six-lane facility. Performance along the Los Alamitos Boulevard roadway segment north of Katella Avenue would remain at an acceptable level of service.

Intersections and Roadway Segments Forecast to Perform Poorly in 2035:

- Los Alamitos Boulevard & Katella Avenue – LOS E during the AM peak hour
- Bloomfield Street & Cerritos Avenue – LOS F in the AM peak hour and LOS E in the PM peak hour
- Wallingsford Road/ Walnut Street & Katella Avenue – LOS F in the AM peak hour
- Katella Avenue (segments)
 - o Between I-605 and Los Alamitos Blvd – LOS F

- o Between Los Alamitos Blvd and Bloomfield St – LOS F
 - o Between Bloomfield St and Lexington Dr – LOS E
 - o Between Lexington Dr and Walker St – LOS E
- Cerritos Avenue (segment)
 - o Between I-605 and Los Alamitos Blvd – LOS E

(1) INTRODUCTION

Fehr & Peers has completed a transportation assessment to support the City of Los Alamitos' General Plan Update. Los Alamitos's transportation network is multi-modal and consists of highways, streets, pedestrian paths, bicycle routes, and buses. The safe and efficient movement of goods and vehicles is a key element in Los Alamitos's future social and economic well-being.

The purpose of this study is twofold. First, it provides recommendations associated with maps and policies for the Circulation Element. Second, it provides an impact assessment for incorporation into the EIR prepared for the General Plan. Originally, this report included a chapter related to recommended policies for inclusion into the General Plan; however, those policies have been included into the element and have since been removed from this report.

The remainder of this report is divided into the following key chapters:

- Chapter 2 – Analysis Methodologies
- Chapter 3 – Existing (2013) Conditions
- Chapter 4 – Impact Assessment

(2) ANALYSIS METHODOLOGIES

Fehr & Peers analyzed the operation of the roadway system in the City of Los Alamitos and its Sphere of Influence (SOI), which includes the unincorporated community of Rossmoor. Operations for these facilities are expressed in terms of level of service. Level of service is a general measure of traffic operating conditions whereby a letter grade, from Level of Service (LOS) A (no congestion) to F (high levels of congestion), is assigned. LOS E represents “at capacity” operations.

The flow of vehicles without significant impediments is considered “stable” whereas when traffic encounters interference that limits the capacity acutely, the flow becomes “unstable”. These grades represent the perspective of drivers only and are an indication of the comfort and convenience associated with driving such as speed, travel time, traffic interruptions, and freedom to maneuver.

The Orange County Congestion Management Plan (CMP) also designates LOS standards at CMP intersections. The Orange County CMP requires that all intersections operate at LOS E or better. One study intersection, Katella Avenue at the I-605 northbound ramps, falls under the jurisdiction of Los Alamitos and is designated as a CMP location. In addition, Katella Avenue is also identified on the CMP highway system, although there are no specific CMP requirements for roadway segment assessment. Since Los Alamitos has proposed a stricter LOS requirement than the CMP (LOS D), the LOS standard for the City was used to evaluate all study locations.

INTERSECTION TRAFFIC OPERATIONS

Intersection operations were evaluated with the Traffix 8.0 level of service software, which is consistent with the methodologies identified in the Intersection Capacity Utilization methodology as identified by the Orange County Transportation Authority. Table 2-1 summarizes how the level of service corresponds to intersection delay at the signalized study intersections. There are no study intersections which are unsignalized.

The following assumptions were made in Traffix to conduct the analysis:

- Saturation flow rate of 1,700 vehicles per hour per lane (vphpl) for all left turn lanes, through lanes and right turn lanes, except for exclusive right turn lanes that allow right turn on red in which 1,955 vphpl. These assumptions are consistent with the Orange County Congestion Management Program.
- Lost time factor of 0.05
- De facto right turn lanes were not assumed

TABLE 2-1 INTERSECTION LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS		
Level of Service	Description	Volume-to-Capacity (V/C) Ratio
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0.000-0.600
B	Operations with low delay occurring with good progression and/or short cycle lengths.	0.601-0.700
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	0.701-0.800
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	0.801-0.900
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	0.901-1.000
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	Greater than 1.000
Source: Intersection Capacity Utilization methodology and Fehr & Peers.		

ROADWAY SEGMENT TRAFFIC OPERATIONS

A roadway segment traffic operations analysis was performed on the study roadway segments to provide an evaluation of how the roadway network will perform. It also provides an idea of the amount of traffic that will utilize each roadway and if the existing or proposed lane configurations can adequately handle the volumes.

The level of service for roadway segments were calculated for key roadway segments in Los Alamitos' regional roadway system to evaluate existing traffic conditions. Daily capacity thresholds in accordance with the City of Los Alamitos General Plan Circulation Element are shown in Table 2-2. This table establishes the maximum daily roadway capacities by street classifications.

TABLE 2-2 MAXIMUM DAILY ROADWAY CAPACITIES						
Classification	Typical Lane Configuration	Daily Volume Thresholds				
		LOS A	LOS B	LOS C	LOS D	LOS E
Smart Street	6 Lanes Divided	-	-	-	-	60,000
	8 Lanes Divided	-	-	-	-	72,000
Major	6 Lanes Divided	36,000	40,400	45,000	49,500	54,000
Primary	4 Lanes Divided	24,000	27,000	30,000	33,000	36,000
Secondary	4 Lanes Undivided	16,000	18,000	20,000	22,000	24,000
Commuter	2 Lanes Undivided	5,000	7,500	10,000	12,500	15,000
Source: City of Los Alamitos 2010 General Plan Circulation Element						

(3) EXISTING (2013) CONDITIONS

This chapter describes the existing conditions associated with the City of Los Alamitos and Sphere of Influence (SOI). Please note that much of this information was developed and submitted in January of 2012 to assist in informing development of the General Plan.

ANALYSIS PARAMETERS

This section outlines the geographic scope of the traffic analysis, including the study intersections and roadways, and the analysis methodologies employed in this study.

PROJECT STUDY AREA

The City of Los Alamitos is located in the County of Orange and is generally bound by the Coyote Creek to the northwest, Cerritos Avenue and Katella Avenue to the north, the Los Alamitos Army Airfield to the east and south, and Los Alamitos Boulevard to the west. The City of Los Alamitos boundary is shown in Figure 3-1. Primary regional access to Los Alamitos is provided by Interstate 605 (I-605), Interstate 405 (I-405) and State Route 22 (SR-22). Access throughout the City is provided by major arterials such as Katella Avenue, Cerritos Avenue, Ball Road and Los Alamitos Boulevard.

Immediately adjacent to the City of Los Alamitos is Rossmoor, a census-designated place in Orange County and a part of the City of Los Alamitos' SOI. Rossmoor is located southwest of the City of Los Alamitos and is bound by Katella Avenue to the north, Los Alamitos Boulevard to the east, I-405/SR-22 to the south, and I-605 to the west. Rossmoor is made up of about 3,700 households and four schools. Access to Rossmoor is provided off Katella Avenue to the north and Los Alamitos Boulevard/Seal Beach Boulevard to the east. Rossmoor is in the City's sphere of influence and the roadways and intersections within Rossmoor are therefore considered a part of the City's transportation network in the General Plan.

The City of Los Alamitos's roadway system includes a range of facilities including highways, arterials, commuter streets, smart streets and local streets. Two major functions of a roadway are to serve through traffic and provide access to adjacent property. Different facilities are intended to serve these purposes differently. For instance, arterials generally prioritize the movement of traffic over access to individual adjacent properties, while local streets prioritize access to private properties over through traffic.

Roadways are also intended to provide bicycle and pedestrian access and circulation and are the back bone of the bicycle and pedestrian network.

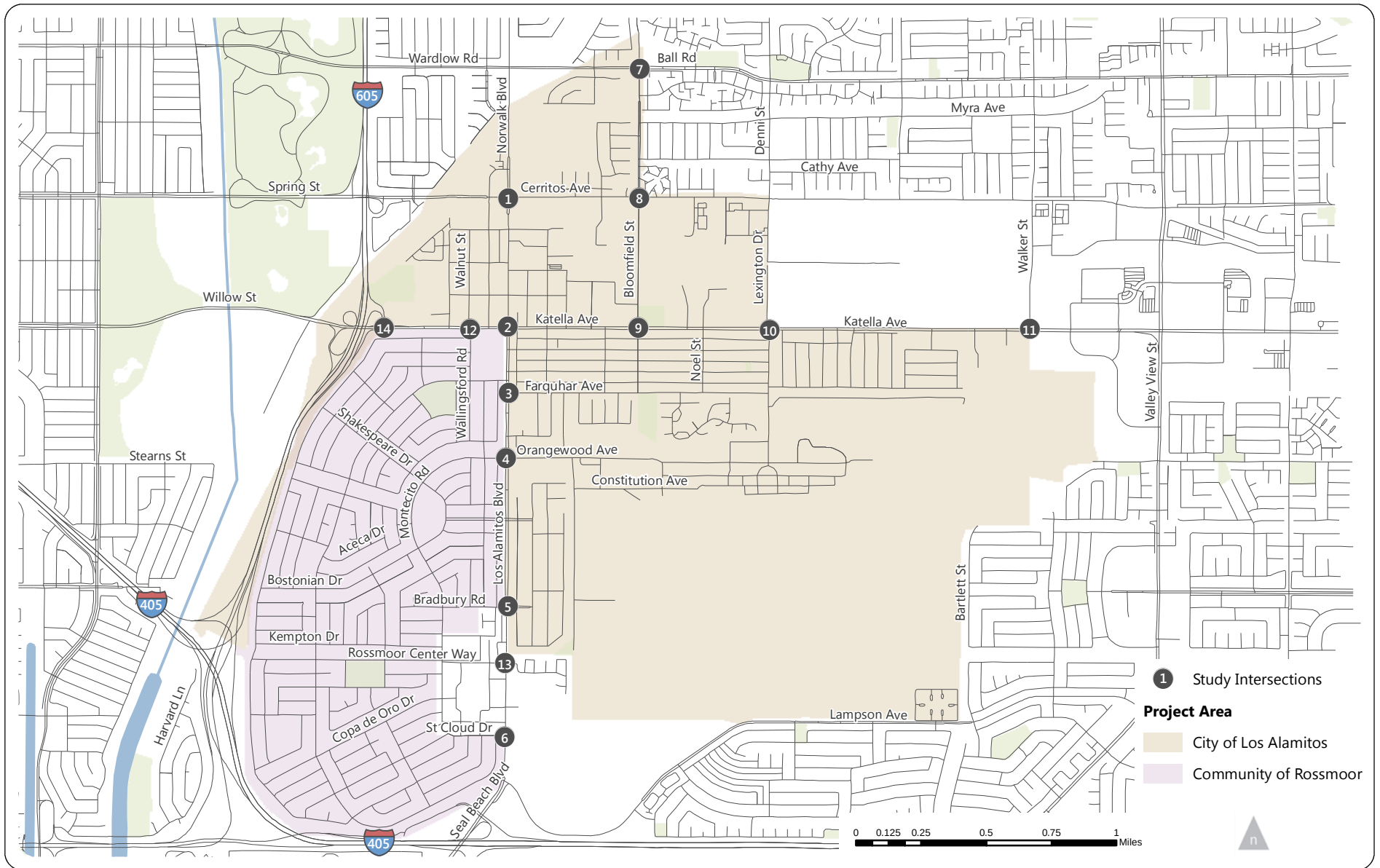


Figure 3-1

Project Area and Study Intersections

Document Path: \\Fpse03\fpse2\Data2\2011\Projects\IE_projects\IE11_0072\Graphics\GIS\MXD\F3-1_ProjectAreaandStudyIntersections_NE.mxd

Date: February, 2014

STUDY LOCATIONS

Within the City and Rossmoor, 14 intersections and 19 roadway segments were selected for analysis based on a review of the roadway network and circulation throughout Los Alamitos and are shown in Table 3-1 and Table 3-2, respectively.

TABLE 3-1 STUDY INTERSECTIONS	
Los Alamitos Boulevard	Cerritos Avenue
Los Alamitos Boulevard	Katella Avenue
Los Alamitos Boulevard	Farquhar Avenue
Los Alamitos Boulevard	Orangewood Avenue
Los Alamitos Boulevard	Bradbury Road
Los Alamitos Boulevard	St. Cloud Drive
Bloomfield Street	Ball Road
Bloomfield Street	Cerritos Avenue
Bloomfield Street	Katella Avenue
Lexington Avenue	Katella Avenue
Walker Street	Katella Avenue
Wallingsford Road/ Walnut Street	Katella Avenue
Los Alamitos Boulevard	Rossmoor Center Way
I-605 Northbound Ramps	Katella Avenue

TABLE 3-2 ANALYZED ROADWAY SEGMENTS	
ROADWAY	SEGMENT
Los Alamitos Boulevard	Between North City Limits and Cerritos Avenue
	Between Cerritos Avenue and Katella Avenue
	Between Katella Avenue and Farquhar Avenue
	Between Farquhar Avenue and Orangewood Avenue
	Between Orangewood Avenue and Bradbury Road
	Between Bradbury Road and St. Cloud Drive
Katella Avenue	Between I-605 and Los Alamitos Boulevard
	Between Los Alamitos Boulevard and Bloomfield Street
	Between Bloomfield Street and Lexington Drive
	Between Lexington Drive and Walker Street
Bloomfield Street	Between Katella Avenue and Cerritos Avenue
	Between Cerritos Avenue and Ball Road
	Between Farquhar Avenue and Katella Avenue
Cerritos Avenue	Between I-605 and Los Alamitos Boulevard
	Between Los Alamitos Boulevard and Bloomfield Street
	Between Bloomfield Street and Lexington Drive
Farquhar Avenue	Between Los Alamitos Boulevard and Bloomfield Street
	Between Bloomfield Street and Lexington Drive
Lexington Drive	Between Farquhar Avenue and Katella Avenue

EXISTING FACILITIES

ROADWAY FACILITIES

The following regional facilities provide regional access to the City of Los Alamitos and SOI:

Interstate 405 Freeway – I-405 runs in a north/south direction immediately south of the City of Los Alamitos. It extends from Irvine in the south up to the San Fernando Valley in the north. Near the study area, it generally provides 5 travel lanes in each direction with an additional HOV carpool lane in each direction. The posted speed limit on I-405 is 65 mph. Local access is provided off Seal Beach Boulevard and Valley View Street.

Interstate 605 Freeway – I-605 runs in a north/south direction west of the City of Los Alamitos. It extends from I-405 in the south to Duarte in the north. Near the study area it generally provides 4 travel lanes in each direction with an additional HOV carpool lane in each direction. The posted speed limit on I-605 is 65 mph. Local access is provided off Katella Avenue and Cerritos Avenue.

State Route 22 – SR-22 runs in an east/west direction south of the City of Los Alamitos. It extends from Long Beach in the west to Tustin in the east. Near the study area, SR-22 joins I-405 and generally provides 5 travel lanes in each direction with an additional HOV carpool lane in each direction. Local access is provided off Seal Beach Boulevard and Valley View Street.

The following roadways in the study area are classified in the current *City of Los Alamitos General Plan* as follows:

Los Alamitos Boulevard – Los Alamitos Boulevard is a north-south divided Major Highway with two lanes in each direction north of Florista Street, and three lanes in each direction south of Florista Street. It extends into Los Angeles County as Norwalk Boulevard to the north and to the Pacific Ocean as Seal Beach Boulevard to the south. Los Alamitos Boulevard is a direct connector to SR-91 and I-405 freeways. Street parking is permitted along most of Los Alamitos Boulevard north of Farquhar Avenue, excluding the bridge, but is not permitted south of Farquhar Avenue. The posted speed limit on Los Alamitos Boulevard ranges between 35 and 40 miles per hour (mph). Los Alamitos Boulevard is a designated truck route.

Bloomfield Street – Bloomfield Street is a north-south divided Secondary Street with two lanes in each direction north of Katella Avenue and undivided with one lane in each direction south of Katella Avenue. It extends from Whittier Boulevard to the north and Farquhar Avenue to the south. Bloomfield Street is a direct connector to I-5 and SR-91 freeways to the north. Street parking is permitted along portions of Bloomfield Street and the posted speed limit varies between 25 and 40 mph. Bloomfield Street is a designated truck route between Katella Avenue and Cerritos Avenue.

Denni Street/Lexington Drive – Denni Street stretches from Forest Lawn Memorial Park to Cerritos Avenue and is a north/south undivided Secondary street with two lanes in each direction. Lexington Drive stretches from Cerritos Avenue to the Los Alamitos Army Airfield and is an undivided street with one lane

in each direction. Street parking is only permitted on Lexington Drive north of Farquhar Avenue and south of Katella Avenue. The posted speed limit on Denni Street/Lexington Drive in the study area is 25 mph.

Ball Road - Ball Road is an east-west divided Primary arterial with two lanes in each direction. It extends from Lakewood Boulevard to the west and Cannon Street to the east. Street parking is not permitted on Ball Road and the posted speed limit is 40 mph. Ball Road is a designated truck route through the City of Los Alamitos.

Cerritos Avenue – Cerritos Avenue is an east-west divided Primary arterial with two lanes in each direction. It extends from I-405 to the west as Spring Street and to Walnut Street to the east. Street parking is not permitted along most of Cerritos Avenue and the posted speed limit is 35 mph. Cerritos Avenue is a designated truck route through the city of Los Alamitos.

Katella Avenue – Katella Avenue is an east-west divided Smart Street with four lanes in each direction west of Los Alamitos Boulevard and three lanes in each direction east of Los Alamitos Boulevard. It extends into Los Angeles County as Willow Street, Sepulveda Boulevard, and Camino Real to the west and extends into the City of Irvine to the east. Katella Avenue is a direct connector to I-110, I-710, I-405, I-605, I-5, SR-57, and SR-55 freeways. Katella Avenue is a designated truck route through the City of Los Alamitos.

Figure 3-2 shows the current Los Alamitos General Plan roadway classifications. All other roadways are local roads and provide additional access to homes and businesses.

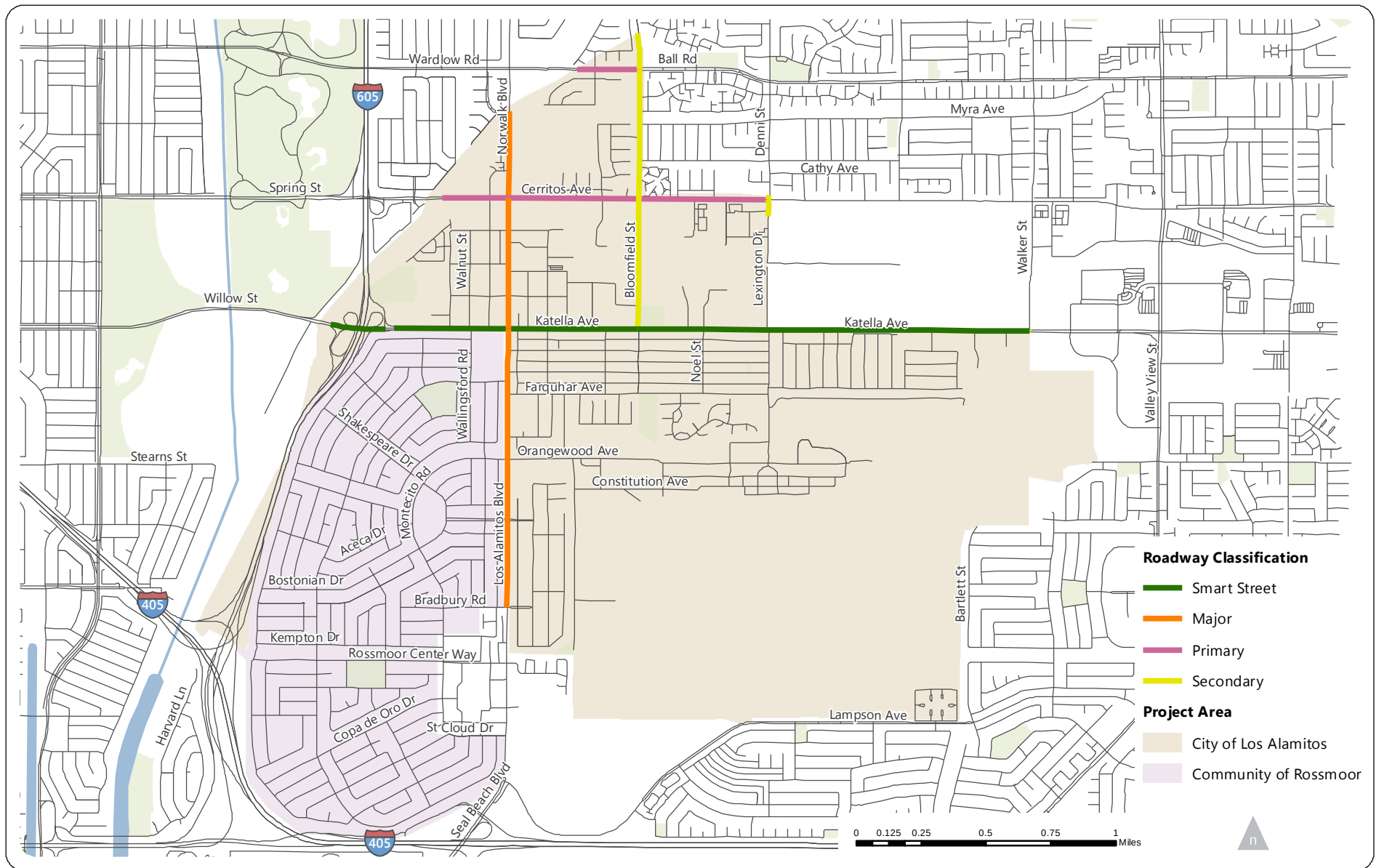


Figure 3-2

Current General Plan Roadway Classification

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Date: May, 2014

TRAFFIC CONTROL DEVICES

Information regarding traffic control devices in the City and SOI was obtained from field observations, the City of Los Alamitos General Plan, and City of Los Alamitos Staff. There are a total of 26 signalized intersections within the City of Los Alamitos, some of which are not maintained by the City, but by regional and adjacent jurisdictions. The majority of traffic signals in the City are installed along Los Alamitos Boulevard and Katella Avenue. The signalized intersections are:

1. Katella Avenue & Interstate 605
2. Katella Avenue & Civic Center
3. Katella Avenue & Wallingford/Walnut
4. Katella Avenue & Los Alamitos Boulevard
5. Katella Avenue & Cherry Street
6. Katella Avenue & Kaylor Street
7. Katella Avenue & Bloomfield Street
8. Katella Avenue & Noel Avenue
9. Katella Avenue & Lexington Street
10. Katella Avenue & Siboney Street
11. Katella Avenue & Walker Street
12. Katella Avenue & Winners Circle
13. Los Alamitos & Cerritos Avenue
14. Los Alamitos & Sausalito Avenue
15. Los Alamitos & Florista Avenue
16. Los Alamitos & Farquhar Street
17. Los Alamitos & Oranewood Avenue
18. Los Alamitos & Rossmoor Avenue
19. Los Alamitos & Bradbury Road
20. Cerritos Avenue & Los Alamitos High School
21. Cerritos Avenue & Humbolt Street
22. Cerritos Avenue & Bloomfield Street
23. Cerritos Avenue & Denni Street/Lexington
24. Ball Road & Kaylor Street
25. Ball Road & Bloomfield Street
26. Carbon Creek Chanel & Bloomfield Street

The signalized intersections listed above, along with all-way and side-street stop controlled intersections, are shown in Figure 3-3. There are no signalized intersections within Rossmoor except at some of the perimeter intersections.

BICYCLE FACILITIES

The bicycle network in the study area consists of dedicated bicycle paths, bicycle lanes, and bicycle routes. There are three classifications used when classifying bicycle facilities, namely:

Class I: Bike Path. Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with minimal interruption by motor vehicles. Within the City of Los Alamitos, there is currently a bike path along the Coyote Creek Bikeway that runs adjacent to the San Gabriel River through the City of Los Alamitos. There is also a quarter-mile bike path north of Oak Middle School, connecting Oak Street with the Coyote Creek Bikeway. Within Rossmoor, a Class I Bike Path is found within Rossmoor Park and along Wallingsford Road connecting Katella Avenue to Hedwig/Foster Road.

Class II: Bike Lane. Provides a preferential right-of-way designated and striped for the exclusive or semi-exclusive use of bicycles, with some allowances for vehicle parking. Existing bike lanes exist along Bloomfield Street from the northern City limit to Katella Avenue in both directions of travel and on Ball Road from Kaylor Avenue to the western City limit.

A Class II Bike Lane continues from Rossmoor Park along the entire length of Foster Road to the southern end of Rossmoor.

Class III: Bike Route. Provides a route designated by signs or permanent pavement markings that are shared with either pedestrians or motorists. Bike routes exist along Bloomfield Street north of Ball Road past the northern City limit and along Ball Road through the City limits.

Figure 3-4 identifies existing and proposed bicycle facilities within the study area.

PEDESTRIAN FACILITIES

Pedestrian facilities in Los Alamitos consist of sidewalks and crosswalks. Sidewalks are generally provided throughout the City. Some locations provide a wide sidewalk with a comfortable amount of space between the sidewalk and roadway edge. Other locations provide a sidewalk immediately adjacent to the edge of the roadway, with some narrowed due to past roadway widenings.

The signalized intersections in the City of Los Alamitos all have crosswalks on all approaches with the exception of:

- Katella Avenue & Interstate 605
- Carbon Creek Channel & Bloomfield Street

Having crosswalks on all approaches to the signalized intersections allow pedestrians the choice of where to cross, and provides for good pedestrian access. Figure 3-5 identifies the crosswalks available in the study area. The all-way and side-street stop controlled intersections within the City of Los Alamitos have a mix of crosswalks on all, some, and no approaches. At many of the side-street stop controlled intersections, crosswalks are only provided parallel to the major roadway (not across it).

Overall, the City and Rossmore provide adequate infrastructure for bicycles and pedestrians. In many places, however, biking and walking environments are not pleasant and do not encourage walking or biking—especially along larger roadways. Given the family-oriented nature of both communities, the large number of children and schools, and the desire for a walkable downtown, a number of improvements are identified to increase the communities' safety and quality of life.

TRANSIT FACILITIES

Providing public transit is beneficial in a number of ways. It provides transportation for groups not having access to vehicles. Public transit also helps groups who choose not to drive and take non-automotive methods of travelling. Public transit also provides relief to a city's traffic network because people who are not driving their individual vehicles on the road are not contributing to traffic congestion.

Transit service in the City and SOI is provided by the Orange County Transportation Authority (OCTA). Local bus routes provide service along Los Alamitos Boulevard, Bloomfield Street, Katella Avenue, and Cerritos Avenue. In 2010, OCTA also planned to operate a bus rapid transit route (BRT) along Katella Avenue. Subsequent budget cuts postponed such plans indefinitely and the study area will continue to be served only by local bus service. The five lines are described in detail below:

Route 42/42A – Route 42/42A generally runs in the east-west direction, providing service from Seal Beach to Orange. The major streets of service are Los Alamitos Boulevard, Lincoln Avenue, and Tustin Street. Service is generally provided at 20-minute headways.

Route 46 – Route 46 generally runs in the east-west direction, providing service from Los Alamitos to Orange. The major streets of service are Ball Road and Tustin Street. In the study area, Route 46 only provides service in the eastbound direction. Service is generally provided at 30-minute headways.

Route 50 – Route 50 generally runs in the east-west direction, providing service from Long Beach to Orange. The major streets of service are Studebaker Road, Katella Avenue, and Tustin Street. In the study area, Route 50 provides regular service in both directions of travel. Service is generally provided at 30-minute headways.

Route 211 – Route 211 is an express route that generally runs in the north-south direction via I-405, providing service between Seal Beach and Irvine. Route 211 travels along Lampson Avenue through the study area. Service is generally provided at 30-minute headways.

Route 701 – Route 701 is an express route that generally runs in the north-south direction via I-405 and I-605, providing service between Huntington Beach and Downtown Los Angeles. Route 701 travels along Lampson Avenue through the study area. Service headways range between 20 and 50 minutes.

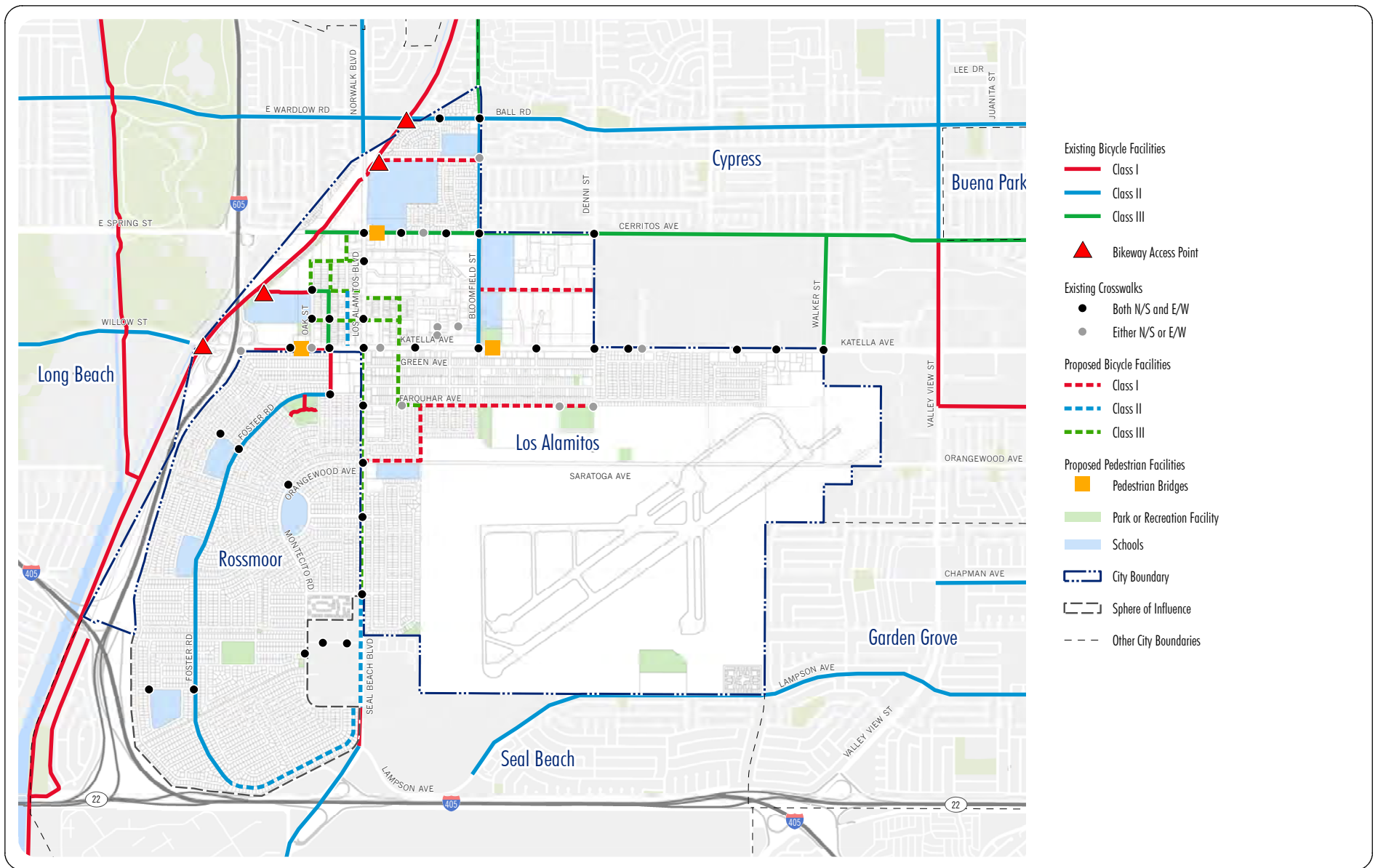


Figure 3-4

Existing and Proposed Bicycle Facilities

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Date: May, 2014

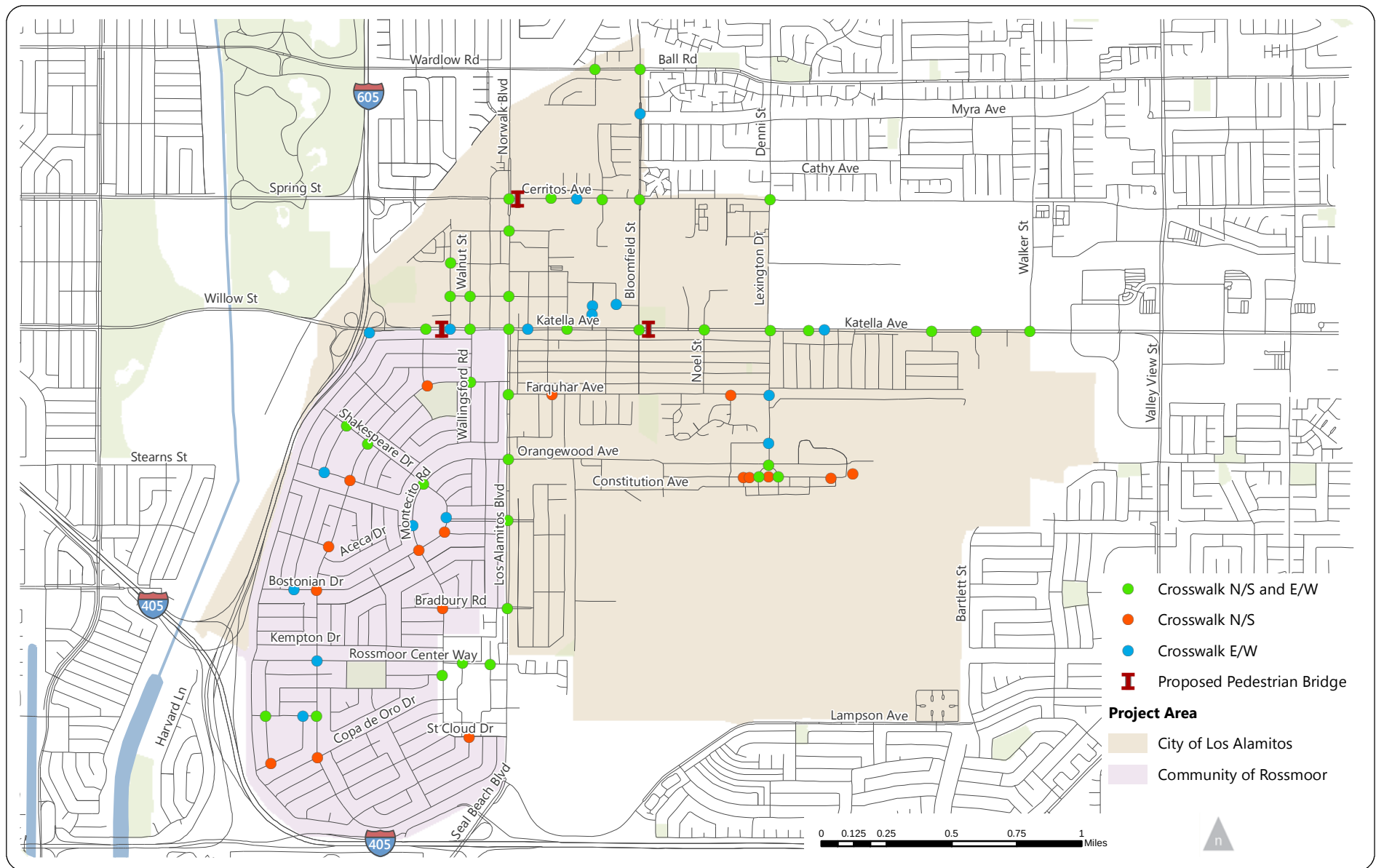


Figure 3-5

Pedestrian Facilities

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Date: February, 2014

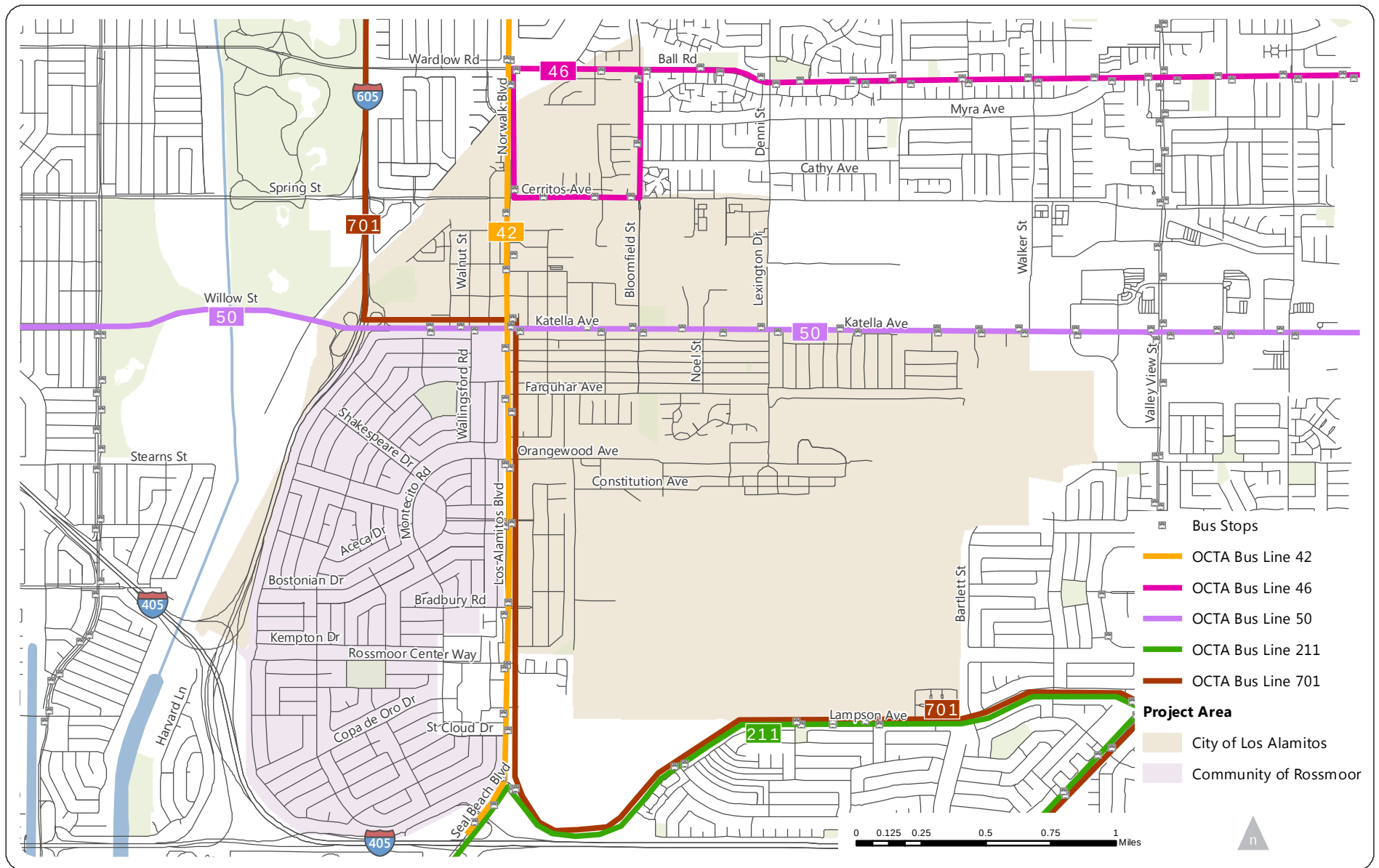


Figure 3-6

Existing Transit Facilities

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Date: May, 2014

Figure 3-6 shows existing bus routes and bus stops in the City of Los Alamitos.

RAILROAD FACILITIES

There are no passenger rail lines which run through the City of Los Alamitos. The nearest passenger rail lines are west of the City near Long Beach (Metro Blue Line) and north of the city near Norwalk and Santa Fe Springs (Metro Green Line). Buena Park offers the closest Metrolink Station (Orange County Line) and Amtrack service (Pacific Surfliner). Right-of-way (ROW) previously used by the Southern Pacific Railroad is found in various parts of the City. In the Planned Industrial area south of Cerritos Avenue between Los Alamitos Boulevard and Bloomfield Street, the ROW has been reused for operations and access by the industrial businesses. The ROW north of Katella Avenue between Lexington Drive and Bloomfield Street has and will continue to be slated for a Class I Trail.

HARBOR/PORT FACILITIES

The City of Los Alamitos is near two major ports, namely the Port of Long Beach and the Port of Los Angeles. The Port of Long Beach is about nine miles southwest, while the Port of Los Angeles is about 13 miles northwest of the City of Los Alamitos.

AIRPORT FACILITIES

The City of Los Alamitos contains the Los Alamitos Army Airfield (KSLI), a military airport within the Joint Forces Training Base not open to the public. The Army Airfield contains two runways that require permission prior to landing. Approaches and departures at the Los Alamitos Army Airfield have specific visual flight routes to assist in noise abatement. Typically, flights are only allowed to arrive/depart from the north, south, and east along specifically defined routes that avoids flying over homes. No public airport facilities exist in the City.

FREIGHT SYSTEM

The goods or freight movement system in Los Alamitos consists of designated truck routes. The Los Alamitos Municipal Code (Chapter 10, Section 20) contains language relating to truck routes. This chapter of the municipal code defines weight restrictions, specifies the ability of trucks to enter areas not designated as truck routes, and defines the truck routes within the City. Roads in the study area that contain truck routes include Katella Avenue, Los Alamitos Boulevard, Bloomfield Street, Cerritos Avenue and Ball Road.

Vehicles weighing over four tons in gross vehicle weight are prohibited on Catalina Street between Los Alamitos Boulevard and Cherry Street, Pine Street between Florista Street and Catalina Street, Reagan Street between Katella Avenue and Catalina Street, and Cherry Street between Florista Street and Catalina Street.

TRAFFIC OPERATIONS ASSESSMENT

EXISTING INTERSECTION OPERATIONS

The existing intersection traffic counts were compiled from a variety of sources. Table 3-3 summarizes the existing intersection count sources. Please note that, given the programmatic nature of a General Plan the long-range planning that this document serves, and the amount of time it takes to get through the General Plan development process, the existing traffic counts utilized for this assessment were collected and supplemented when completing the Existing Conditions assessment when the General Plan update process was started in 2011.

Figure 3-7 presents the existing traffic volumes and lane configurations at the study intersections. Table 3-4 summarizes the exiting traffic operations at the 14 study intersections during the morning (AM) and evening (PM) peak hours.

The results of the intersection assessment indicate that all of the study intersections are operating at an acceptable LOS, with many intersections operating at LOS A or LOS B during one or both peak hours.

TABLE 3-3 INTERSECTION COUNTS			
No.	N/S Street	E/W Street	Count Source
1	Los Alamitos Boulevard	Cerritos Avenue	[1]
2	Los Alamitos Boulevard	Katella Avenue	[1]
3	Los Alamitos Boulevard	Farquhar Avenue	[2]
4	Los Alamitos Boulevard	Orangewood Avenue	[2]
5	Los Alamitos Boulevard	Bradbury Road	[3]
6	Los Alamitos Boulevard	St. Cloud Drive	[3]
7	Bloomfield Street	Ball Road	[2]
8	Bloomfield Street	Cerritos Avenue	[2]
9	Bloomfield Street	Katella Avenue	[2]
10	Lexington Avenue	Katella Avenue	[2]
11	Walker Street	Katella Avenue	[3]
12	Wallingsford Road/ Walnut Street	Katella Avenue	[3]
13	Los Alamitos Boulevard	Rossmoor Center Way	[3]
14	I-605 NB	Katella Avenue	[4]
[1] Los Alamitos Boulevard Corridor Traffic Study, July 2011. [2] Los Alamitos Medical Center Specific Plan TIA, June 2010. [3] Collected by Fehr & Peers, September 2012. [4] OCTA CMP (2013).			

**TABLE 3-4
EXISTING (2013) CONDITIONS INTERSECTION LOS RESULTS**

Intersection	Control	AM Peak		PM Peak	
		V/C (Delay)	LOS	V/C (Delay)	LOS
Los Alamitos Boulevard & Cerritos Avenue	Signal	0.770	C	0.834	D
Los Alamitos Boulevard & Katella Avenue	Signal	0.787	C	0.819	D
Los Alamitos Boulevard & Farquhar Avenue	Signal	0.548	A	0.517	A
Los Alamitos Boulevard & Orangewood Avenue	Signal	0.641	B	0.491	A
Los Alamitos Boulevard & Bradbury Road	Signal	0.623	B	0.589	B
Los Alamitos Boulevard & St. Cloud Drive	Signal	0.534	A	0.563	B
Bloomfield Street & Ball Road	Signal	0.690	B	0.660	B
Bloomfield Street & Cerritos Avenue	Signal	0.815	D	0.727	C
Bloomfield Street & Katella Avenue	Signal	0.671	B	0.677	C
Lexington Avenue & Katella Avenue	Signal	0.528	A	0.561	A
Walker Street & Katella Avenue	Signal	0.672	B	0.634	B
Wallingsford Road/ Walnut Street & Katella Avenue	Signal	0.857	D	0.721	C
Los Alamitos Boulevard & Rossmoor Center Way	Signal	0.443	A	0.617	B
I-605 NB & Katella Avenue ²	Signal	0.355 (1.8)	A	0.543 (7.5)	A

Notes:

1. V/C represents the volume to capacity ratio.
2. XX (YY) = V/C (seconds of delay). Please note that V/C is presented since this is a CMP intersection. Delay is presented since this is a Caltrans intersection and the Caltrans comment letter requested methodologies consistent with the *Highway Capacity Manual (HCM)* (Transportation Research Board, 2000).

Source: Los Alamitos Medical Center Specific Plan TIA (2008), Los Alamitos Boulevard Corridor Traffic Study (2010), Fehr & Peers (2012), OCTA CMP (2013).

ROADWAY SEGMENT OPERATIONS

The existing roadway segment traffic counts were compiled from a variety of sources. Table 3-5 summarizes the intersection count sources.

Table 3-6 presents the daily traffic volume and LOS operations on study roadway segments. As shown below, all of the existing roadway segments are currently operating at an acceptable level of service of D or better, as prescribed by Policy 5-1.2 in the Recommended Goals and Policies section of this report.

TABLE 3-5 ROADWAY SEGMENT COUNTS			
No.	Roadway	Segment	Count Source
1	Los Alamitos Boulevard	between north City Limits and Cerritos Avenue	[1]
2	Los Alamitos Boulevard	between Cerritos Avenue and Katella Avenue	[1]
3	Los Alamitos Boulevard	between Katella Avenue and Farquhar Avenue	[1]
4	Los Alamitos Boulevard	between Farquhar Avenue and Orangewood Avenue	[3]
5	Los Alamitos Boulevard	between Orangewood Avenue and Bradbury Road	[3]
6	Los Alamitos Boulevard	between Bradbury Road and St. Cloud Drive	[3]
7	Katella Avenue	between I-605 and Los Alamitos Boulevard	[4]
8	Katella Avenue	between Los Alamitos Boulevard and Bloomfield Street	[3]
9	Katella Avenue	between Bloomfield Street and Lexington	[3]
10	Katella Avenue	between Lexington and Walker Street	[3]
11	Bloomfield Street	between Katella Avenue and Cerritos Avenue	[3]
12	Bloomfield Street	between Cerritos Avenue and Ball Road	[3]
13	Cerritos Avenue	between I-605 and Los Alamitos Boulevard	[3]
14	Cerritos Avenue	between Los Alamitos Boulevard and Bloomfield Street	[3]
15	Cerritos Avenue	between Bloomfield Street and Lexington	[3]
16	Farquhar Avenue	between Los Alamitos Boulevard and Bloomfield Street	[3]
17	Farquhar Avenue	between Bloomfield Street and Lexington	[3]
18	Bloomfield Street	between Farquhar Avenue and Katella Avenue	[3]
19	Lexington Dr	between Farquhar Avenue and Katella Avenue	[3]
[1] Los Alamitos Boulevard Corridor Traffic Study, July 2011. [3] Collected by Fehr & Peers, September 2012. [4] I-605 Cerritos Interchange Study, March 2011			

**TABLE 3-6
EXISTING (2013) CONDITIONS ROADWAY VOLUME AND LOS**

Street Name and Segment	Classification	Traffic Volume	V/C	LOS
Los Alamitos Boulevard				
Between North City Limits and Cerritos Ave	Major Highway	24,008	0.67	C or Better
Between Cerritos Ave and Katella Ave	Major Highway	30,437	0.85	D
Between Katella Ave and Farquhar Ave	Major Highway	44,340	0.82	D
Between Farquhar Ave and Orangewood Ave	Major Highway	45,473	0.84	D
Between Orangewood Ave and Bradbury Rd	Major Highway	41,619	0.77	C or Better
Between Bradbury Road and St. Cloud Dr	Major Highway	40,805	0.76	C or Better
Katella Avenue (OCTA CMP Highway System)				
Between I-605 and Los Alamitos Blvd	Smart Street	64,007	0.89	D
Between Los Alamitos Blvd and Bloomfield St	Smart Street	51,583	0.86	D
Between Bloomfield St and Lexington Dr	Smart Street	46,100	0.77	C or Better
Between Lexington Dr and Walker St	Smart Street	45,890	0.76	C or Better
Bloomfield Street				
Between Katella Ave and Cerritos Ave	Secondary	14,163	0.59	C or Better
Between Cerritos Ave and Ball Rd	Secondary	12,471	0.52	C or Better
Cerritos Avenue				
Between I-605 and Los Alamitos Blvd	Primary	29,391	0.82	D
Between Los Alamitos Blvd and Bloomfield St	Primary	29,932	0.83	D
Between Bloomfield St and Lexington Dr	Primary	24,059	0.67	C or Better
Farquhar Avenue				
Between Los Alamitos Blvd and Bloomfield St	Local	5,525	0.39	C or Better
Between Bloomfield St and Lexington Dr	Local	3,762	0.27	C or Better
Bloomfield Street				
Between Farquhar Ave and Katella Ave	Local	2,925	0.21	C or Better
Lexington Drive				
Between Farquhar Ave and Katella Ave	Local	5,671	0.41	C or Better
Notes:				
1. V/C represents the volume to capacity ratio.				
Source: Los Alamitos Boulevard Corridor Traffic Study (2011), I-605 Cerritos Interchange Study (2011), Fehr & Peers (2012)				

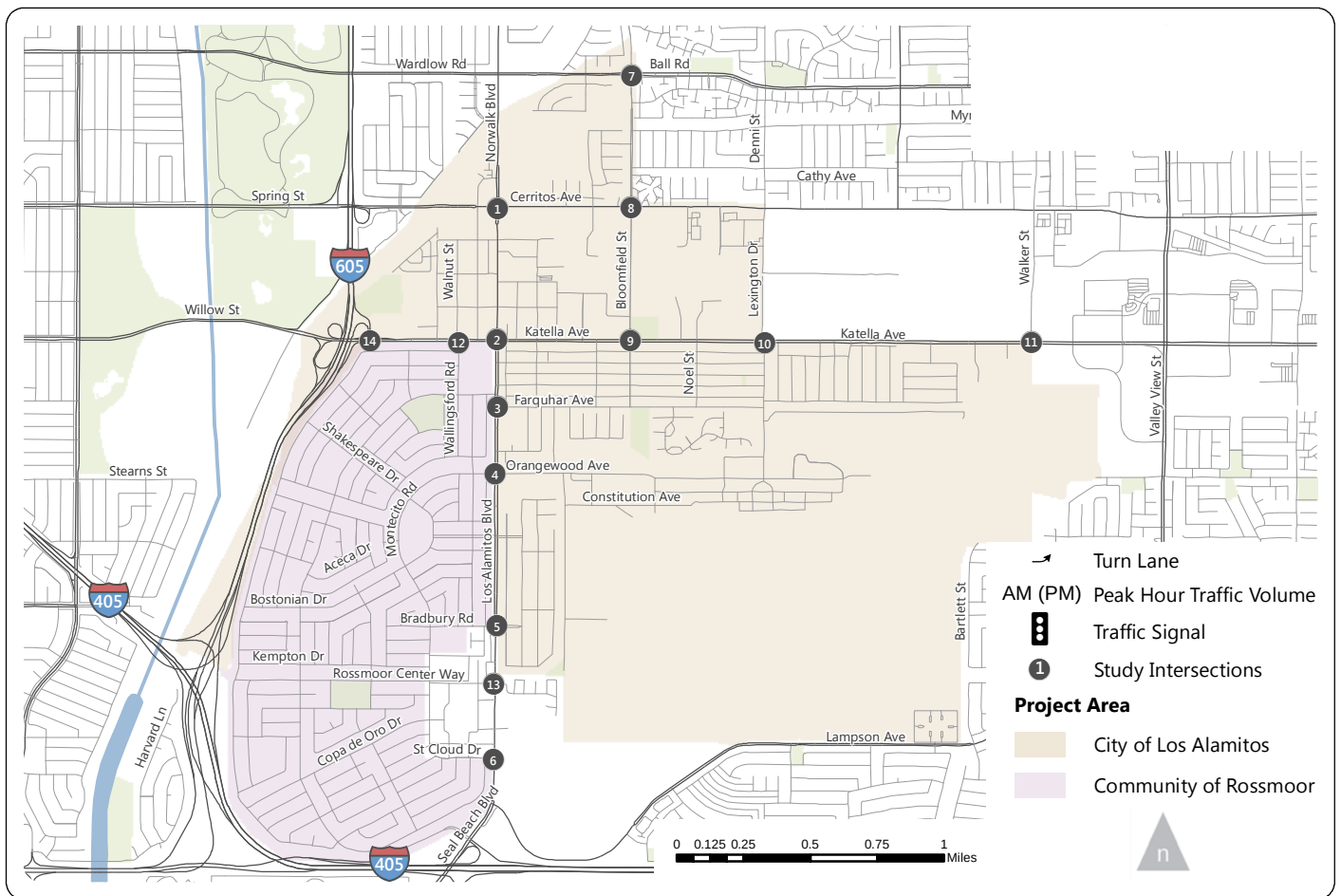
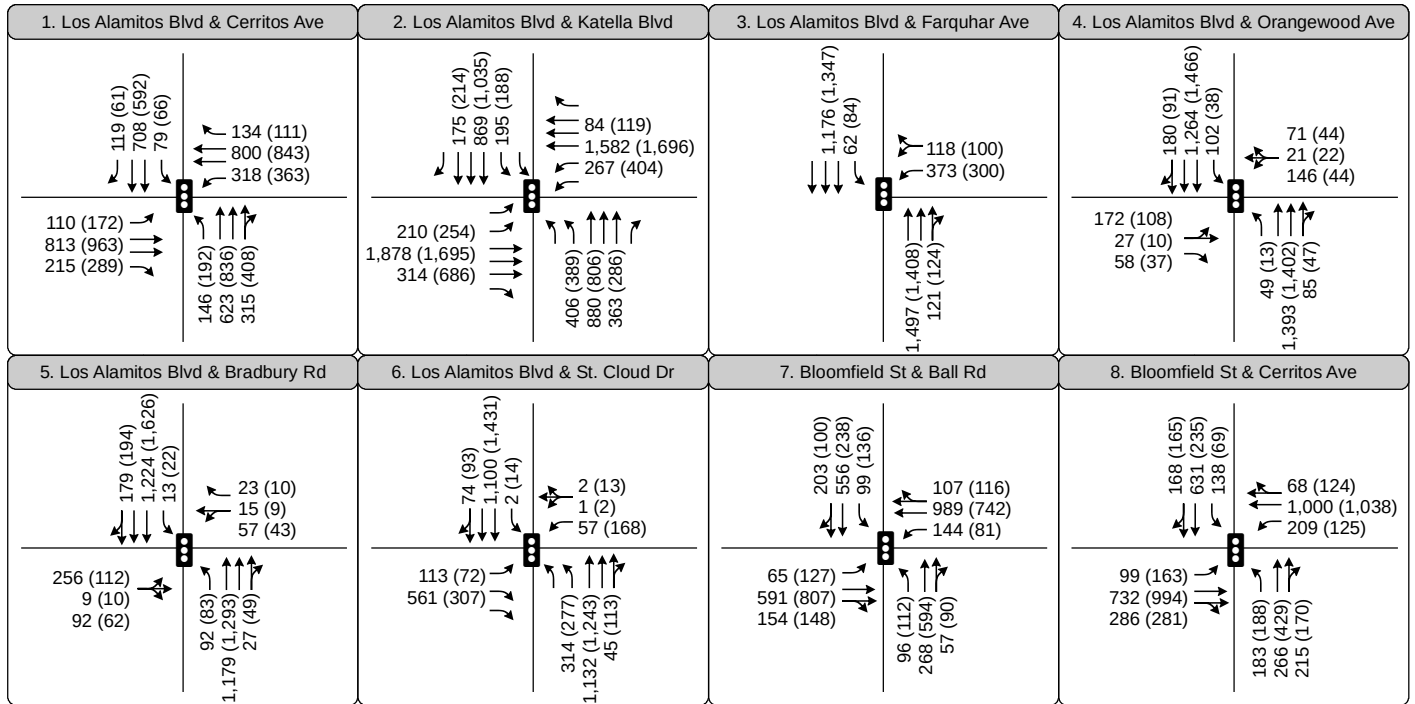


Figure 3-7

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

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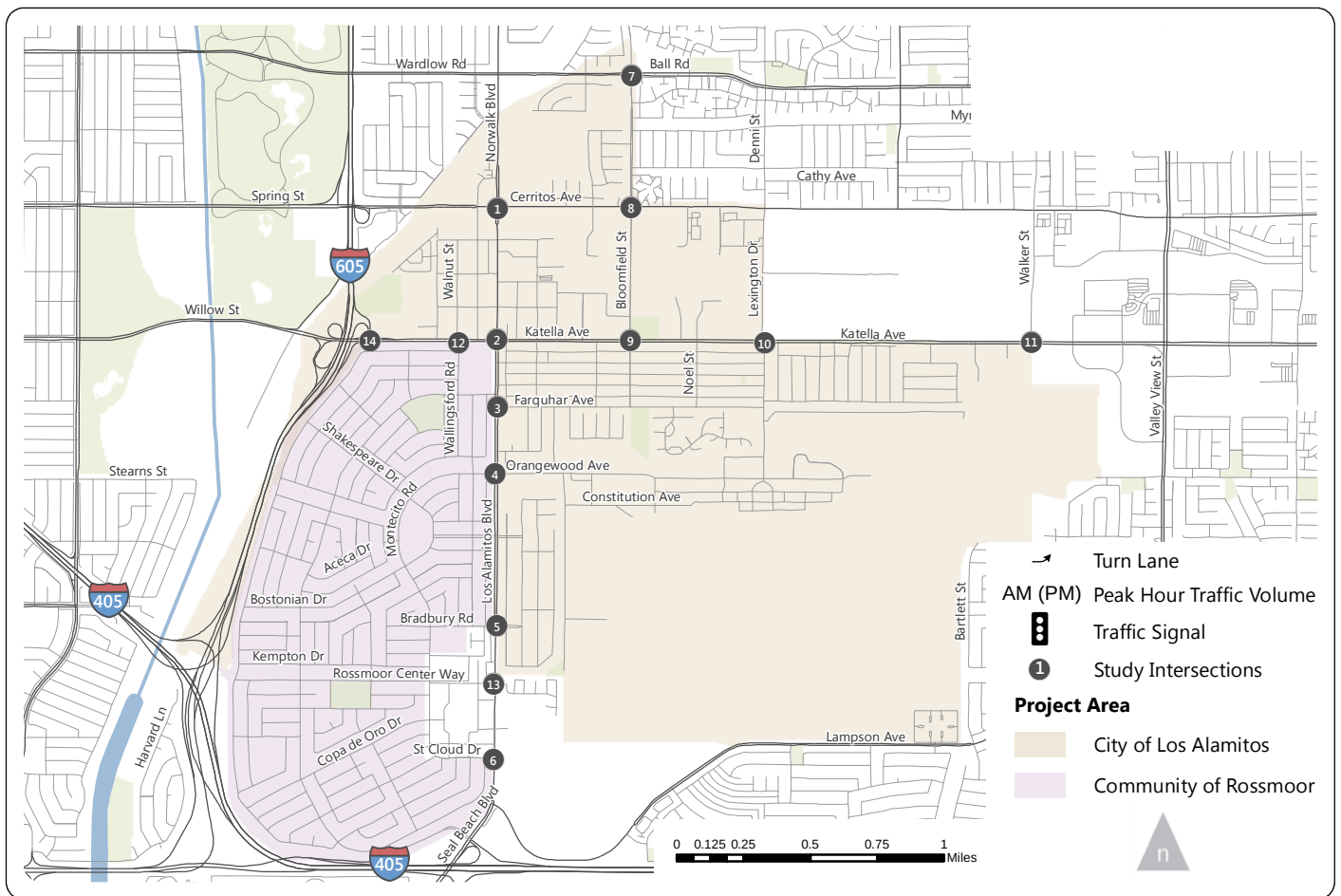
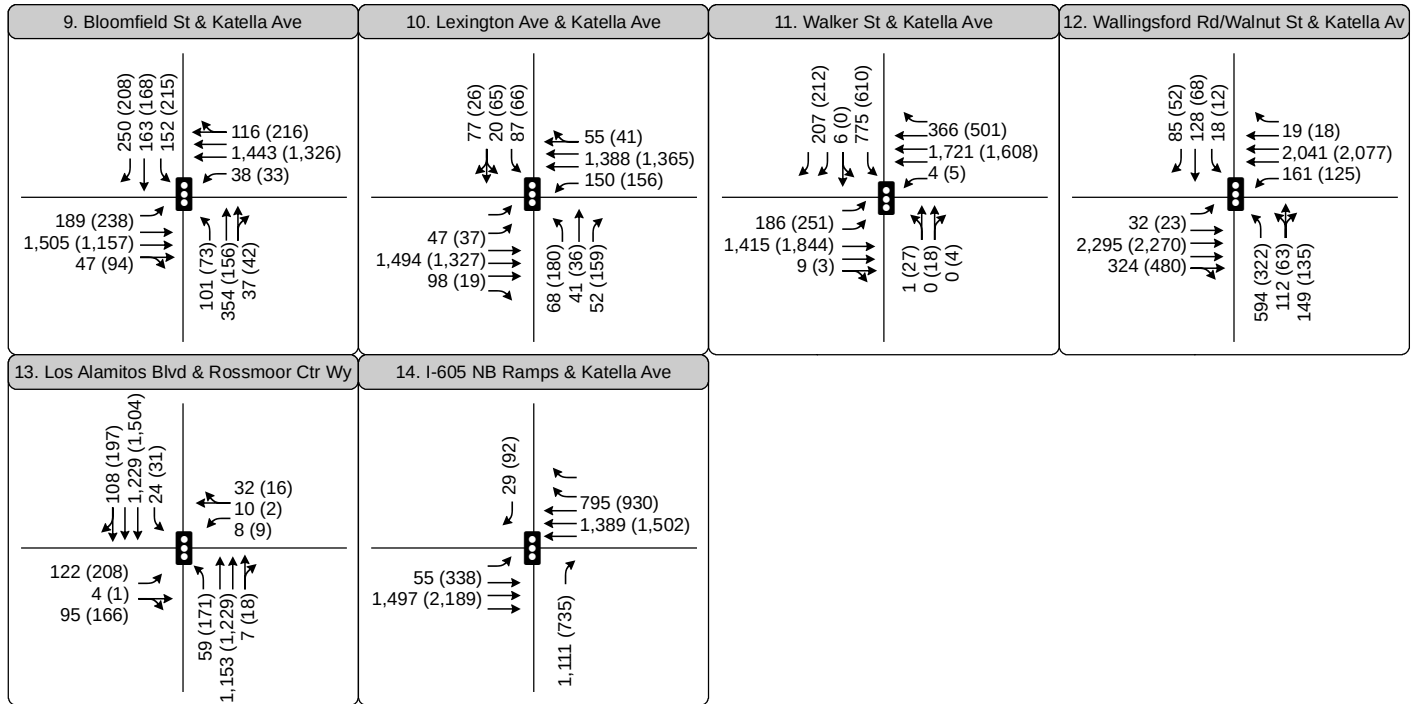


Figure 3-7

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

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Date: February, 2014

(4) IMPACT ASSESSMENT

This chapter is intended to document the results of the environmental impacts associated with the General Plan on the circulation system. It builds off of the existing conditions described earlier in this report, but also includes a regulatory framework, future conditions operations assessment, identified environmental impacts, and mitigation measures recommended for the project.

REGULATORY FRAMEWORK

The regulatory framework is used to inform decision makers about the regulatory agencies/policies that affect transportation in the City. This enables them to make informed decisions about planning improvements to transportation systems in the City. This document includes a discussion of funding as well as regulation. Major policy documents impacting the transportation system in the City of Los Alamitos include laws at the federal and state level, and planning documents at a regional level.

FEDERAL REGULATIONS

In 1982, the federal government passed the Surface Transportation Assistance Act (STAA). This act requires states to allow larger trucks on the “National Network”, which is comprised of the Interstate System plus the non-Interstate Federal-Aid Primary System. “Larger trucks” include (1) doubles with 28.5 foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle (KPRA) distance, (3) unlimited length for both vehicle combinations, and (4) widths up to 102 inches. Interstate 605 in the City of Los Alamitos is defined as an STAA route.

STATE REGULATIONS

AB 1358 – Complete Streets Act

The California Complete Streets Act of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 required circulation elements to address the transportation system from a multi-modal perspective. The bill states that streets, roads, and highways must “meet the needs of all users...in a manner suitable to the rural, suburban, or urban context of the general plan.” Essentially, this bill requires a circulation element to plan for all modes of transportation where appropriate – including walking, biking, car travel, and transit.

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled.

AB 32 – Global Warming Solutions Act

With the passage of the Global Warming Solutions Act of 2006, the State of California committed itself to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resource Board (ARB), which is coordinating the response to comply with AB 32, is currently on schedule to meet this deadline.

In 2007, ARB adopted a list of early action programs that could be put in place by January 1, 2010. In 2008, ARB defined its 1990 baseline level of emissions, and by 2011 it completed its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms like the proposed cap and trade program, came into effect January 1, 2012. The cap and trade program controls pollution by a governing agency selling permits on the amount of pollutants a firm can emit. A firm's pollutants cannot exceed the limit. Firms requiring the need to increase their emissions must purchase permits from other firms requiring fewer permits.

SB 375

On December 11, 2008, the ARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of SB 375 as the means for achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

There are five major components to SB 375. First, SB 375 will address regional GHG emission targets. ARB's Regional Targets Advisory Committee will guide the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose themselves, will be updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs will be required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan to meet the target.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on eight-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Fourth, SB 375 provides CEQA streamlining incentives for preferred development types. Residential or mixed-use projects qualify if they conform to the SCS. Transit oriented developments (TODs) also qualify if they 1) are at least 50% residential, 2) meet density requirements, and 3) are within one-half mile of a transit stop. The degree of CEQA streamlining is based on the degree of compliance with these development preferences.

Finally, MPOs must use transportation and air emission modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC). Regional Transportation Planning Agencies, cities, and counties are encouraged, but not required, to use travel demand models consistent with the CTC guidelines.

SB 743

SB 743, passed September 27, 2013, makes a set of amendments to the California Environmental Quality Act. This bill provides individual agencies the ability to opt out of a congestion management program. Additionally, this bill requires OPR to develop alternative impact criteria for transportation impacts in transit priority areas. The biggest impact of this senate bill may be the requirement for OPR to look at changing CEQA significance thresholds for traffic throughout the state. This could result in LOS not being an environmental impact under CEQA. OPR plans on having draft guidelines completed in February 2014 but official guidelines will not be approved by the natural resource agencies until spring 2015.

REGIONAL REGULATIONS

Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides a regional transportation plan for six counties in Southern California: Orange, San Bernardino, Riverside, Los Angeles, Ventura and Imperial. The primary goal of the RTP is to increase mobility for the region. With recent legislation, this plan also encompasses sustainability as a key principle in future development.

Orange County Congestion Management Program

The Orange County Congestion Management Program (CMP) defines a network of state highways and arterials, level of service standards and related procedures, and provides technical justification for the approach. The CMP for Orange County was originally adopted in 1991 and updated most recently in 2013.

For consistency with the CMP, CMP designated intersections in the City (I-605 Northbound Ramps at Katella Avenue) should operate at LOS E or better. Additionally, during the CMP monitoring process, if any CMP facility is identified as operating at a deficient level, a deficiency plan would be required to restore operations back to an acceptable level.

Traffic Impact Analysis Requirements

A key element of the current Land Use/Transportation Analysis Program of the CMP is the Traffic Impact Analysis Report (TIA Report), to be prepared by local jurisdictions. The TIA Reports are designed to provide an improved basis for assessing the impacts of land use decisions on the regional transportation system, both within and outside the permitting jurisdictions, by providing a consistent format to identify impacts and mitigations, and to evaluate mitigation costs. All TIA Reports prepared by local jurisdictions shall be copied to the Congestion Management Agency. TIA reports shall be prepared for projects when required by local thresholds and criteria, but must be prepared for land use decisions that are equal to or greater than half the thresholds for regional review defined by the California Environmental Quality Act (CEQA). If it is determined that a CMP TIA Report is required, the entity with local land use authority shall prepare or cause to be prepared a Traffic Impact Analysis Report consistent with the procedure and methodology specified in Appendix B of CMP and the local jurisdiction's Land Use/Transportation Analysis Program.

If it is determined that a project qualified for the preparation of a TIA Report but no report was prepared, adjacent potentially impacted jurisdictions, OCTA, or Caltrans may request that such a report be prepared, even though it may be after-the-fact. The permitting jurisdiction shall prepare, or cause to be prepared, a TIA Report in order to determine appropriate mitigation measures and financial responsibilities for resolution of the ongoing CMP system impacts and for developing appropriate mitigations for future development projects.

OCTA Commuter Bikeways Strategic Plan

OCTA developed the Commuter Bikeways Strategic Plan (CBSP) in 1995, with the latest update in 2009. The CBSP is a regional planning document that identifies existing and proposed bikeways in Orange County. Through the cooperation of the cities and the County, an inventory was taken of existing bikeways, and priorities for new bikeways were identified. Prioritization of the proposed bikeways, as

identified in the plan, was based on several factors, including input from local jurisdictions and the public, as well as connectivity to transit and regional destinations. Three future facilities are identified by the City and the CBSP, as detailed below.

Class I Bicycle Trails

- o Drainage channel behind Los Alamitos High School from the Coyote Creek Bikeway
- o Abandoned railroad ROW between McAuliffe Middle and Los Alamitos Elementary schools

Class II Bicycle Lanes

- o Los Alamitos Boulevard

LOCAL REGULATIONS AND PLANS

Katella & Los Alamitos Commercial Corridors Plan

The City of Los Alamitos, through SCAG Compass Blue Print funding, prepared a commercial corridor plan for Katella Avenue and Los Alamitos Boulevard. This demonstration project analyzes and outlines actions the City can take to capitalize on the potential future Bus Rapid Transit routes/stations, stimulate new private investment and redevelopment, and ultimately create great places in Los Alamitos. In addition to the Compass Blueprint Principles, the demonstration project is driven by six specific project goals:

1. Enhance the City's sense of identity along the corridors and at key gateways.
2. Create a central, pedestrian- and bicycle-friendly place for those who live, work, learn, and shop in Los Alamitos.
3. Create a reason for people to turn left or right from Katella Avenue onto Los Alamitos Boulevard.
4. Consolidate scattered office, medical, retail, and service uses into logical districts and nodes.
5. Develop strategies for the reuse of key commercial centers and other underutilized parcels and incentivize lot consolidation.
6. Maximize the multimodal nature of the corridors and capitalize on future BRT investments.

FUTURE YEAR (POST-2035) LEVEL OF SERVICE CONDITONS

This section outlines the geographic scope of the traffic impact analysis, including the study roadways, and the analysis methodologies employed in this study.

FUTURE FORECASTING

One major component of this assessment was the use of a travel demand forecasting model to evaluate growth within the City of Los Alamitos and the region. A travel demand forecasting model is a tool that incorporates land use and roadway network to “assign” traffic to the local roadway system. The model utilizes inputs such as land use, travel behavior, and roadway characteristics (number of lanes, speed, etc.) to estimate traffic demand on roadways. The model runs through numerous iterations during the traffic assignment procedure as the model also estimates traffic congestion on certain segments and reroutes traffic to other roadways that show a travel time savings for that trip.

As part of this General Plan Circulation Element, Fehr & Peers utilized the Travel Demand Forecasting (TDF) model for Orange County (OCTAM). OCTAM was developed and maintained by OCTA for use in preparing regional transportation studies. The version used in this study is version 3.4, which incorporates the latest available land use forecasts for Orange County: Orange County Projections 2012.

Consistent with state-of-the-practice travel demand forecasting, model error was corrected using the methodologies identified in the National Cooperative Highway Research Program Report 255 (Transportation Research Board, 1982) using the “difference method” for roadway segments and intersections (e.g. add model predicted growth existing volumes).

OCTAM data is available for forecast years 2010 and 2035. As part of the forecasting process, the socio-economic data for the City of Los Alamitos was updated to reflect the most accurate information as provided by The Planning Center. Additionally, Fehr & Peers updated the roadway network consistent with the proposed General Plan.

Future Roadway Network

The OCTAM future roadway network assumptions incorporated into the travel demand model are consistent with the SCAG RTP funded roadway projects list, the needs identified by comparing the model results to the capacity tables referenced above.

Specific roadway improvements that were assumed include:

- Los Alamitos was modeled as a four lane facility north of Katella Avenue, consistent with the Corridors Plan (retaining the current four active lanes and all turning movements, but avoiding an increase to six active lanes).
- I-605 and I-405 freeways assume new HOV lanes in each direction.

- Additional turn lanes per the required mitigation measures from the Medical Center Specific Plan EIR, including an additional of a westbound left-turn lane at the Los Alamitos Boulevard/Cerritos Avenue intersection.

The proposed General Plan roadway network classifications are shown on

FUTURE BICYCLE NETWORK

Future bike routes and bike lanes are proposed on major arterials and collectors throughout Los Alamitos according to the *OCTA Commuter Bikeways Strategic Plan*. This plan identifies current bicycle facilities throughout the City and provide policy and implementation strategies for enhancing the networks. The plans are intended to be cohesive and integrated, with a comprehensive pedestrian and bicycle system. The City proposes to enhance the bicycle network by providing additional on- and off-street bike lanes.

FUTURE PEDESTRIAN NETWORK

The pedestrian facilities in Los Alamitos are generally well developed and no defined plans have been set forth for additional improvement other than the grade separated pedestrian crossings. The pedestrian connectivity throughout the City is also well developed, though intersections with limited crosswalks exist within the City. There exists a lack of connectivity in and around the downtown area and the adjacent medical center. As previously stated in the discussion on bicycle facilities, there is opportunity to expand the pedestrian trail network along the abandoned railroad tracks.

With the congestion that occurs at intersections near schools, the Corridor Plan recommended improvements to the pedestrian network through grade-separated pedestrian crossings (pedestrian bridges) at major roadways in the City. Potential locations are shown on Figure 3-5.

It should be noted that the analysis contained in this study, which is consistent with OCTA methodologies, is not able to show the benefits (safety or operationally) of limiting the pedestrian-bicycle conflicts at the study intersections. Fehr & Peers estimates that intersection capacities can increase by up to 10% if pedestrians do not conflict with vehicles; additionally, safety is dramatically improved since the conflict points of at-grade crossings are eliminated. As such, this can be an important infrastructure component moving forward in the City to maximize pedestrian safety but maintain circulation on key corridors in the City.

The proposed roadway circulation network is presented on Figure 4-1.

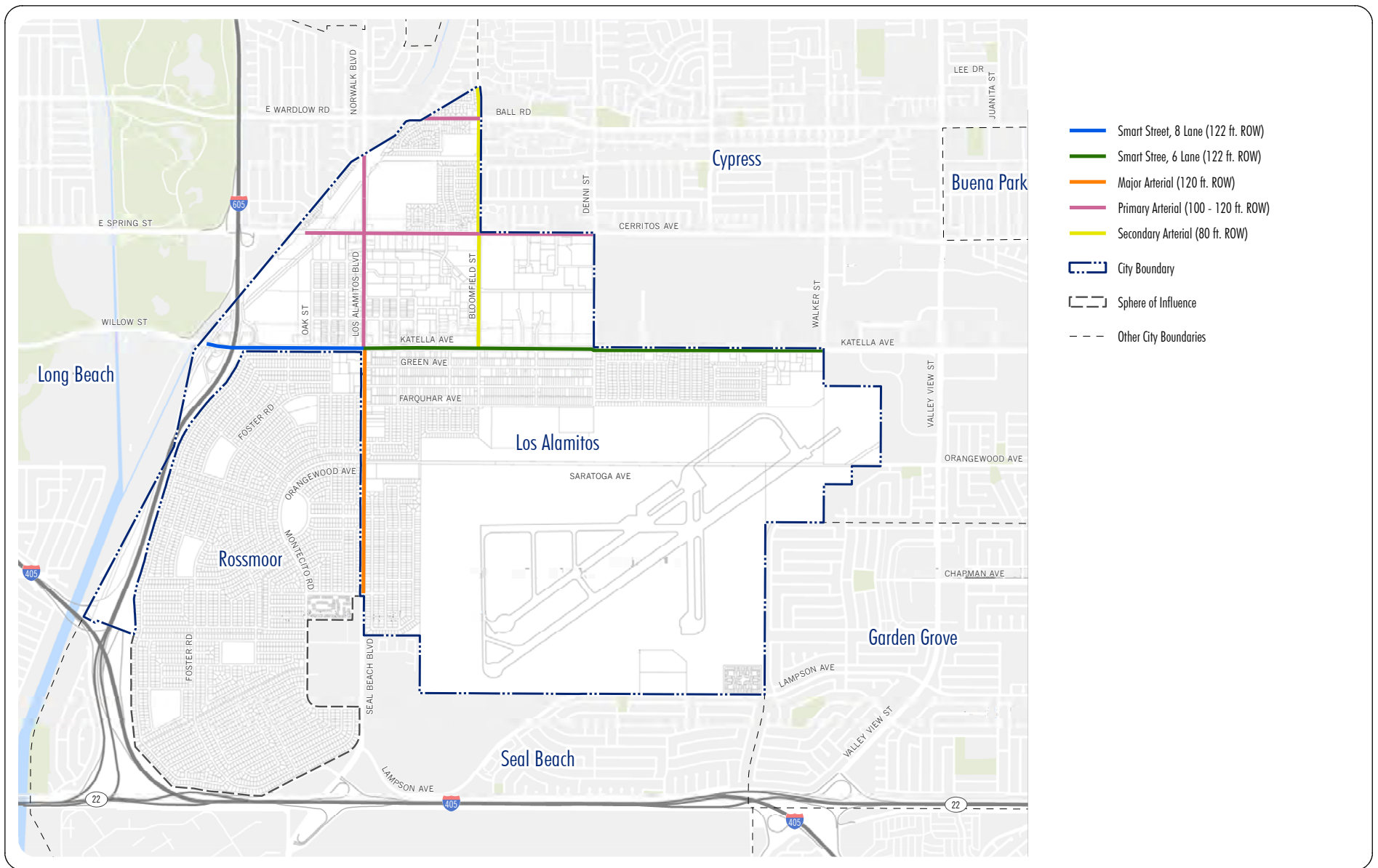


Figure 4-1

Proposed General Plan Roadway Classification

Document Path: W:\Roseville N Drive\2011Projects\IE_Projects\IE11-0072\Graphics\GIS\MXD\F4-1 ProposedGeneralPlanRoadwayClassification.ai

Date: May, 2014

GENERAL PLAN (2035) CONDITIONS INTERSECTION OPERATIONS

The level of service was calculated for the study intersections to evaluate General Plan traffic conditions. As previously described, LOS D is the maximum acceptable level of congestion that should be maintained at any intersection in Los Alamitos – this is the City’s level of service standards. Figure 4- summarizes the lane configurations and traffic volume projections at the study intersections.

Table 4-1 summarizes the LOS results at the study intersections.

The results of the intersection assessment indicate that three of the study intersections do not operate within acceptable LOS standards during at least one peak hour, including:

- Los Alamitos Boulevard & Katella Avenue – LOS E during the AM peak hour
- Bloomfield Street & Cerritos Avenue – LOS F in the AM peak hour and LOS E in the PM peak hour
- Wallingsford Road/ Walnut Street & Katella Avenue – LOS F in the AM peak hour

The proposed intersection improvements required to meet acceptable level of service standards (described in detail in the following Transportation Impacts section) may be difficult to achieve due to right-of-way constraints at the intersections of Los Alamitos Boulevard at Katella Avenue and Wallingsford Road/Walnut Street at Katella Avenue.

**TABLE 4-1
GENERAL PLAN (2035) CONDITIONS INTERSECTION LOS RESULTS**

Intersection	Control	AM Peak		PM Peak	
		V/C (Delay)	LOS	V/C (Delay)	LOS
Los Alamitos Boulevard & Cerritos Avenue	Signal	0.821	D	0.835	D
Los Alamitos Boulevard & Katella Avenue	Signal	0.938	E	0.894	D
Los Alamitos Boulevard & Farquhar Avenue	Signal	0.544	A	0.515	A
Los Alamitos Boulevard & Orangewood Avenue	Signal	0.662	B	0.491	A
Los Alamitos Boulevard & Bradbury Road	Signal	0.675	B	0.593	A
Los Alamitos Boulevard & St. Cloud Drive	Signal	0.570	A	0.551	A
Bloomfield Street & Ball Road	Signal	0.809	D	0.771	C
Bloomfield Street & Cerritos Avenue	Signal	1.003	F	0.915	E
Bloomfield Street & Katella Avenue	Signal	0.885	D	0.894	D
Lexington Avenue & Katella Avenue	Signal	0.681	B	0.652	B
Walker Street & Katella Avenue	Signal	0.780	C	0.776	C
Wallingsford Road/ Walnut Street & Katella Avenue	Signal	1.012	F	0.799	C
Los Alamitos Boulevard & Rossmoor Center Way	Signal	0.483	A	0.609	B
I-605 NB & Katella Avenue ³	Signal	0.315 (2.1)	A (A)	0.672 (7.5)	B (A)

Notes:

1. V/C represents the volume to capacity ratio.
2. Intersections operating below acceptable LOS standards are noted in **bold**.
3. XX (YY) = V/C (seconds of delay). Please note that V/C is presented since this is a CMP intersection. Delay is presented since this is a Caltrans intersection and the Caltrans comment letter requested methodologies consistent with the *Highway Capacity Manual (HCM)* (Transportation Research Board, 2000).

Source: Fehr & Peers, 2013

GENERAL PLAN (2035) CONDITIONS ROADWAY SEGMENT TRAFFIC OPERATIONS

The level of service was calculated for key roadway segments in Los Alamitos's regional roadway system to evaluate General Plan traffic conditions. Daily capacity thresholds in accordance with those described in this document.

According to the City's recommended circulation policies, LOS "D" is the minimum acceptable level of congestion that should be maintained on a daily basis for any classified roadway within Los Alamitos.

Table 4-2 shows the forecasted traffic volumes, proposed general plan roadway classifications and respective level of service.

As shown in Table 4-2, all of the roadways within the City of Los Alamitos are forecasted to operate at LOS D or better, with the exception of the following roadway segments:

- Katella Avenue
 - o Between I-605 and Los Alamitos Blvd – LOS F
 - o Between Los Alamitos Blvd and Bloomfield St – LOS F
 - o Between Bloomfield St and Lexington Dr – LOS E
 - o Between Lexington Dr and Walker St – LOS E
- Cerritos Avenue
 - o Between I-605 and Los Alamitos Blvd – LOS E

The proposed roadway segment improvements required to meet acceptable level of service standards may be difficult to achieve due to right-of-way constraints along Katella Avenue.

TABLE 4-2 GENERAL PLAN (2035) CONDITIONS ROADWAY VOLUME AND LOS				
Street Name and Segment	Classification	Traffic Volume	V/C	LOS
Los Alamitos Boulevard				
Between North City Limits and Cerritos Ave	Primary	26,130	0.73	C or Better
Between Cerritos Ave and Katella Ave	Primary	30,440	0.85	D
Between Katella Ave and Farquhar Ave	Major Highway	45,770	0.85	D
Between Farquhar Ave and Orangewood Ave	Major Highway	46,090	0.85	D
Between Orangewood Ave and Bradbury Rd	Major Highway	42,240	0.78	C or Better
Between Bradbury Road and St. Cloud Dr	Major Highway	41,770	0.77	C or Better
Katella Avenue				
Between I-605 and Los Alamitos Blvd	Smart Street	74,620	1.04	F
Between Los Alamitos Blvd and Bloomfield St	Smart Street	64,730	1.08	F
Between Bloomfield St and Lexington Dr	Smart Street	59,750	0.99	E
Between Lexington Dr and Walker St	Smart Street	57,710	0.96	E
Bloomfield Street				
Between Katella Ave and Cerritos Ave	Secondary	16,710	0.70	C or Better
Between Cerritos Ave and Ball Rd	Secondary	13,680	0.57	C or Better
Cerritos Avenue				
Between I-605 and Los Alamitos Blvd	Primary	33,280	0.92	E
Between Los Alamitos Blvd and Bloomfield St	Primary	29,940	0.83	D
Between Bloomfield St and Lexington Dr	Primary	25,520	0.71	C or Better
Farquhar Avenue				
Between Los Alamitos Blvd and Bloomfield St	Local	5,530	0.40	C or Better
Between Bloomfield St and Lexington Dr	Local	3,770	0.27	C or Better
Bloomfield Street				
Between Farquhar Ave and Katella Ave	Local	2,930	0.21	C or Better
Lexington Drive				
Between Farquhar Ave and Katella Ave	Local	5,680	0.41	C or Better
Notes: 1. V/C represents the volume to capacity ratio. 2. Roadway segments operating below acceptable LOS standards are noted in bold . Source: Fehr & Peers, 2013				

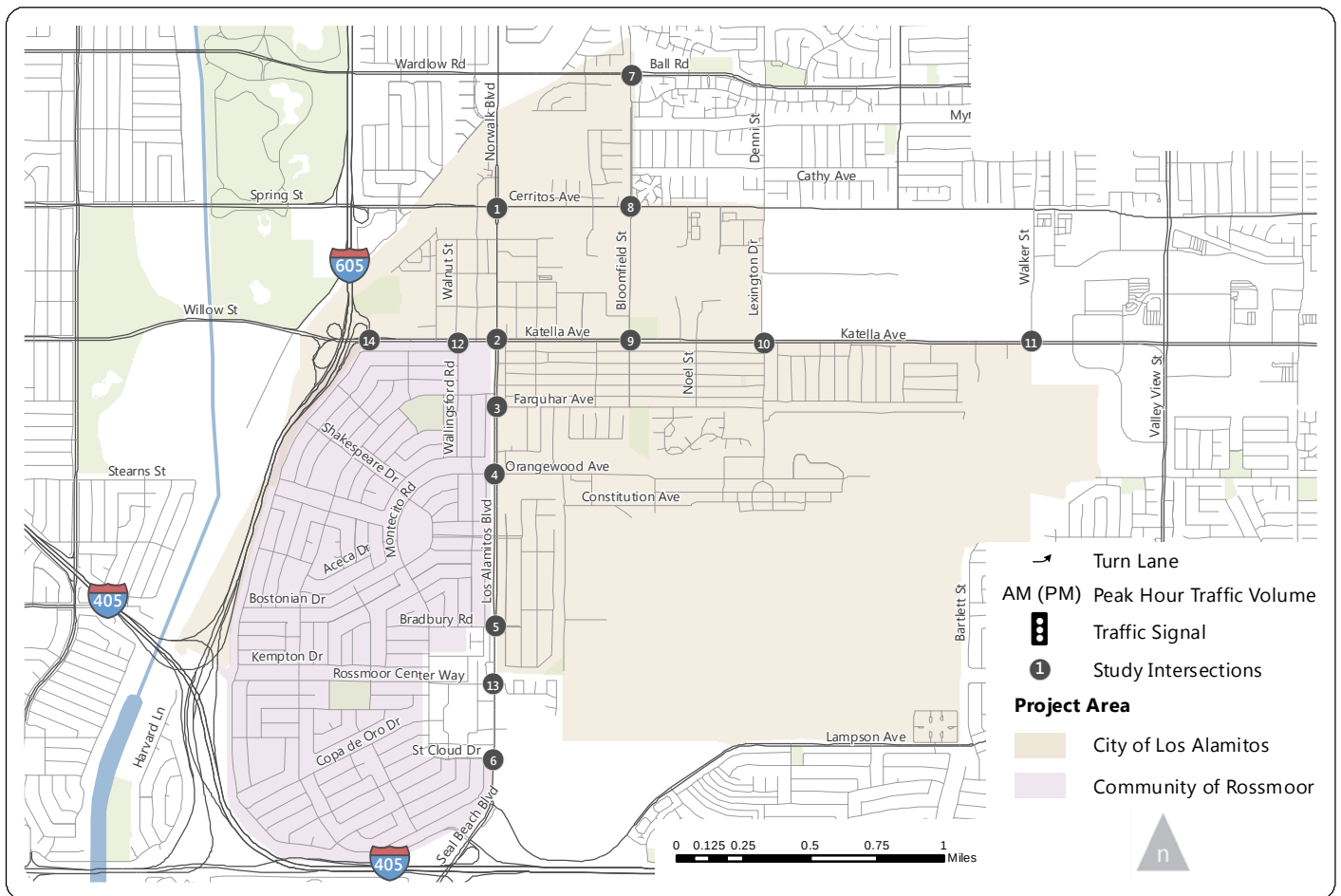
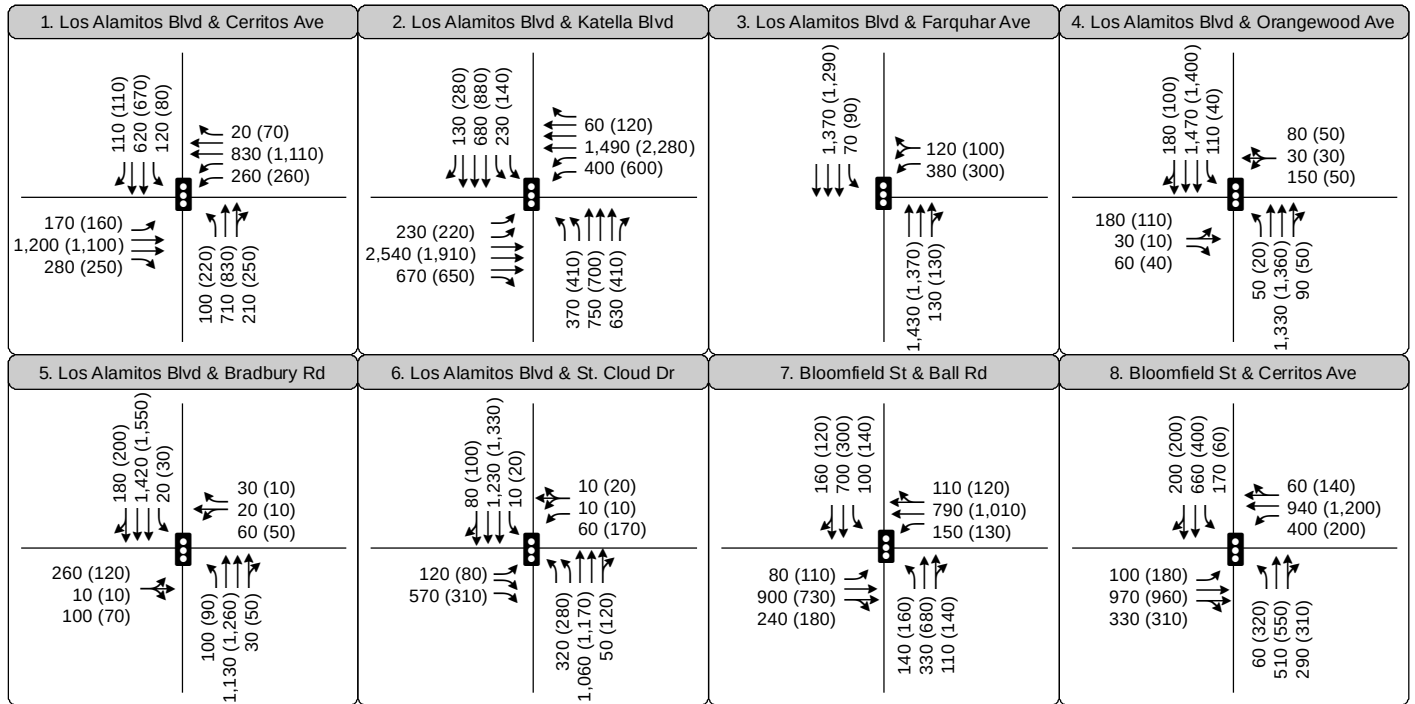


Figure 4-2

Peak Hour Traffic Volumes and Lane Configurations - Future Conditions

Document Path: W:\Roseville N Drive\2011Projects\VE_Projects\VE11-0072\Graphics\GIS\WXDF4-2_Future_phtv_NE.mxd
 Date: May, 2014

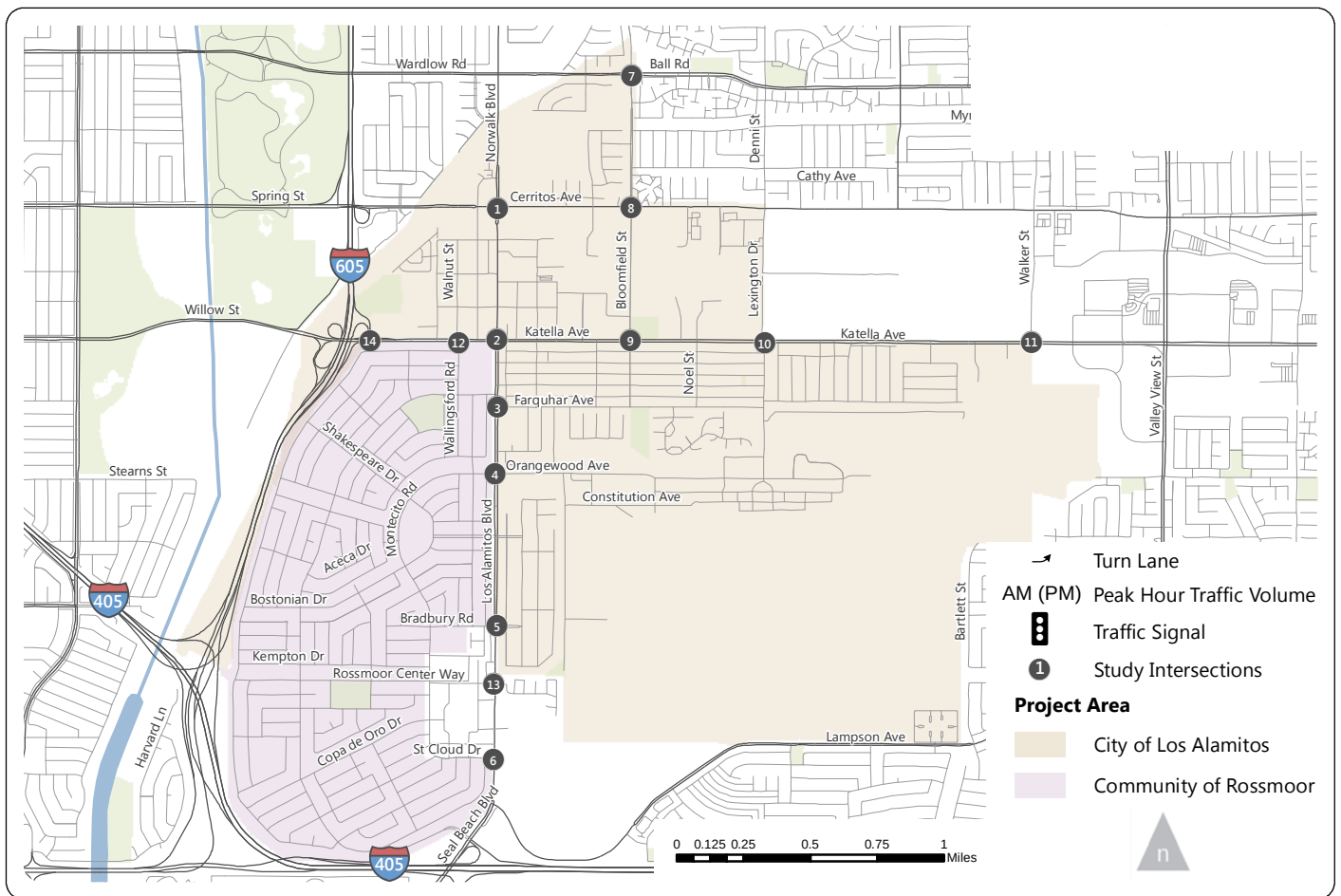
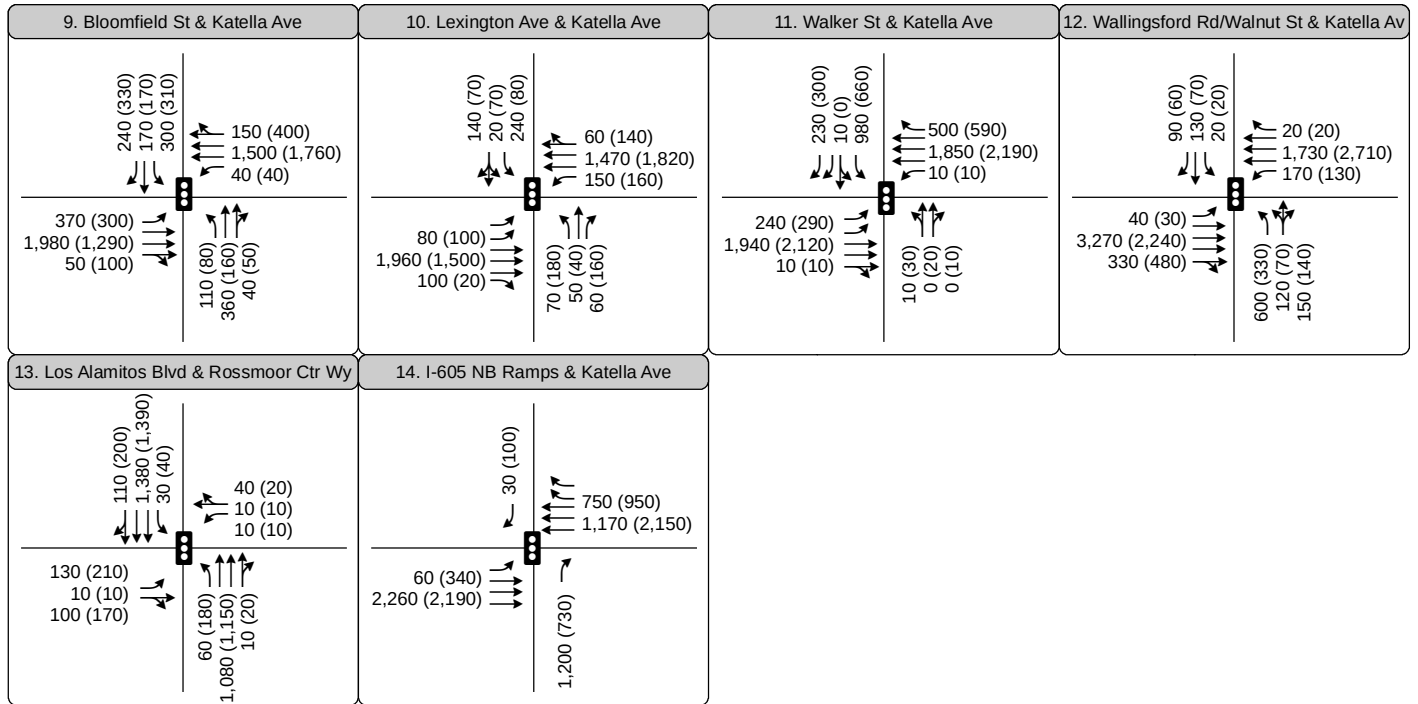


Figure 4-2
Peak Hour Traffic Volumes and Lane Configurations -
Future Conditions

TRANSPORTATION IMPACTS

This section discusses relevant General Plan Circulation Element Policies and their relation to the resulting Future Year (Post-2035) Conditions transportation impacts.

CEQA TRANSPORTATION IMPACT ANALYSIS

To determine significant impacts, the CEQA guidelines were combined with the CMP impact criteria. This information and the resulting impacts are described below.

First, the CEQA guidelines question for identifying impacts is identified. Then, the threshold of significance is defined for identifying a significant impact. Finally, an impact determination is made and mitigation is recommended, where required.

a) Does the proposed project conflict with an applicable plan, ordinance or policy?

Threshold: Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

For the purposes of this project, the following traffic components would result in a traffic impact based on Policy 5-1.2:

- Degradation from and acceptable LOS D or better at intersections and on roadway segments to an unacceptable LOS E or F.

The results of the analysis indicate that implementation of the General Plan and expected increases in regional traffic would result in a **significant impact** at the following locations due to growth identified in the General Plan and regional growth predicted in the OCTAM model:

Intersections:

- Los Alamitos Boulevard & Katella Avenue – LOS E during the AM peak hour
- Bloomfield Street & Cerritos Avenue – LOS F in the AM peak hour and LOS E in the PM peak hour
- Wallingsford Road/ Walnut Street & Katella Avenue – LOS F in the AM peak hour

Roadway Segments:

- Katella Avenue
 - o Between I-605 and Los Alamitos Blvd – LOS F
 - o Between Los Alamitos Blvd and Bloomfield St – LOS F
 - o Between Bloomfield St and Lexington Dr – LOS E
 - o Between Lexington Dr and Walker St – LOS E
- Cerritos Avenue
 - o Between I-605 and Los Alamitos Blvd – LOS E

Mitigation:

Intersections:

- Los Alamitos Boulevard & Katella Avenue – For this intersection to operate at an acceptable level, an additional eastbound through lane along Katella Avenue would be needed. Given the right-of-way constraints at this location, the improvement is considered infeasible.
- Bloomfield Street & Cerritos Avenue – For this intersection to operate at an acceptable level, an additional westbound left-turn lane and westbound right-turn lane would be required along Cerritos Avenue. Given the right-of-way constraints at this location, the improvement is considered infeasible (improvements would require additional right-of-way along the school district property frontage).
- Wallingsford Road/ Walnut Street & Katella Avenue – for this intersection to operate at an acceptable level, the northbound approach of Wallingsford Road would need to be widened and an additional eastbound through lane is required along Katella Avenue. However, given the right-of-way constraints on the northbound and eastbound approaches, these improvements are considered infeasible.

As stated above, the following mitigation measures are considered infeasible. Therefore, to mitigate these impacts, it is recommended that these intersections be “protected” (consistent with Policy 5-1.2) and that the intersections would be exempt from the City’s LOS D standard. The finding is based on the current designation and adopted policies. Once a new policy is adopted (upon certification of the EIR and adoption of the GP) future project would be able to call impacts less than significant.

Roadway Segments:

The mitigation measures required to improve the operations at any of the roadway segments would be to increase the number of through lanes throughout the segment. Given that Katella Avenue and Cerritos Avenue are built out and the required right-of-way to achieve acceptable operations is not readily

available, the mitigation measures are considered infeasible. Therefore, to mitigate the impacts at the referenced locations, it is recommended that the roadways be “protected” (consistent with Policy 5-1.2) and that the segments would be exempt from the City’s LOS D standard. This would mitigate the impact to a less-than-significant level.

b) Would the project conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

One CMP intersection is located within the City of Los Alamitos (I-605 Northbound Ramps at Katella Avenue) and is projected to operate well above the LOS threshold of LOS E in the General Plan Year (2035). As such, this impact is considered **less-than-significant**.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The General Plan does not identify any modification to existing operations at the private Army airport. As such, this impact is considered **less-than-significant**.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The plan will not increase these hazards since this is a planning document and no civil engineering designs are being proposed. All future roadways would be designed by a professional civil engineer, would be required to satisfy current roadway design requirements (national, regional, and/or local). These design plans are where any hazards would be addressed. As such, this impact is considered **less-than-significant**.

e) Would the project result in inadequate emergency access?

The General Plan is a planning document and does not inherently represent project-specific components. As such, the plans do not result in inadequate emergency access. However, any development or improvement processed under this plan should be reviewed by the City Emergency Services Departments to ensure adequate emergency access. As such, this impact is considered **less-than-significant**.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The Circulation Element policies support public transit, bicycle improvements, and improvements to the pedestrian facilities by closing gaps in the network, expanding the network, and coordinating with regional agencies. They are also consistent with regional plans, such as the OCTA Commuter Bikeways Strategic Plan. Additionally, these policies support implementation of Complete Streets, through a layered network approach, consistent with the State's Complete Streets Act. As such, they are consistent with the existing adopted policies, plans and programs regarding public transit, bicycle, or pedestrian facilities. Therefore, this impact is considered ***less-than-significant***.

APPENDIX A
EXISTING INTERSECTION AND ROADWAY SEGMENT COUNTS



EXISTING INTERSECTION COUNT SOURCE 1

LOS ALAMITOS BOULEVARD CORRIDOR TRAFFIC STUDY, JULY 2011

COUNTS TAKEN SEPTEMBER 2010



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Los Alamos Blvd

DATE: 09/21/2010

LOCATION: City of Los Alamos

E-W STREET: Cerritos Blvd

DAY: TUESDAY

PROJECT# 10-5364-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL
7:00 AM	29	126	72	10	104	44	25	170	33	60	176	24	873
7:15 AM	36	189	96	19	179	27	33	183	46	80	187	30	1105
7:30 AM	43	196	66	30	209	31	32	203	45	83	198	57	1193
7:45 AM	30	121	72	13	183	29	30	236	67	88	228	29	1126
8:00 AM	37	117	81	17	137	32	15	191	57	67	187	18	956
8:15 AM	28	100	77	12	123	20	14	184	61	76	178	11	884
8:30 AM	32	99	64	14	108	25	10	162	44	61	174	18	811
8:45 AM	35	74	54	14	124	26	13	152	62	55	151	12	772
TOTAL VOLUMES =	NL 270	NT 1022	NR 582	SL 129	ST 1167	SR 234	EL 172	ET 1481	ER 415	WL 570	WT 1479	WR 199	TOTAL 7720

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	146	623	315	79	708	119	110	813	215	318	800	134	4380
PEAK HR. FACTOR:	0.844			0.839			0.854			0.907			0.918

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Los Alamos Blvd

DATE: 09/21/2010

LOCATION: City of Los Alamos

E-W STREET: Cerritos Blvd

DAY: TUESDAY

PROJECT# 10-5364-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL
4:00 PM	40	154	75	19	127	17	29	190	54	94	167	19	985
4:15 PM	54	160	84	24	140	12	26	199	74	77	178	29	1057
4:30 PM	48	188	80	17	165	11	38	222	82	94	185	25	1155
4:45 PM	54	170	109	10	151	17	37	220	87	81	193	28	1157
5:00 PM	55	203	111	17	141	13	42	255	72	95	228	31	1263
5:15 PM	45	204	98	17	160	15	42	239	60	102	236	30	1248
5:30 PM	38	259	90	22	140	16	51	249	70	85	186	22	1228
5:45 PM	36	251	85	22	155	9	53	247	72	52	118	12	1112
TOTAL VOLUMES =	NL 370	NT 1589	NR 732	SL 148	ST 1179	SR 110	EL 318	ET 1821	ER 571	WL 680	WT 1491	WR 196	TOTAL 9205

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	192	836	408	66	592	61	172	963	289	363	843	111	4896
PEAK HR. FACTOR:	0.928			0.936			0.962			0.895			0.969

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Los Alamos Blvd

DATE: 09/21/2010

LOCATION: City of Los Alamos

E-W STREET: Katella Ave

DAY: TUESDAY

PROJECT# 10-5364-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 2	NT 3	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL
7:00 AM	95	174	75	26	149	61	33	328	40	26	394	10	1411
7:15 AM	82	239	76	31	218	51	72	430	46	49	430	17	1741
7:30 AM	92	234	82	53	236	48	58	456	70	69	450	24	1872
7:45 AM	117	220	88	55	237	36	25	487	107	93	400	23	1888
8:00 AM	115	187	117	56	178	40	55	505	91	56	302	20	1722
8:15 AM	112	166	104	50	167	50	34	466	68	69	321	19	1626
8:30 AM	80	144	108	34	117	42	49	419	59	66	287	20	1425
8:45 AM	75	102	117	44	159	47	50	384	73	57	306	24	1438
TOTAL VOLUMES =	NL 768	NT 1466	NR 767	SL 349	ST 1461	SR 375	EL 376	ET 3475	ER 554	WL 485	WT 2890	WR 157	TOTAL 13123

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	406	880	363	195	869	175	210	1878	314	267	1582	84	7223
PEAK HR. FACTOR:	0.970			0.919			0.922			0.890			0.956

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Los Alamos Blvd

DATE: 09/21/2010

LOCATION: City of Los Alamos

E-W STREET: Katella Ave

DAY: TUESDAY

PROJECT# 10-5364-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 2	NT 3	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL
4:00 PM	99	165	75	49	227	52	72	377	125	96	345	26	1708
4:15 PM	90	189	91	32	233	54	39	375	156	72	399	39	1769
4:30 PM	113	194	68	38	251	48	58	430	169	102	400	28	1899
4:45 PM	83	197	79	41	260	54	51	417	180	103	411	25	1901
5:00 PM	100	200	78	54	270	51	63	404	164	102	418	35	1939
5:15 PM	113	206	65	48	264	61	59	436	182	100	428	20	1982
5:30 PM	93	203	64	45	241	48	81	438	160	99	439	39	1950
5:45 PM	92	231	88	38	226	34	72	406	118	88	404	39	1836
TOTAL VOLUMES =	NL 783	NT 1585	NR 608	SL 345	ST 1972	SR 402	EL 495	ET 3283	ER 1254	WL 762	WT 3244	WR 251	TOTAL 14984

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	389	806	286	188	1035	214	254	1695	686	404	1696	119	7772
PEAK HR. FACTOR:	0.964			0.958			0.970			0.961			0.980

CONTROL: Signalized

EXISTING INTERSECTION COUNT SOURCE 2

LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN TIA, JUNE 2010

COUNTS TAKEN OCTOBER 2008



Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:
10/14/08
Tuesday

LOCATION: LOS ALAMITOS
NORTH & SOUTH: LOS ALAMITOS
EAST & WEST: FARQUHAR

PROJECT: CA08-1021-3
LOCATION: 006
CONTROL: SIGNAL

LANES:	NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND FARQUHAR			WESTBOUND FARQUHAR			TOTAL
	NL X	NT 3	NR 0	SL 1	ST 3	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	
AM	6:30 AM												0
	6:45 AM												0
	7:00 AM		320	28	6	203				49		15	621
	7:15 AM		335	33	12	248				38		35	701
	7:30 AM		383	42	15	295				103		54	892
	7:45 AM		434	31	22	295				120		18	920
	8:00 AM		379	28	15	275				67		20	784
	8:15 AM		301	20	10	311				83		26	751
	8:30 AM		291	32	13	279				56		16	687
	8:45 AM		281	18	8	264				44		19	634
	9:00 AM												0
	9:15 AM												0
	Volumes	0	2,724	232	101	2,170	0	0	0	560	0	203	5,990
	Approach %	0%	92%	8%	4%	96%	0%	0%	0%	73%	0%	27%	
	App/Depart	2,956	/	2,927	2,271	/	2,730	0	/	333	763	/	0
MIDDAY	Begin Peak Hr	7:30 AM											
	Volumes	0	1,497	121	62	1,176	0	0	0	373	0	118	3,347
	Approach %	0%	93%	7%	5%	95%	0%	0%	0%	76%	0%	24%	
	Peak Hr Factor	0.870			0.964			0.000			0.782		
	App/Depart	1,618	/	1,615	1,238	/	1,549	0	/	183	491	/	0
	10:00 AM												0
	10:15 AM												0
	10:30 AM												0
	10:45 AM												0
	11:00 AM												0
	11:15 AM												0
	11:30 AM												0
	11:45 AM												0
	12:00 PM												0
	12:15 PM												0
	12:30 PM												0
	12:45 PM												0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0
	Begin Peak Hr	12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor	0.000			0.000			0.000			0.000		
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0
PM	3:30 PM												0
	3:45 PM												0
	4:00 PM		314	21	13	330				44		16	738
	4:15 PM		321	22	10	335				42		33	763
	4:30 PM		312	45	29	356				82		42	866
	4:45 PM		335	34	22	331				81		23	826
	5:00 PM		396	22	16	355				61		22	872
	5:15 PM		365	23	17	305				76		13	799
	5:30 PM		354	35	15	338				38		21	801
	5:45 PM		350	23	12	292				55		16	748
	6:00 PM												0
	6:15 PM												0
	Volumes	0	2,747	225	134	2,642	0	0	0	479	0	186	6,413
	Approach %	0%	92%	8%	5%	95%	0%	0%	0%	72%	0%	28%	
	App/Depart	2,972	/	2,933	2,776	/	3,121	0	/	359	665	/	0
	Begin Peak Hr	4:30 PM											
	Volumes	0	1,408	124	84	1,347	0	0	0	300	0	100	3,363
	Approach %	0%	92%	8%	6%	94%	0%	0%	0%	75%	0%	25%	
	Peak Hr Factor	0.916			0.929			0.000			0.806		
	App/Depart	1,532	/	1,508	1,431	/	1,647	0	/	208	400	/	0
10X19-VBOWEN													
NOTE(S):													

Prepared by: Pacific Traffic Data Services

PROJECT: CA08-1021-3
LOCATION: 005
CONTROL: SIGNAL

AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	3	312	3	11	223	10	25	2	4	1	1	7	602
	7:15 AM	3	334	14	11	258	20	33	1	4	7	1	12	698
	7:30 AM	11	375	27	29	299	62	41	1	7	21	2	10	885
	7:45 AM	21	370	8	49	296	74	52	10	26	65	8	56	1,035
	8:00 AM	12	345	26	13	306	20	61	6	19	48	7	3	866
	8:15 AM	5	303	24	11	363	24	18	10	6	12	4	2	782
	8:30 AM	8	295	12	2	304	22	16	3	2	1	0	1	666
	8:45 AM	9	269	2	2	295	18	26	11	5	1	1	3	642
	9:00 AM													0
	9:15 AM													0
	Volumes	72	2,603	116	128	2,344	250	272	44	73	156	24	94	6,176
	Approach %	3%	93%	4%	5%	86%	9%	70%	11%	19%	57%	9%	34%	
App/Depart	2,791	/	2,969	2,722	/	2,573	389	/	288	274	/	346	0	
MIDDAY	Begin Peak Hr	7:30 AM												
	Volumes	49	1,393	85	102	1,264	180	172	27	58	146	21	71	3,568
	Approach %	3%	91%	6%	7%	82%	12%	67%	11%	23%	61%	9%	30%	
	Peak Hr Factor	0.924			0.922			0.730			0.461			0.862
	App/Depart	1,527	/	1,636	1,546	/	1,468	257	/	214	238	/	250	0
PM	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0	
PM	Begin Peak Hr	12:45 PM												
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor	0.000			0.000			0.000			0.000			0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	3:30 PM													0
	3:45 PM													0
	4:00 PM	6	305	12	10	326	21	26	2	6	18	8	17	757
	4:15 PM	6	327	9	13	350	17	27	1	5	6	0	6	767
	4:30 PM	3	329	6	5	410	12	20	1	6	5	1	14	812
	4:45 PM	1	340	12	10	377	20	18	1	7	4	0	2	792
	5:00 PM	4	377	11	12	395	20	31	1	12	15	13	17	908
	5:15 PM	4	336	17	11	342	27	36	6	9	4	0	6	798
5:30 PM	4	349	7	5	352	24	23	2	9	21	9	19	824	
5:45 PM	8	326	4	5	326	16	35	0	7	3	0	3	733	
6:00 PM													0	
6:15 PM													0	
Volumes	36	2,689	78	71	2,878	157	216	14	61	76	31	84	6,391	
Approach %	1%	96%	3%	2%	93%	5%	74%	5%	21%	40%	16%	44%		
App/Depart	2,803	/	2,989	3,106	/	3,015	291	/	163	191	/	224	0	
Begin Peak Hr	4:45 PM													
Volumes	13	1,402	47	38	1,466	91	108	10	37	44	22	44	3,322	
Approach %	1%	96%	3%	2%	92%	6%	70%	6%	24%	40%	20%	40%		
Peak Hr Factor	0.932			0.934			0.760			0.561			0.915	
App/Depart	1,462	/	1,554	1,595	/	1,547	155	/	95	110	/	126	0	
10F1402-PCHAPMAN		NOTE(S):												
10F1402-PCHAPMAN		G-59												

Prepared by: Pacific Traffic Data Services

PROJECT: CA08-1021-3
LOCATION: 022
CONTROL: SIGNAL

10X14-WBROWN

10X14-WBROWN

Prepared by: Pacific Traffic Data Services

PROJECT: CA08-1021-3
LOCATION: 023
CONTROL: SIGNAL

AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	26	21	14	8	57	20	12	169	28	33	184	6	578
	7:15 AM	48	48	33	19	95	22	25	154	33	41	225	15	758
	7:30 AM	50	71	51	31	166	41	20	188	65	48	247	18	996
	7:45 AM	44	55	64	26	145	44	26	190	77	66	245	10	992
	8:00 AM	51	78	48	33	178	51	22	187	78	51	277	18	1,072
	8:15 AM	38	62	52	48	142	32	31	167	66	44	231	22	935
	8:30 AM	44	48	32	32	138	28	28	152	52	44	215	12	825
	8:45 AM	35	50	44	28	155	22	16	141	45	31	198	9	774
	9:00 AM													0
	9:15 AM													0
	Volumes	336	433	338	225	1,076	260	180	1,348	444	358	1,822	110	6,930
	Approach %	30%	39%	31%	14%	69%	17%	9%	68%	23%	16%	80%	5%	
App/Depart	1,107	/	723	1,561	/	1,878	1,972	/	1,911	2,290	/	2,418	0	
Begin Peak Hr	7:30 AM													
Volumes	183	266	215	138	631	168	99	732	286	209	1,000	68	3,995	
Approach %	28%	40%	32%	15%	67%	18%	9%	66%	26%	16%	78%	5%		
Peak Hr Factor	0.938			0.894			0.953			0.923			0.932	
App/Depart	664	/	433	937	/	1,126	1,117	/	1,085	1,277	/	1,351	0	
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0	
Begin Peak Hr	12:45 PM													
Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Peak Hr Factor	0.000			0.000			0.000			0.000			0.000	
App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0	
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	19	90	39	8	59	22	29	196	37	31	202	19	751
	4:15 PM	28	71	24	11	58	20	38	212	55	33	171	15	736
	4:30 PM	45	103	53	11	69	35	38	224	64	29	268	26	965
	4:45 PM	39	104	52	14	61	37	44	259	71	36	236	26	979
	5:00 PM	57	132	36	26	54	49	41	260	78	25	284	36	1,078
	5:15 PM	47	90	29	18	51	44	40	251	68	35	250	36	959
	5:30 PM	25	92	31	12	62	28	44	235	47	26	247	26	875
	5:45 PM	23	90	42	17	50	30	34	219	53	25	185	32	800
	6:00 PM													0
	6:15 PM													0
	Volumes	283	772	306	117	464	265	308	1,856	473	240	1,843	216	7,143
	Approach %	21%	57%	22%	14%	55%	31%	12%	70%	18%	10%	80%	9%	
App/Depart	1,361	/	1,296	846	/	1,177	2,637	/	2,279	2,299	/	2,391	0	
Begin Peak Hr	4:30 PM													
Volumes	188	429	170	69	235	165	163	994	281	125	1,038	124	3,981	
Approach %	24%	55%	22%	15%	50%	35%	11%	69%	20%	10%	81%	10%		
Peak Hr Factor	0.874			0.909			0.949			0.933			0.923	
App/Depart	787	/	716	469	/	641	1,438	/	1,233	1,287	/	1,391	0	
10X1702 WBROWN		NOTE(S):												
10X1702 WBROWN		G-61												

Prepared by: Pacific Traffic Data Services

PROJECT: CA08-1021-3
LOCATION: 017
CONTROL: SIGNAL

10X2002-DBOWEN	NOTE(S):
10X1802-JGILMARTIN	

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:
10/14/08
Tuesday

LOCATION:
NORTH & SOUTH:
EAST & WEST:

LOS ALAMITOS
LEXINGTON
KATELLA

PROJECT: CA08-1021-3
LOCATION: 018
CONTROL: SIGNAL

LANES:		NORTHBOUND LEXINGTON			SOUTHBOUND LEXINGTON			EASTBOUND LEXINGTON			WESTBOUND LEXINGTON			TOTAL
		NL 1.5	NT X	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 2	ER 1	WL 1	WT 3	WR 0	
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	13	10	7	14	2	22	4	275	26	21	295	11	700
	7:15 AM	18	12	1	16	5	23	5	337	29	38	382	18	884
	7:30 AM	18	12	14	22	8	17	10	374	20	40	350	16	901
	7:45 AM	17	8	22	29	4	24	13	416	21	41	365	10	970
	8:00 AM	15	9	15	20	3	13	19	367	28	31	291	11	822
	8:15 AM	14	4	14	16	4	13	7	382	19	30	265	7	775
	8:30 AM	19	4	15	12	3	6	5	301	16	28	292	8	709
	8:45 AM	12	2	19	11	3	10	9	261	18	20	246	8	619
	9:00 AM													0
	9:15 AM													0
	Volumes	126	61	107	140	32	128	72	2,713	177	249	2,486	89	6,380
	Approach %	43%	21%	36%	47%	11%	43%	2%	92%	6%	9%	88%	3%	
App/Depart	294	/	222	300	/	458	2,962	/	2,960	2,824	/	2,740	0	
MIDDAY	Begin Peak Hr	7:15 AM												
	Volumes	68	41	52	87	20	77	47	1,494	98	150	1,388	55	3,577
	Approach %	42%	25%	32%	47%	11%	42%	3%	91%	6%	9%	87%	3%	
	Peak Hr Factor	0.856			0.807			0.911			0.909			0.922
	App/Depart	161	/	143	184	/	268	1,639	/	1,633	1,593	/	1,533	0
	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
12:15 PM													0	
12:30 PM													0	
12:45 PM													0	
Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0	
Begin Peak Hr	12:45 PM													
Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Peak Hr Factor	0.000			0.000			0.000			0.000			0.000	
App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0	
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	18	9	9	12	12	6	7	287	2	27	264	9	662
	4:15 PM	26	10	1	17	33	2	10	308	6	29	326	10	778
	4:30 PM	51	12	40	21	48	5	14	323	3	48	328	11	904
	4:45 PM	54	10	40	19	12	9	7	348	4	32	317	11	863
	5:00 PM	33	7	42	14	3	4	8	333	9	32	377	9	871
	5:15 PM	42	7	37	12	2	8	8	323	3	44	343	10	839
	5:30 PM	18	8	9	12	3	3	6	280	2	22	314	8	685
	5:45 PM	26	8	7	11	3	5	10	302	4	28	335	10	749
	6:00 PM													0
	6:15 PM													0
	Volumes	268	71	185	118	116	42	70	2,504	33	262	2,604	78	6,351
	Approach %	51%	14%	35%	43%	42%	15%	3%	96%	1%	9%	88%	3%	
App/Depart	524	/	219	276	/	411	2,607	/	2,807	2,944	/	2,914	0	
Begin Peak Hr	4:30 PM													
Volumes	180	36	159	66	65	26	37	1,327	19	156	1,365	41	3,477	
Approach %	48%	10%	42%	42%	41%	17%	3%	96%	1%	10%	87%	3%		
Peak Hr Factor	0.901			0.530			0.963			0.934			0.962	
App/Depart	375	/	114	157	/	240	1,383	/	1,552	1,562	/	1,571	0	
10X2602-XBOWEN		NOTE(S):												
10X1902-VBOWEN		C 63												

EXISTING INTERSECTION COUNT SOURCE 3
COLLECTED BY FEHR & PEERS SEPTEMBER 2012



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_005

Day: WEDNESDAY

City: City of Los Alamitos

Date: 09/05/2012

AM													
NS/EW Streets:	Los Alamitos Blvd			Los Alamitos Blvd			Bradbury Rd			Bradbury Rd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 1	TOTAL
7:00 AM	14	272	3	3	187	16	88	2	13	13	1	3	615
7:15 AM	14	335	2	1	216	32	89	2	11	19	3	7	731
7:30 AM	40	286	4	4	242	73	52	0	20	18	8	4	751
7:45 AM	33	298	4	4	346	63	61	4	30	15	4	7	869
8:00 AM	10	274	9	3	337	26	87	4	27	10	3	8	798
8:15 AM	9	321	10	2	299	17	56	1	15	14	0	4	748
8:30 AM	13	237	5	4	251	43	40	3	10	16	1	2	625
8:45 AM	3	229	7	3	225	21	32	1	14	10	1	5	551
TOTAL VOLUMES :	136	2252	44	24	2103	291	505	17	140	115	21	40	5688
APPROACH %'s :	5.59%	92.60%	1.81%	0.99%	86.97%	12.03%	76.28%	2.57%	21.15%	65.34%	11.93%	22.73%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	92	1179	27	13	1224	179	256	9	92	57	15	23	3166
PEAK HR FACTOR :	0.954			0.857			0.756			0.792			0.911

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_005

Day: WEDNESDAY

City: City of Los Alamitos

Date: 09/05/2012

PM													
NS/EW Streets:	Los Alamitos Blvd			Los Alamitos Blvd			Bradbury Rd			Bradbury Rd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 1	TOTAL
4:00 PM	20	304	3	8	363	38	47	5	12	12	2	2	816
4:15 PM	19	302	9	12	354	35	28	6	22	15	5	5	812
4:30 PM	21	310	15	6	380	55	29	3	13	12	3	3	850
4:45 PM	24	334	11	4	372	43	29	1	23	9	3	1	854
5:00 PM	18	321	13	6	451	50	30	5	14	11	2	5	926
5:15 PM	20	328	10	6	423	46	24	1	12	11	1	1	883
5:30 PM	19	320	7	7	366	43	39	6	17	11	2	4	841
5:45 PM	17	323	13	4	352	55	31	3	12	11	3	1	825
TOTAL VOLUMES :	158	2542	81	53	3061	365	257	30	125	92	21	22	6807
APPROACH %'s :	5.68%	91.41%	2.91%	1.52%	87.99%	10.49%	62.38%	7.28%	30.34%	68.15%	15.56%	16.30%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	83	1293	49	22	1626	194	112	10	62	43	9	10	3513
PEAK HR FACTOR :	0.965			0.908			0.868			0.861			0.948

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_006

Day: WEDNESDAY

City: City of Seal Beach

Date: 09/05/2012

AM													
NS/EW Streets:	Los Alamitos Blvd			Los Alamitos Blvd			St Cloud Dr			St Cloud Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 0	ER 2	WL 1.5	WT 0	WR 0.5	TOTAL
7:00 AM	44	264	6	0	198	7	24		110	11	0	0	664
7:15 AM	53	291	9	0	215	13	26		86	13	1	1	708
7:30 AM	143	301	6	0	216	20	24		123	14	0	1	848
7:45 AM	93	294	9	0	306	24	23		184	7	1	0	941
8:00 AM	39	244	12	2	315	8	39		179	16	0	0	854
8:15 AM	39	293	18	0	263	22	27		75	20	0	1	758
8:30 AM	33	253	13	1	240	14	22		101	18	2	0	697
8:45 AM	36	236	20	1	198	14	16		72	11	2	1	607
TOTAL VOLUMES :	NL 480	NT 2176	NR 93	SL 4	ST 1951	SR 122	EL 201	ET 0	ER 930	WL 110	WT 6	WR 4	TOTAL 6077
APPROACH %'s :	17.46%	79.16%	3.38%	0.19%	93.93%	5.87%	17.77%	0.00%	82.23%	91.67%	5.00%	3.33%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	314	1132	45	2	1100	74	113	0	561	57	1	2	3401
PEAK HR FACTOR :	0.828			0.891			0.773			0.714			0.904

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_006

Day: WEDNESDAY

City: City of Seal Beach

Date: 09/05/2012

PM													
NS/EW Streets:	Los Alamitos Blvd			Los Alamitos Blvd			St Cloud Dr			St Cloud Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 0	ER 2	WL 1.5	WT 0	WR 0.5	TOTAL
4:00 PM	58	262	28	4	315	25	27		73	52	0	3	847
4:15 PM	73	296	36	4	314	22	23		83	42	0	3	896
4:30 PM	78	306	26	1	324	23	21		86	38	0	0	903
4:45 PM	71	309	25	5	351	24	15		73	47	0	4	924
5:00 PM	72	317	24	4	378	25	19		82	39	0	2	962
5:15 PM	62	316	30	4	364	18	17		84	37	1	3	936
5:30 PM	72	301	34	1	338	26	21		68	45	1	4	911
5:45 PM	94	315	27	1	298	24	24		63	33	2	2	883
TOTAL VOLUMES :	NL 580	NT 2422	NR 230	SL 24	ST 2682	SR 187	EL 167	ET 0	ER 612	WL 333	WT 4	WR 21	TOTAL 7262
APPROACH %'s :	17.95%	74.94%	7.12%	0.83%	92.71%	6.46%	21.44%	0.00%	78.56%	93.02%	1.12%	5.87%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	277	1243	113	14	1431	93	72	0	307	168	2	13	3733
PEAK HR FACTOR :	0.988			0.945			0.938			0.897			0.970

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_011

Day: WEDNESDAY

City: City of Cypress

Date: 09/05/2012

AM													
NS/EW Streets:	Walker St			Walker St			Katella Ave			Katella Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0.5	NT 1	NR 0.5	SL 1.5	ST 0.5	SR 2	EL 2	ET 3	ER 0	WL 1	WT 3	WR 1	TOTAL
7:00 AM	0	0		138	0	38	42	299	0	1	371	57	946
7:15 AM	0	0		156	1	49	46	321	4	1	509	94	1181
7:30 AM	0	0		208	1	42	36	347	2	0	430	93	1159
7:45 AM	0	0		217	2	60	49	375	1	2	396	81	1183
8:00 AM	1	0		194	2	56	55	372	2	1	386	98	1167
8:15 AM	1	1		168	2	57	55	356	1	0	345	73	1059
8:30 AM	0	1		143	2	52	54	310	1	2	309	67	941
8:45 AM	1	0		113	3	52	66	266	0	0	314	77	892
TOTAL VOLUMES :	NL 3	NT 2	NR 0	SL 1337	ST 13	SR 406	EL 403	ET 2646	ER 11	WL 7	WT 3060	WR 640	TOTAL 8528
APPROACH %'s :	60.00%	40.00%	0.00%	76.14%	0.74%	23.12%	13.17%	86.47%	0.36%	0.19%	82.55%	17.26%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	1	0	0	775	6	207	186	1415	9	4	1721	366	4690
PEAK HR FACTOR :	0.250			0.885			0.938			0.865			0.991

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_011

Day: WEDNESDAY

City: City of Cypress

Date: 09/05/2012

PM													
NS/EW Streets:	Walker St			Walker St			Katella Ave			Katella Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0.5	1	0.5	1.5	0.5	2	2	3	0	1	3	1	
4:00 PM	1	1	1	135	0	50	73	382	0	0	336	92	1071
4:15 PM	5	3	1	131	0	53	58	365	0	0	329	114	1059
4:30 PM	9	4	2	178	0	52	64	442	2	1	370	118	1242
4:45 PM	5	3	1	152	0	53	51	404	0	3	348	90	1110
5:00 PM	9	8	1	137	0	55	73	531	1	0	470	162	1447
5:15 PM	4	3	0	143	0	52	63	467	0	1	420	131	1284
5:30 PM	3	3	0	146	1	60	59	376	1	0	397	114	1160
5:45 PM	2	1	0	130	0	51	63	402	0	2	377	98	1126
TOTAL VOLUMES :	NL 38	NT 26	NR 6	SL 1152	ST 1	SR 426	EL 504	ET 3369	ER 4	WL 7	WT 3047	WR 919	TOTAL 9499
APPROACH %'s :	54.29%	37.14%	8.57%	72.96%	0.06%	26.98%	13.00%	86.90%	0.10%	0.18%	76.69%	23.13%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	27	18	4	610	0	212	251	1844	3	5	1608	501	5083
PEAK HR FACTOR :	0.681			0.893			0.867			0.836			0.878

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_012

Day: WEDNESDAY

City: City of Rossmoor

Date: 09/05/2012

AM

NS/EW Streets:		Wallingsford Rd/Walnut St			Wallingsford Rd/Walnut St			Katella Ave			Katella Ave			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		1.3	0.3	0.3	1	1	1	1	4	0	1	3	1	
	7:00 AM	121	17	41	1	4	7	5	440	39	16	518	2	1211
	7:15 AM	144	51	42	3	31	8	9	479	104	41	443	2	1357
	7:30 AM	156	22	33	2	55	11	3	500	152	68	478	5	1485
	7:45 AM	169	40	38	5	35	14	8	537	84	53	475	5	1463
	8:00 AM	168	27	50	5	17	23	11	650	46	19	565	1	1582
	8:15 AM	101	23	28	6	21	37	10	608	42	21	523	8	1428
	8:30 AM	96	11	34	1	13	26	5	555	45	19	420	5	1230
	8:45 AM	57	7	24	1	5	5	7	587	41	17	394	3	1148
TOTAL VOLUMES :		NL 1012	NT 198	NR 290	SL 24	ST 181	SR 131	EL 58	ET 4356	ER 553	WL 254	WT 3816	WR 31	TOTAL 10904
APPROACH %'s :		67.47%	13.20%	19.33%	7.14%	53.87%	38.99%	1.17%	87.70%	11.13%	6.19%	93.05%	0.76%	
PEAK HR START TIME :		730 AM												TOTAL
PEAK HR VOL :		594	112	149	18	128	85	32	2295	324	161	2041	19	5958
PEAK HR FACTOR :		0.865			0.849			0.937			0.949			0.942

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_012

Day: WEDNESDAY

City: City of Rossmoor

Date: 09/05/2012

PM													
NS/EW Streets:	Wallingsford Rd/Walnut St			Wallingsford Rd/Walnut St			Katella Ave			Katella Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1.3	NT 0.3	NR 0.3	SL 1	ST 1	SR 1	EL 1	ET 4	ER 0	WL 1	WT 3	WR 1	TOTAL
4:00 PM	83	17	43	0	14	7	4	537	120	35	508	4	1372
4:15 PM	56	15	42	0	7	12	10	538	114	34	479	5	1312
4:30 PM	74	16	38	3	18	14	9	552	117	28	492	5	1366
4:45 PM	69	21	44	4	22	11	6	601	124	34	484	8	1428
5:00 PM	88	11	32	5	15	18	6	584	132	31	531	5	1458
5:15 PM	74	16	30	1	13	18	8	523	118	22	524	3	1350
5:30 PM	91	15	29	2	18	5	3	562	106	38	538	2	1409
5:45 PM	72	16	34	1	17	5	8	575	149	29	457	3	1366
TOTAL VOLUMES :	NL 607	NT 127	NR 292	SL 16	ST 124	SR 90	EL 54	ET 4472	ER 980	WL 251	WT 4013	WR 35	TOTAL 11061
APPROACH %'s :	59.16%	12.38%	28.46%	6.96%	53.91%	39.13%	0.98%	81.22%	17.80%	5.84%	93.35%	0.81%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	322	63	135	12	68	52	23	2270	480	125	2077	18	5645
PEAK HR FACTOR :	0.963			0.868			0.948			0.960			0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_013

Day: WEDNESDAY

City: City of Seal Beach

Date: 09/05/2012

AM

NS/EW Streets:		Los Alamitos Blvd			Los Alamitos Blvd			Rossmoor Center Way			Rossmoor Center Way			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 1	ER 0	WL 0	WT 2	WR 0	TOTAL
7:00 AM		13	278	3	1	201	10	12	0	16	4	0	6	544
7:15 AM		7	314	1	2	231	10	29	0	16	2	3	13	628
7:30 AM		22	304	0	5	261	20	30	1	15	1	3	10	672
7:45 AM		13	300	1	9	345	32	24	2	31	1	6	7	771
8:00 AM		11	245	3	5	346	22	38	1	29	5	1	5	711
8:15 AM		13	304	3	5	277	34	30	0	20	1	0	10	697
8:30 AM		17	239	2	6	261	22	15	1	22	0	1	6	592
8:45 AM		23	226	1	3	214	28	18	1	20	4	0	2	540
TOTAL VOLUMES :		119	2210	14	36	2136	178	196	6	169	18	14	59	5155
APPROACH %'s :		5.08%	94.32%	0.60%	1.53%	90.89%	7.57%	52.83%	1.62%	45.55%	19.78%	15.38%	64.84%	
PEAK HR START TIME :		730 AM												TOTAL
PEAK HR VOL :		59	1153	7	24	1229	108	122	4	95	8	10	32	2851
PEAK HR FACTOR :		0.935			0.881			0.813			0.893			0.924

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_1168_013

Day: WEDNESDAY

City: City of Seal Beach

Date: 09/05/2012

PM

NS/EW Streets:		Los Alamitos Blvd			Los Alamitos Blvd			Rossmoor Center Way			Rossmoor Center Way			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 1	ER 0	WL 0	WT 2	WR 0	TOTAL
4:00 PM		37	279	3	10	313	47	53	1	42	4	1	4	794
4:15 PM		35	287	1	9	344	56	50	2	29	0	0	6	819
4:30 PM		38	283	3	11	329	51	74	1	36	3	1	3	833
4:45 PM		41	296	5	7	374	45	57	0	29	1	0	6	861
5:00 PM		41	320	3	7	394	51	33	0	43	1	0	2	895
5:15 PM		38	304	5	11	402	52	67	0	45	5	2	5	936
5:30 PM		51	309	5	6	334	49	51	1	49	2	0	3	860
5:45 PM		31	313	1	6	302	66	46	1	34	2	1	5	808
TOTAL VOLUMES :		NL 312	NT 2391	NR 26	SL 67	ST 2792	SR 417	EL 431	ET 6	ER 307	WL 18	WT 5	WR 34	TOTAL 6806
APPROACH %'s :		11.43%	87.61%	0.95%	2.05%	85.23%	12.73%	57.93%	0.81%	41.26%	31.58%	8.77%	59.65%	
PEAK HR START TIME :		445 PM												TOTAL
PEAK HR VOL :		171	1229	18	31	1504	197	208	1	166	9	2	16	3552
PEAK HR FACTOR :		0.971			0.931			0.837			0.563			0.949

CONTROL : Signalized

EXISTING INTERSECTION COUNT SOURCE 4

**ORANGE COUNTY TRANSPORTATION AUTHORITY CONGESTION MANAGEMENT
PROGRAM, 2013**

COUNTS TAKEN MARCH 2013



Intersection Turning Movement

Prepared by: Southland Car Counters

Intersection #: 159
3-Day Average

N-S STREET: I-605 NB Ramps

DATE:

LOCATION: City of Los Alamitos

E-W STREET: Katella Ave

DAY:

PROJECT# 13-1019-073

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
LANES:	NL	NT	NR	S/Leg Peds	SL	ST	SR	N/leg Peds	EL	ET	ER	W/Leg Peds	WL	WT	WR	E/Leg Peds	TOTAL
6:00 AM	0	0	71	0	0	0	2	0	3	125	0	0	0	162	133	0	496
6:15 AM	0	0	91	0	0	0	8	0	5	189	0	0	0	188	147	0	628
6:30 AM	0	0	122	0	0	0	10	0	8	241	0	0	0	232	180	0	793
6:45 AM	0	0	192	0	0	0	11	0	11	390	0	0	0	224	181	0	1009
7:00 AM	0	0	189	0	0	0	9	0	15	337	0	0	0	284	221	0	1055
7:15 AM	0	0	265	0	0	0	10	0	19	443	0	0	0	289	189	0	1215
7:30 AM	0	0	304	0	0	0	4	0	12	392	0	0	0	380	196	0	1288
7:45 AM	0	0	305	0	0	0	9	0	11	311	0	0	0	366	195	0	1197
8:00 AM	0	0	237	0	0	0	6	0	13	351	0	0	0	354	215	0	1176
8:15 AM	0	0	274	0	0	0	16	0	11	318	0	0	0	347	204	0	1170
8:30 AM	0	0	261	0	0	0	22	0	17	315	0	0	0	358	171	0	1144
8:45 AM	0	0	243	0	0	0	11	0	20	308	0	0	0	299	162	0	1043
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

TOTAL	NL	NT	NR	PEDS	SL	ST	SR	PEDS	EL	ET	ER	PEDS	WL	WT	WR	PEDS	TOTAL
VOLUMES =	0	0	2554		0	0	118		145	3720	0		0	3483	2194		12214
				0				0				0				0	

AM Peak Hr Begins at: 715 AM

PEAK	NL	NT	NR	PEDS	SL	ST	SR	PEDS	EL	ET	ER	PEDS	WL	WT	WR	PEDS	TOTAL
VOLUMES =	0	0	1111		0	0	29		55	1497	0		0	1389	795		4876
PEAK HR. FACTOR:	0.000	0.000	0.911		0.000	0.000	0.725		0.724	0.845	0.000		0.000	0.914	0.924		0.946
			0.911				0.725				0.840				0.948		

CONTROL: 0

Intersection Turning Movement

Prepared by: Southland Car Counters

Intersection #: 159
3-Day Average

N-S STREET: I-605 NB Ramps

DATE:

LOCATION: City of Los Alamitos

E-W STREET: Katella Ave

DAY:

PROJECT# 13-1019-073

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
LANES:	NL	NT	NR	S/Leg Peds	SL	ST	SR	N/leg Peds	EL	ET	ER	W/Leg Peds	WL	WT	WR	E/Leg Peds	TOTAL
3:00 PM	0	0	219	0	0	0	24	0	36	364	0	0	0	295	216	0	1154
3:15 PM	0	0	226	0	0	0	24	0	43	388	0	0	0	307	226	0	1214
3:30 PM	0	0	208	0	0	0	18	0	78	451	0	0	0	311	243	0	1309
3:45 PM	0	0	227	0	0	0	20	0	57	456	0	0	0	308	234	0	1302
4:00 PM	0	0	212	0	0	0	17	0	49	490	0	0	0	329	222	0	1319
4:15 PM	0	0	179	0	0	0	19	0	61	524	0	0	0	332	252	0	1367
4:30 PM	0	0	178	0	0	0	20	0	67	569	0	0	0	327	245	0	1406
4:45 PM	0	0	189	0	0	0	25	0	80	563	0	0	0	336	227	0	1420
5:00 PM	0	0	173	1	0	0	18	0	91	518	0	0	0	360	245	0	1405
5:15 PM	0	0	187	0	0	0	29	0	93	556	0	0	0	415	217	0	1497
5:30 PM	0	0	186	0	0	0	20	0	74	552	0	0	0	391	241	0	1464
5:45 PM	0	0	180	0	0	0	24	0	72	553	0	0	0	345	220	0	1394
6:00 PM	0	0	144	0	0	0	29	0	57	467	0	0	0	289	195	0	1181
6:15 PM	0	0	170	0	0	0	15	0	46	449	0	0	0	288	167	0	1135
6:30 PM	0	0	156	0	0	0	21	0	45	398	0	0	0	268	173	0	1061
6:45 PM	0	0	188	0	0	0	18	0	42	340	0	0	0	253	146	0	987
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

TOTAL	NL	NT	NR	PEDS	SL	ST	SR	PEDS	EL	ET	ER	PEDS	WL	WT	WR	PEDS	TOTAL
VOLUMES =	0	0	3022		0	0	341		991	7638	0		0	5154	3469		20615
				1				0				0				0	

AM Peak Hr Begins at: 415 PM

PEAK																	
VOLUMES =	0	0	735		0	0	92		338	2189	0		0	1502	930		5786
PEAK HR. FACTOR:	0.000	0.000	0.972		0.000	0.000	0.793		0.909	0.972	0.000		0.000	0.905	0.891		0.966
			0.972				0.793				0.973				0.962		

CONTROL: 0

EXISTING ROADWAY COUNT SOURCE 1

LOS ALAMITOS BOULEVARD CORRIDOR TRAFFIC STUDY, JULY 2011

COUNTS TAKEN APRIL 2011



Prepared by NDS/ATD

Volumes for: Tuesday, April 19, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd N/o Cerritos Ave						Project: 11-5131-001		NB	SB	EB	WB							
								12,896	11,112	0	0	24,008						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	23		28				12:00	217		163								
00:15	17		8				12:15	195		172								
00:30	13		3				12:30	200		193								
00:45	20	73	10	49		122	12:45	158	770	189	717		1487					
01:00	12		4				13:00	188		150								
01:15	14		5				13:15	226		159								
01:30	9		3				13:30	250		197								
01:45	3	38	4	16		54	13:45	182	846	166	672		1518					
02:00	3		0				14:00	210		197								
02:15	3		3				14:15	253		185								
02:30	6		5				14:30	276		192								
02:45	4	16	6	14		30	14:45	249	988	228	802		1790					
03:00	6		1				15:00	288		183								
03:15	5		6				15:15	280		177								
03:30	4		13				15:30	276		164								
03:45	4	19	6	26		45	15:45	255	1099	169	693		1792					
04:00	4		14				16:00	271		176								
04:15	16		18				16:15	250		214								
04:30	9		20				16:30	276		181								
04:45	10	39	40	92		131	16:45	279	1076	180	751		1827					
05:00	11		39				17:00	340		157								
05:15	14		58				17:15	298		200								
05:30	21		67				17:30	276		194								
05:45	23	69	97	261		330	17:45	295	1209	188	739		1948					
06:00	45		99				18:00	305		160								
06:15	52		90				18:15	264		175								
06:30	69		140				18:30	238		150								
06:45	106	272	143	472		744	18:45	202	1009	172	657		1666					
07:00	89		182				19:00	202		161								
07:15	199		258				19:15	202		159								
07:30	374		426				19:30	175		107								
07:45	221	883	315	1181		2064	19:45	165	744	114	541		1285					
08:00	159		202				20:00	141		94								
08:15	145		194				20:15	152		72								
08:30	122		145				20:30	129		69								
08:45	131	557	248	789		1346	20:45	102	524	59	294		818					
09:00	114		234				21:00	100		73								
09:15	130		169				21:15	99		60								
09:30	162		153				21:30	83		48								
09:45	149	555	166	722		1277	21:45	100	382	58	239		621					
10:00	127		127				22:00	83		41								
10:15	137		126				22:15	44		34								
10:30	170		152				22:30	48		38								
10:45	139	573	154	559		1132	22:45	50	225	29	142		367					
11:00	190		165				23:00	27		20								
11:15	190		156				23:15	41		18								
11:30	198		143				23:30	33		9								
11:45	220	798	164	628		1426	23:45	31	132	9	56		188					
Total Vol.													3892	4809	8701	9004	6303	15307
Daily Totals :								NB	SB	EB	WB	Total						
								12,896	11,112	0	0	24,008						
AM						PM												
Split %	44.7%	55.3%	36.2 %			58.8%	41.2%	63.8 %										
AM						PM												
Peak Hr.	07:15	07:15	07:15	Peak Hr.			17:00	14:00	17:00									
Volume	953	1201	2154	Volume			1209	802	1948									
P.H.F.	0.637	0.705	0.673	P.H.F.			0.889	0.879	0.978									
7 - 9 Vol.	1440	1970	3410	4 - 6 Vol.			2285	1490	3775									
Peak Hr.	07:15	07:15	07:15	Peak Hr.			17:00	16:00	17:00									
Volume	953	1201	2154	Volume			1209	751	1948									
P.H.F.	0.637	0.705	0.673	P.H.F.			0.889	0.877	0.978									

Prepared by NDS/ATD

Volumes for: Wednesday, April 20, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd N/o Cerritos Ave						Project: 11-5131-001		NB	SB	EB	WB	Total						
								13,061	11,429	0	0	24,490						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	14		25				12:00	196		161								
00:15	16		9				12:15	170		163								
00:30	22		9				12:30	199		188								
00:45	8	60	4	47		107	12:45	156	721	172	684		1405					
01:00	12		6				13:00	186		161								
01:15	12		3				13:15	190		178								
01:30	13		4				13:30	246		171								
01:45	11	48	7	20		68	13:45	241	863	157	667		1530					
02:00	10		1				14:00	191		184								
02:15	6		3				14:15	252		183								
02:30	12		2				14:30	284		241								
02:45	5	33	9	15		48	14:45	246	973	228	836		1809					
03:00	3		4				15:00	282		194								
03:15	1		8				15:15	294		157								
03:30	3		8				15:30	251		151								
03:45	3	10	13	33		43	15:45	278	1105	186	688		1793					
04:00	8		8				16:00	251		183								
04:15	6		24				16:15	250		209								
04:30	9		21				16:30	310		188								
04:45	9	32	28	81		113	16:45	330	1141	214	794		1935					
05:00	10		42				17:00	426		189								
05:15	21		64				17:15	351		193								
05:30	22		75				17:30	352		224								
05:45	26	79	94	275		354	17:45	343	1472	203	809		2281					
06:00	46		94				18:00	267		177								
06:15	42		112				18:15	296		156								
06:30	44		114				18:30	261		152								
06:45	65	197	146	466		663	18:45	234	1058	152	637		1695					
07:00	88		192				19:00	197		157								
07:15	213		258				19:15	194		139								
07:30	359		454				19:30	168		140								
07:45	207	867	324	1228		2095	19:45	169	728	115	551		1279					
08:00	142		199				20:00	134		98								
08:15	130		219				20:15	139		94								
08:30	111		166				20:30	147		74								
08:45	137	520	153	737		1257	20:45	126	546	74	340		886					
09:00	104		172				21:00	85		64								
09:15	116		129				21:15	108		73								
09:30	141		144				21:30	95		51								
09:45	164	525	182	627		1152	21:45	73	361	56	244		605					
10:00	151		144				22:00	78		54								
10:15	160		190				22:15	60		34								
10:30	140		191				22:30	59		39								
10:45	176	627	181	706		1333	22:45	44	241	17	144		385					
11:00	158		186				23:00	44		36								
11:15	163		158				23:15	41		21								
11:30	183		171				23:30	36		25								
11:45	194	698	188	703		1401	23:45	35	156	15	97		253					
Total Vol.													3696	4938	8634	9365	6491	15856
								NB	SB	EB	WB	Total						
Daily Totals :								13,061	11,429	0	0	24,490						
AM				PM														
Split %	42.8%		57.2%		35.3 %		59.1%		40.9%		64.7 %							
AM							PM											
Peak Hr.	07:15		07:15		07:15		Peak Hr.	17:00		14:15		17:00						
Volume	921		1235		2156		Volume	1472		846		2281						
P.H.F.	0.641		0.680		0.663		P.H.F.	0.864		0.878		0.927						
7 - 9 Vol.	1387		1965		3352		4 - 6 Vol.	2613		1603		4216						
Peak Hr.	07:15		07:15		07:15		Peak Hr.	17:00		16:45		17:00						
Volume	921		1235		2156		Volume	1472		820		2281						
P.H.F.	0.641		0.680		0.663		P.H.F.	0.864		0.915		0.927						

Volumes for: Thursday, April 21, 2011				City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd N/o Cerritos Ave				Project: 11-5131-001		NB	SB	EB	WB	
						12,911	11,722	0	0	24,633

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	29		36						12:00	213		205					
00:15	20		12						12:15	209		141					
00:30	15		13						12:30	190		184					
00:45	14	78	8	69					12:45	193	805	186	716				
01:00	11		6						13:00	220		159					
01:15	11		4						13:15	199		191					
01:30	5		4						13:30	200		181					
01:45	13	40	2	16					13:45	249	868	189	720				
02:00	6		6						14:00	229		191					
02:15	13		4						14:15	243		175					
02:30	5		2						14:30	273		205					
02:45	7	31	10	22					14:45	247	992	211	782				
03:00	7		7						15:00	305		201					
03:15	6		6						15:15	261		203					
03:30	6		10						15:30	250		163					
03:45	5	24	10	33					15:45	285	1101	197	764				
04:00	4		11						16:00	310		198					
04:15	6		18						16:15	300		189					
04:30	9		34						16:30	306		203					
04:45	11	30	23	86					16:45	281	1197	217	807				
05:00	17		37						17:00	355		200					
05:15	25		58						17:15	306		219					
05:30	22		76						17:30	308		232					
05:45	22	86	76	247					17:45	302	1271	220	871				
06:00	39		84						18:00	325		216					
06:15	36		95						18:15	280		210					
06:30	53		141						18:30	246		192					
06:45	65	193	155	475					18:45	221	1072	172	790				
07:00	84		159						19:00	231		162					
07:15	196		282						19:15	156		124					
07:30	386		468						19:30	164		159					
07:45	165	831	292	1201					19:45	109	660	121	566				
08:00	162		188						20:00	157		120					
08:15	127		186						20:15	167		114					
08:30	106		178						20:30	129		81					
08:45	110	505	185	737					20:45	115	568	97	412				
09:00	109		155						21:00	108		89					
09:15	100		185						21:15	125		71					
09:30	126		141						21:30	101		78					
09:45	139	474	153	634					21:45	83	417	58	296				
10:00	126		121						22:00	100		54					
10:15	141		141						22:15	51		51					
10:30	124		152						22:30	65		35					
10:45	165	556	147	561					22:45	47	263	27	167				
11:00	169		144						23:00	52		21					
11:15	164		167						23:15	37		21					
11:30	185		192						23:30	32		15					
11:45	173	691	170	673					23:45	37	158	20	77				

Total Vol.	3539	4754	8293	9372	6968	16340		
Daily Totals :				NB	SB	EB	WB	Total
				12,911	11,722	0	0	24,633
AM				PM				
Split %	42.7%	57.3%	33.7 %	57.4%	42.6%	66.3 %		
AM			PM					
Peak Hr.	07:15	07:15	07:15	Peak Hr.	17:00	17:15	17:00	
Volume	909	1230	2139	Volume	1271	887	2142	
P.H.F.	0.589	0.657	0.626	P.H.F.	0.895	0.956	0.965	
7 - 9 Vol.	1336	1938	3274	4 - 6 Vol.	2468	1678	4146	
Peak Hr.	07:15	07:15	07:15	Peak Hr.	17:00	17:00	17:00	
Volume	909	1230	2139	Volume	1271	871	2142	
P.H.F.	0.589	0.657	0.626	P.H.F.	0.895	0.939	0.965	

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Volumes for: Friday, April 22, 2011				City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd N/o Cerritos Ave				Project: 11-5131-001		NB	SB	EB	WB	
						13,040	11,896	0	0	24,936

AM Period	NB	SB	EB	WB		PM Period	NB	SB	EB	WB	
00:00	17	21				12:00	231	192			
00:15	13	9				12:15	209	185			
00:30	15	8				12:30	239	197			
00:45	12	57	8	46	103	12:45	234	913	189	763	1676
01:00	15	3				13:00	215	182			
01:15	11	4				13:15	225	196			
01:30	12	7				13:30	247	224			
01:45	4	42	6	20	62	13:45	278	965	227	829	1794
02:00	16	6				14:00	246	210			
02:15	5	6				14:15	277	216			
02:30	11	4				14:30	315	279			
02:45	6	38	6	22	60	14:45	272	1110	293	998	2108
03:00	10	5				15:00	324	221			
03:15	3	9				15:15	298	189			
03:30	6	16				15:30	333	169			
03:45	2	21	13	43	64	15:45	264	1219	225	804	2023
04:00	7	17				16:00	299	156			
04:15	7	23				16:15	280	204			
04:30	19	20				16:30	280	227			
04:45	7	40	34	94	134	16:45	278	1137	192	779	1916
05:00	12	38				17:00	350	186			
05:15	16	42				17:15	307	199			
05:30	20	85				17:30	303	179			
05:45	22	70	69	234	304	17:45	266	1226	243	807	2033
06:00	23	81				18:00	288	183			
06:15	37	69				18:15	246	192			
06:30	46	112				18:30	197	149			
06:45	70	176	157	419	595	18:45	140	871	136	660	1531
07:00	72	160				19:00	138	131			
07:15	183	256				19:15	187	112			
07:30	408	417				19:30	148	116			
07:45	159	822	284	1117	1939	19:45	135	608	132	491	1099
08:00	118	195				20:00	148	124			
08:15	136	187				20:15	125	96			
08:30	117	149				20:30	116	106			
08:45	114	485	183	714	1199	20:45	101	490	86	412	902
09:00	111	162				21:00	121	62			
09:15	122	148				21:15	92	70			
09:30	130	146				21:30	100	66			
09:45	138	501	176	632	1133	21:45	75	388	63	261	649
10:00	146	166				22:00	77	59			
10:15	127	163				22:15	65	54			
10:30	159	178				22:30	68	50			
10:45	198	630	172	679	1309	22:45	66	276	53	216	492
11:00	155	161				23:00	56	44			
11:15	188	173				23:15	67	38			
11:30	215	182				23:30	43	33			
11:45	191	749	200	716	1465	23:45	40	206	25	140	346

Total Vol.	3631	4736	8367	9409	7160	16569		
Daily Totals :				NB	SB	EB	WB	Total
				13,040	11,896	0	0	24,936
AM				PM				
Split %	43.4%	56.6%	33.6 %	56.8%	43.2%	66.4 %		
AM			PM					
Peak Hr.	11:45	07:15	07:15	Peak Hr.	16:45	14:15	14:15	
Volume	870	1152	2020	Volume	1238	1009	2197	
P.H.F.	0.910	0.691	0.612	P.H.F.	0.884	0.861	0.925	
7 - 9 Vol.	1307	1831	3138	4 - 6 Vol.	2363	1586	3949	
Peak Hr.	07:15	07:15	07:15	Peak Hr.	16:45	16:15	17:00	
Volume	868	1152	2020	Volume	1238	809	2033	
P.H.F.	0.532	0.691	0.612	P.H.F.	0.884	0.891	0.948	

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Volumes for: Saturday, April 23, 2011						City: Los Alamitos		Daily Totals				Total	
Location: Los Alamitos Blvd N/o Cerritos Ave						Project: 11-5131-001		NB	SB	EB	WB		
								10,800	10,383	0	0	21,183	
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB
00:00	30		16				12:00	253		230			
00:15	21		11				12:15	256		228			
00:30	18		11				12:30	213		193			
00:45	24	93	13	51		144	12:45	230	952	231	882		1834
01:00	14		20				13:00	229		203			
01:15	16		10				13:15	232		207			
01:30	13		14				13:30	241		194			
01:45	16	59	13	57		116	13:45	207	909	217	821		1730
02:00	13		26				14:00	188		186			
02:15	10		7				14:15	245		171			
02:30	4		9				14:30	213		190			
02:45	6	33	8	50		83	14:45	192	838	177	724		1562
03:00	7		2				15:00	208		173			
03:15	3		5				15:15	217		184			
03:30	4		10				15:30	225		154			
03:45	3	17	9	26		43	15:45	186	836	146	657		1493
04:00	6		13				16:00	265		155			
04:15	8		11				16:15	171		150			
04:30	2		13				16:30	208		152			
04:45	4	20	18	55		75	16:45	209	853	178	635		1488
05:00	11		20				17:00	201		179			
05:15	4		30				17:15	187		217			
05:30	22		43				17:30	189		163			
05:45	28	65	59	152		217	17:45	169	746	182	741		1487
06:00	33		37				18:00	185		137			
06:15	27		51				18:15	173		127			
06:30	36		54				18:30	165		150			
06:45	35	131	65	207		338	18:45	156	679	126	540		1219
07:00	41		61				19:00	151		108			
07:15	32		82				19:15	147		124			
07:30	57		92				19:30	134		100			
07:45	59	189	113	348		537	19:45	152	584	180	512		1096
08:00	66		107				20:00	142		122			
08:15	71		130				20:15	118		115			
08:30	88		141				20:30	111		96			
08:45	108	333	141	519		852	20:45	99	470	91	424		894
09:00	148		160				21:00	95		76			
09:15	116		148				21:15	98		80			
09:30	173		137				21:30	106		57			
09:45	145	582	183	628		1210	21:45	81	380	59	272		652
10:00	178		195				22:00	71		64			
10:15	193		183				22:15	61		49			
10:30	167		173				22:30	64		31			
10:45	172	710	239	790		1500	22:45	66	262	64	208		470
11:00	187		235				23:00	74		49			
11:15	205		263				23:15	56		40			
11:30	252		227				23:30	46		22			
11:45	195	839	216	941		1780	23:45	44	220	32	143		363
Total Vol.													14288
								NB	SB	EB	WB	Total	
Daily Totals :								10,800	10,383	0	0	21,183	
AM				PM									
Split %	44.5%	55.5%	32.5 %			54.1%	45.9%	67.5 %					
AM						PM							
Peak Hr.	11:30	10:45	11:30			Peak Hr.	12:00	12:00	12:00				
Volume	956	964	1857			Volume	952	882	1834				
P.H.F.	0.934	0.916	0.959			P.H.F.	0.930	0.955	0.947				
7 - 9 Vol.	522	867	1389			4 - 6 Vol.	1599	1376	2975				
Peak Hr.	08:00	08:00	08:00			Peak Hr.	16:00	17:00	16:30				
Volume	333	519	852			Volume	853	741	1531				
P.H.F.	0.771	0.920	0.855			P.H.F.	0.805	0.854	0.947				

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Volumes for: Sunday, April 24, 2011					City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd N/o Cerritos Ave					Project: 11-5131-001		NB	SB	EB	WB	
							7,295	6,902	0	0	14,197
AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB		
00:00	23	19			12:00	121	170				
00:15	30	24			12:15	149	129				
00:30	22	18			12:30	172	152				
00:45	15	90	13	74	12:45	183	625	122	573	1198	
01:00	16	14			13:00	215	122				
01:15	25	13			13:15	206	147				
01:30	17	18			13:30	185	133				
01:45	17	75	5	50	13:45	184	790	122	524	1314	
02:00	18	16			14:00	150	140				
02:15	13	7			14:15	117	105				
02:30	6	8			14:30	149	102				
02:45	9	46	2	33	14:45	192	608	128	475	1083	
03:00	5	14			15:00	152	85				
03:15	6	5			15:15	136	103				
03:30	5	10			15:30	124	109				
03:45	1	17	5	34	15:45	124	536	101	398	934	
04:00	8	11			16:00	146	108				
04:15	7	9			16:15	154	118				
04:30	5	6			16:30	109	131				
04:45	6	26	13	39	16:45	105	514	100	457	971	
05:00	7	13			17:00	124	90				
05:15	1	23			17:15	109	113				
05:30	9	32			17:30	110	124				
05:45	11	28	38	106	17:45	121	464	99	426	890	
06:00	34	31			18:00	136	92				
06:15	21	24			18:15	116	99				
06:30	16	31			18:30	105	101				
06:45	26	97	39	125	18:45	107	464	108	400	864	
07:00	45	44			19:00	97	94				
07:15	22	46			19:15	89	104				
07:30	33	65			19:30	99	85				
07:45	60	160	56	211	19:45	88	373	112	395	768	
08:00	50	81			20:00	82	117				
08:15	40	76			20:15	86	72				
08:30	51	83			20:30	82	78				
08:45	70	211	83	323	20:45	72	322	61	328	650	
09:00	95	75			21:00	48	50				
09:15	106	127			21:15	50	41				
09:30	88	113			21:30	57	71				
09:45	108	397	125	440	21:45	59	214	61	223	437	
10:00	102	100			22:00	48	59				
10:15	103	121			22:15	52	42				
10:30	99	102			22:30	31	30				
10:45	111	415	110	433	22:45	26	157	38	169	326	
11:00	114	116			23:00	28	26				
11:15	136	154			23:15	32	10				
11:30	160	179			23:30	14	11				
11:45	167	577	161	610	23:45	15	89	9	56	145	
Total Vol.	2139	2478			4617		5156	4424			9580
Daily Totals :							NB	SB	EB	WB	Total
							7,295	6,902	0	0	14,197
AM				PM							
Split %	46.3%	53.7%		32.5 %			53.8%	46.2%			67.5 %
AM				PM							
Peak Hr.	11:45	11:15		11:15	Peak Hr.	13:00	12:00				12:30
Volume	609	664		1248	Volume	790	573				1319
P.H.F.	0.885	0.927		0.920	P.H.F.	0.919	0.843				0.934
7 - 9 Vol.	371	534		905	4 - 6 Vol.	978	883				1861
Peak Hr.	08:00	08:00		08:00	Peak Hr.	16:00	16:00				16:00
Volume	211	323		534	Volume	514	457				971
P.H.F.	0.754	0.973		0.873	P.H.F.	0.834	0.872				0.892

Prepared by NDS/ATD

Volumes for: Monday, April 25, 2011				City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd N/o Cerritos Ave				Project: 11-5131-001		NB	SB	EB	WB	
						11,037	9,466	0	0	20,503

AM Period	NB	SB	EB	WB		PM Period	NB	SB	EB	WB	
00:00	12	25				12:00	207	167			
00:15	14	6				12:15	166	135			
00:30	10	7				12:30	204	164			
00:45	8	44	6	44	88	12:45	203	780	176	642	1422
01:00	14	7				13:00	205	152			
01:15	3	2				13:15	197	168			
01:30	4	2				13:30	191	140			
01:45	6	27	7	18	45	13:45	188	781	176	636	1417
02:00	4	1				14:00	223	137			
02:15	3	3				14:15	187	142			
02:30	8	5				14:30	169	125			
02:45	5	20	5	14	34	14:45	184	763	155	559	1322
03:00	1	0				15:00	207	150			
03:15	3	6				15:15	216	155			
03:30	4	10				15:30	256	177			
03:45	0	8	12	28	36	15:45	221	900	161	643	1543
04:00	4	10				16:00	289	160			
04:15	8	29				16:15	273	158			
04:30	7	22				16:30	267	170			
04:45	11	30	30	91	121	16:45	329	1158	148	636	1794
05:00	9	43				17:00	353	166			
05:15	15	50				17:15	306	145			
05:30	20	88				17:30	321	181			
05:45	17	61	89	270	331	17:45	314	1294	161	653	1947
06:00	30	82				18:00	283	153			
06:15	32	85				18:15	210	123			
06:30	31	108				18:30	205	126			
06:45	63	156	148	423	579	18:45	183	881	141	543	1424
07:00	47	124				19:00	147	131			
07:15	73	116				19:15	148	117			
07:30	69	169				19:30	132	125			
07:45	71	260	179	588	848	19:45	127	554	76	449	1003
08:00	94	158				20:00	111	78			
08:15	85	140				20:15	106	73			
08:30	108	157				20:30	98	68			
08:45	99	386	203	658	1044	20:45	98	413	69	288	701
09:00	117	141				21:00	97	64			
09:15	128	175				21:15	77	56			
09:30	137	133				21:30	66	46			
09:45	137	519	187	636	1155	21:45	66	306	41	207	513
10:00	136	135				22:00	67	47			
10:15	151	153				22:15	53	38			
10:30	155	171				22:30	33	20			
10:45	161	603	156	615	1218	22:45	46	199	22	127	326
11:00	159	131				23:00	44	20			
11:15	196	155				23:15	29	26			
11:30	196	151				23:30	33	17			
11:45	210	761	176	613	1374	23:45	27	133	22	85	218

Total Vol.	2875	3998	6873	8162	5468	13630		
Daily Totals :				NB	SB	EB	WB	Total
				11,037	9,466	0	0	20,503
AM				PM				
Split %	41.8%	58.2%	33.5 %	59.9%	40.1%	66.5 %		
AM			PM					
Peak Hr.	11:15	08:30	11:15	Peak Hr.	16:45	12:30	16:45	
Volume	809	676	1458	Volume	1309	660	1949	
P.H.F.	0.963	0.833	0.944	P.H.F.	0.927	0.938	0.939	
7 - 9 Vol.	646	1246	1892	4 - 6 Vol.	2452	1289	3741	
Peak Hr.	08:00	08:00	08:00	Peak Hr.	16:45	17:00	16:45	
Volume	386	658	1044	Volume	1309	653	1949	
P.H.F.	0.894	0.810	0.864	P.H.F.	0.927	0.902	0.939	

Volumes for: Tuesday, April 19, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave						Project: 11-5131-002		NB	SB	EB	WB	Total						
								15,025	15,412	0	0	30,437						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	16		27				12:00	228		238								
00:15	21		12				12:15	243		226								
00:30	10		9				12:30	229		252								
00:45	18	65	8	56		121	12:45	203	903	244	960		1863					
01:00	7		4				13:00	236		240								
01:15	14		14				13:15	297		220								
01:30	7		2				13:30	290		291								
01:45	6	34	5	25		59	13:45	215	1038	309	1060		2098					
02:00	6		3				14:00	244		276								
02:15	1		5				14:15	310		262								
02:30	5		7				14:30	354		280								
02:45	6	18	2	17		35	14:45	304	1212	316	1134		2346					
03:00	8		3				15:00	333		295								
03:15	6		5				15:15	303		285								
03:30	5		11				15:30	342		258								
03:45	6	25	11	30		55	15:45	339	1317	269	1107		2424					
04:00	4		14				16:00	290		262								
04:15	12		19				16:15	282		281								
04:30	17		33				16:30	275		268								
04:45	11	44	41	107		151	16:45	302	1149	272	1083		2232					
05:00	15		38				17:00	321		250								
05:15	28		83				17:15	298		317								
05:30	28		111				17:30	310		280								
05:45	39	110	120	352		462	17:45	300	1229	243	1090		2319					
06:00	62		112				18:00	302		272								
06:15	68		135				18:15	273		251								
06:30	124		173				18:30	264		239								
06:45	156	410	214	634		1044	18:45	218	1057	241	1003		2060					
07:00	177		180				19:00	221		193								
07:15	332		274				19:15	206		200								
07:30	364		321				19:30	179		169								
07:45	197	1070	372	1147		2217	19:45	171	777	164	726		1503					
08:00	212		261				20:00	155		147								
08:15	194		277				20:15	157		94								
08:30	187		291				20:30	115		88								
08:45	196	789	337	1166		1955	20:45	114	541	85	414		955					
09:00	182		293				21:00	105		98								
09:15	188		250				21:15	82		88								
09:30	191		215				21:30	104		70								
09:45	199	760	206	964		1724	21:45	99	390	85	341		731					
10:00	185		195				22:00	76		48								
10:15	176		195				22:15	57		47								
10:30	206		209				22:30	61		48								
10:45	202	769	201	800		1569	22:45	49	243	35	178		421					
11:00	233		229				23:00	31		29								
11:15	225		229				23:15	48		26								
11:30	248		221				23:30	41		20								
11:45	226	932	251	930		1862	23:45	23	143	13	88		231					
Total Vol.													5026	6228	11254	9999	9184	19183
								NB	SB	EB	WB	Total						
Daily Totals :								15,025	15,412	0	0	30,437						
AM						PM												
Split %	44.7%	55.3%	37.0 %			52.1%	47.9%	63.0 %										
AM						PM												
Peak Hr.	07:15	07:30	07:15	07:15	Peak Hr.	15:00	14:30	14:30	14:30									
Volume	1105	1231	2333	2333	Volume	1317	1176	1176	2470									
P.H.F.	0.759	0.827	0.851	0.851	P.H.F.	0.963	0.930	0.930	0.974									
7 - 9 Vol.	1859	2313	4172	4172	4 - 6 Vol.	2378	2173	2173	4551									
Peak Hr.	07:15	07:30	07:15	07:15	Peak Hr.	16:45	16:45	16:45	16:45									
Volume	1105	1231	2333	2333	Volume	1231	1119	1119	2350									
P.H.F.	0.759	0.827	0.851	0.851	P.H.F.	0.959	0.882	0.882	0.955									

Prepared by NDS/ATD

Volumes for: Wednesday, April 20, 2011					City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave					Project: 11-5131-002		NB	SB	EB	WB	
AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB		
00:00	17	22			12:00	260	240				
00:15	19	11			12:15	228	232				
00:30	14	13			12:30	231	268				
00:45	10	60	6	52	12:45	221	940	262	1002		1942
01:00	10	14			13:00	263	236				
01:15	14	5			13:15	280	242				
01:30	9	8			13:30	316	296				
01:45	14	47	8	35	13:45	312	1171	280	1054		2225
02:00	9	7			14:00	244	226				
02:15	7	1			14:15	293	245				
02:30	14	10			14:30	331	285				
02:45	6	36	7	25	14:45	310	1178	350	1106		2284
03:00	2	9			15:00	340	269				
03:15	4	12			15:15	339	265				
03:30	7	14			15:30	296	268				
03:45	8	21	12	47	15:45	296	1271	290	1092		2363
04:00	9	12			16:00	296	288				
04:15	13	25			16:15	279	306				
04:30	10	33			16:30	313	287				
04:45	17	49	36	106	16:45	315	1203	342	1223		2426
05:00	20	50			17:00	340	300				
05:15	27	90			17:15	334	348				
05:30	35	118			17:30	314	300				
05:45	47	129	132	390	17:45	319	1307	328	1276		2583
06:00	55	114			18:00	285	285				
06:15	76	151			18:15	274	232				
06:30	114	152			18:30	291	228				
06:45	123	368	218	635	18:45	256	1106	256	1001		2107
07:00	195	182			19:00	238	219				
07:15	380	282			19:15	235	180				
07:30	381	312			19:30	202	185				
07:45	180	1136	363	1139	19:45	204	879	143	727		1606
08:00	224	268			20:00	163	135				
08:15	217	269			20:15	153	129				
08:30	180	233			20:30	139	100				
08:45	205	826	219	989	20:45	125	580	118	482		1062
09:00	169	209			21:00	99	121				
09:15	163	204			21:15	126	98				
09:30	186	190			21:30	94	73				
09:45	222	740	235	838	21:45	88	407	68	360		767
10:00	195	204			22:00	83	66				
10:15	203	230			22:15	68	40				
10:30	165	246			22:30	67	53				
10:45	228	791	243	923	22:45	44	262	31	190		452
11:00	207	247			23:00	47	28				
11:15	207	235			23:15	46	29				
11:30	251	234			23:30	43	23				
11:45	244	909	252	968	23:45	38	174	12	92		266
Total Vol.	5112	6147			11259		10478	9605			20083
Daily Totals :							NB	SB	EB	WB	Total
							15,590	15,752	0	0	31,342
AM							PM				
Split %	45.4%	54.6%			35.9 %		52.2%	47.8%			64.1 %
AM					PM						
Peak Hr.	07:15	07:15			Peak Hr.	14:30	16:45				16:45
Volume	1165	1225			Volume	1320	1290				2593
P.H.F.	0.764	0.844			P.H.F.	0.971	0.927				0.951
7 - 9 Vol.	1962	2128			4 - 6 Vol.	2510	2499				5009
Peak Hr.	07:15	07:15			Peak Hr.	17:00	16:45				16:45
Volume	1165	1225			Volume	1307	1290				2593
P.H.F.	0.764	0.844			P.H.F.	0.961	0.927				0.951

Volumes for: Thursday, April 21, 2011							City: Los Alamitos		Daily Totals				Total	
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave							Project: 11-5131-002		NB	SB	EB	WB		
									15,841	16,052	0	0	31,893	
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB	
00:00	25		30				12:00	270		243				
00:15	24		15				12:15	278		230				
00:30	16		15				12:30	266		256				
00:45	13	78	12	72		150	12:45	232	1046	268	997		2043	
01:00	10		7				13:00	230		243				
01:15	14		4				13:15	278		248				
01:30	7		4				13:30	282		258				
01:45	13	44	2	17		61	13:45	275	1065	309	1058		2123	
02:00	4		5				14:00	289		275				
02:15	15		7				14:15	310		264				
02:30	4		6				14:30	373		317				
02:45	9	32	5	23		55	14:45	303	1275	319	1175		2450	
03:00	9		8				15:00	346		272				
03:15	6		7				15:15	299		329				
03:30	8		6				15:30	274		300				
03:45	7	30	14	35		65	15:45	342	1261	307	1208		2469	
04:00	6		10				16:00	314		338				
04:15	9		22				16:15	313		304				
04:30	20		35				16:30	303		300				
04:45	15	50	22	89		139	16:45	328	1258	336	1278		2536	
05:00	25		36				17:00	316		310				
05:15	25		78				17:15	317		317				
05:30	26		110				17:30	300		340				
05:45	43	119	100	324		443	17:45	332	1265	345	1312		2577	
06:00	58		120				18:00	371		305				
06:15	76		115				18:15	306		314				
06:30	131		180				18:30	271		270				
06:45	118	383	230	645		1028	18:45	265	1213	223	1112		2325	
07:00	201		162				19:00	229		214				
07:15	320		284				19:15	203		194				
07:30	346		313				19:30	215		201				
07:45	188	1055	358	1117		2172	19:45	176	823	151	760		1583	
08:00	207		241				20:00	199		165				
08:15	197		242				20:15	181		144				
08:30	173		233				20:30	163		107				
08:45	170	747	239	955		1702	20:45	153	696	120	536		1232	
09:00	159		190				21:00	127		129				
09:15	170		215				21:15	139		127				
09:30	179		231				21:30	111		94				
09:45	194	702	233	869		1571	21:45	91	468	65	415		883	
10:00	211		188				22:00	110		71				
10:15	205		190				22:15	72		68				
10:30	194		220				22:30	73		47				
10:45	217	827	200	798		1625	22:45	42	297	34	220		517	
11:00	224		201				23:00	63		36				
11:15	238		237				23:15	53		31				
11:30	222		237				23:30	34		15				
11:45	227	911	255	930		1841	23:45	46	196	25	107		303	
Total Vol.														21041
								NB	SB	EB	WB	Total		
Daily Totals :								15,841	16,052	0	0	31,893		
AM								PM						
Split %	45.9%		54.1%		34.0 %			51.6%		48.4%		66.0 %		
AM					PM									
Peak Hr.	07:15		07:15		07:15		Peak Hr.		14:15		17:00		17:15	
Volume	1061		1196		2257		Volume		1332		1312		2627	
P.H.F.	0.767		0.835		0.856		P.H.F.		0.893		0.951		0.970	
7 - 9 Vol.	1802		2072		3874		4 - 6 Vol.		2523		2590		5113	
Peak Hr.	07:15		07:15		07:15		Peak Hr.		17:00		17:00		17:00	
Volume	1061		1196		2257		Volume		1265		1312		2577	
P.H.F.	0.767		0.835		0.856		P.H.F.		0.953		0.951		0.952	

Volumes for: Friday, April 22, 2011							City: Los Alamitos		Daily Totals				Total	
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave							Project: 11-5131-002		NB	SB	EB	WB		
									15,996	16,132	0	0	32,128	
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB	
00:00	19		22				12:00	281		289				
00:15	18		16				12:15	278		276				
00:30	21		13				12:30	313		280				
00:45	11	69	14	65		134	12:45	288	1160	278	1123		2283	
01:00	13		7				13:00	311		261				
01:15	11		6				13:15	281		236				
01:30	12		5				13:30	300		322				
01:45	6	42	6	24		66	13:45	316	1208	350	1169		2377	
02:00	14		10				14:00	264		285				
02:15	13		12				14:15	321		243				
02:30	17		4				14:30	349		356				
02:45	9	53	6	32		85	14:45	313	1247	370	1254		2501	
03:00	10		11				15:00	352		349				
03:15	6		14				15:15	312		290				
03:30	6		17				15:30	327		281				
03:45	2	24	14	56		80	15:45	300	1291	305	1225		2516	
04:00	5		22				16:00	301		268				
04:15	9		25				16:15	261		291				
04:30	23		22				16:30	317		280				
04:45	17	54	37	106		160	16:45	308	1187	277	1116		2303	
05:00	15		39				17:00	353		289				
05:15	27		58				17:15	323		308				
05:30	22		93				17:30	274		268				
05:45	37	101	113	303		404	17:45	282	1232	249	1114		2346	
06:00	46		95				18:00	316		275				
06:15	58		116				18:15	251		247				
06:30	116		171				18:30	238		221				
06:45	117	337	219	601		938	18:45	201	1006	190	933		1939	
07:00	181		191				19:00	193		179				
07:15	343		256				19:15	221		154				
07:30	383		333				19:30	181		169				
07:45	196	1103	367	1147		2250	19:45	177	772	186	688		1460	
08:00	213		277				20:00	198		159				
08:15	179		267				20:15	147		121				
08:30	187		210				20:30	142		130				
08:45	190	769	250	1004		1773	20:45	136	623	91	501		1124	
09:00	181		211				21:00	129		89				
09:15	181		204				21:15	112		106				
09:30	200		206				21:30	126		88				
09:45	216	778	238	859		1637	21:45	95	462	78	361		823	
10:00	216		233				22:00	101		86				
10:15	182		230				22:15	82		70				
10:30	228		231				22:30	84		64				
10:45	257	883	272	966		1849	22:45	69	336	56	276		612	
11:00	235		271				23:00	63		50				
11:15	252		238				23:15	80		52				
11:30	251		273				23:30	45		29				
11:45	285	1023	263	1045		2068	23:45	48	236	33	164		400	
Total Vol.														20684
								NB	SB	EB	WB	Total		
Daily Totals :								15,996	16,132	0	0	32,128		
AM				PM										
Split %	45.8%	54.2%	35.6 %		52.0%		48.0%	64.4 %						
AM					PM									
Peak Hr.	11:45	07:30	07:15		Peak Hr.	14:15	14:30	14:30						
Volume	1157	1244	2368		Volume	1335	1365	2691						
P.H.F.	0.924	0.847	0.827		P.H.F.	0.948	0.922	0.954						
7 - 9 Vol.	1872	2151	4023		4 - 6 Vol.	2419	2230	4649						
Peak Hr.	07:15	07:30	07:15		Peak Hr.	16:30	16:30	16:30						
Volume	1135	1244	2368		Volume	1301	1154	2455						
P.H.F.	0.741	0.847	0.827		P.H.F.	0.921	0.937	0.956						

Prepared by NDS/ATD

Volumes for: Saturday, April 23, 2011						City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave						Project: 11-5131-002		NB	SB	EB	WB	Total
								13,237	13,237	0	0	
AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00	37	15			12:00	293	267					
00:15	27	16			12:15	278	259					
00:30	26	15			12:30	277	257					
00:45	24	114	16	62	12:45	272	1120	273	1056	2176		
01:00	15	20			13:00	277	250					
01:15	17	14			13:15	254	259					
01:30	13	17			13:30	301	244					
01:45	17	62	12	63	13:45	254	1086	240	993	2079		
02:00	16	23			14:00	245	255					
02:15	13	13			14:15	273	245					
02:30	10	9			14:30	259	236					
02:45	5	44	11	56	14:45	215	992	246	982	1974		
03:00	8	7			15:00	237	223					
03:15	4	7			15:15	246	253					
03:30	7	10			15:30	258	212					
03:45	5	24	11	35	15:45	266	1007	228	916	1923		
04:00	10	14			16:00	253	241					
04:15	11	17			16:15	234	197					
04:30	6	16			16:30	267	200					
04:45	8	35	22	69	16:45	234	988	252	890	1878		
05:00	4	25			17:00	223	209					
05:15	6	36			17:15	215	227					
05:30	14	40			17:30	210	214					
05:45	21	45	57	158	17:45	212	860	200	850	1710		
06:00	53	40			18:00	228	186					
06:15	39	56			18:15	218	222					
06:30	39	74			18:30	200	175					
06:45	56	187	93	263	18:45	178	824	178	761	1585		
07:00	57	81			19:00	182	158					
07:15	67	108			19:15	173	167					
07:30	76	125			19:30	152	141					
07:45	120	320	147	461	19:45	178	685	200	666	1351		
08:00	99	135			20:00	163	151					
08:15	104	147			20:15	138	127					
08:30	127	173			20:30	121	120					
08:45	150	480	175	630	20:45	99	521	116	514	1035		
09:00	167	196			21:00	122	141					
09:15	200	232			21:15	122	96					
09:30	195	188			21:30	128	72					
09:45	225	787	241	857	21:45	110	482	73	382	864		
10:00	216	255			22:00	84	69					
10:15	242	257			22:15	81	68					
10:30	224	217			22:30	74	42					
10:45	235	917	270	999	22:45	85	324	81	260	584		
11:00	240	284			23:00	78	55					
11:15	274	296			23:15	77	44					
11:30	276	291			23:30	61	32					
11:45	273	1063	286	1157	23:45	54	270	26	157	427		
Total Vol.												
		4078	4810		8888		9159	8427			17586	
						NB	SB	EB	WB	Total		
Daily Totals :						13,237	13,237	0	0	26,474		
AM						PM						
Split %	45.9%	54.1%		33.6 %		52.1%	47.9%			66.4 %		
AM					PM							
Peak Hr.	11:45	11:00		11:15	Peak Hr.	12:00	12:00			12:00		
Volume	1121	1157		2256	Volume	1120	1056			2176		
P.H.F.	0.956	0.977		0.989	P.H.F.	0.956	0.967			0.971		
7 - 9 Vol.	800	1091		1891	4 - 6 Vol.	1848	1740			3588		
Peak Hr.	08:00	08:00		08:00	Peak Hr.	16:00	16:45			16:00		
Volume	480	630		1110	Volume	988	902			1878		
P.H.F.	0.800	0.900		0.854	P.H.F.	0.925	0.895			0.950		

Prepared by NDS/ATD

Volumes for: Sunday, April 24, 2011						City: Los Alamitos		Daily Totals				Total									
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave						Project: 11-5131-002		NB	SB	EB	WB	Total									
								8,151	8,281	0	0	16,432									
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB								
00:00	27		19				12:00	154		188											
00:15	31		29				12:15	166		165											
00:30	29		19				12:30	168		176											
00:45	20	107	16	83		190	12:45	189	677	187	716		1393								
01:00	23		8				13:00	224		183											
01:15	30		15				13:15	217		193											
01:30	19		20				13:30	174		160											
01:45	21	93	7	50		143	13:45	182	797	149	685		1482								
02:00	22		13				14:00	180		173											
02:15	12		5				14:15	144		133											
02:30	7		9				14:30	151		133											
02:45	10	51	5	32		83	14:45	181	656	158	597		1253								
03:00	5		7				15:00	160		108											
03:15	5		6				15:15	147		143											
03:30	7		4				15:30	121		142											
03:45	3	20	11	28		48	15:45	123	551	132	525		1076								
04:00	9		14				16:00	135		124											
04:15	10		11				16:15	130		122											
04:30	4		5				16:30	112		142											
04:45	7	30	15	45		75	16:45	116	493	126	514		1007								
05:00	8		19				17:00	111		118											
05:15	6		17				17:15	123		124											
05:30	9		34				17:30	108		131											
05:45	16	39	39	109		148	17:45	128	470	113	486		956								
06:00	38		32				18:00	115		104											
06:15	23		36				18:15	102		109											
06:30	26		45				18:30	123		111											
06:45	39	126	46	159		285	18:45	112	452	120	444		896								
07:00	43		49				19:00	103		115											
07:15	36		55				19:15	107		108											
07:30	51		86				19:30	113		95											
07:45	73	203	95	285		488	19:45	98	421	119	437		858								
08:00	58		77				20:00	122		127											
08:15	62		72				20:15	103		90											
08:30	85		93				20:30	100		86											
08:45	101	306	83	325		631	20:45	73	398	75	378		776								
09:00	99		102				21:00	64		63											
09:15	138		130				21:15	60		56											
09:30	121		120				21:30	52		83											
09:45	154	512	153	505		1017	21:45	64	240	70	272		512								
10:00	140		121				22:00	55		63											
10:15	141		156				22:15	52		47											
10:30	133		145				22:30	38		39											
10:45	132	546	158	580		1126	22:45	40	185	42	191		376								
11:00	149		151				23:00	27		29											
11:15	163		171				23:15	33		14											
11:30	183		208				23:30	15		18											
11:45	187	682	231	761		1443	23:45	21	96	13	74		170								
Total Vol.													2715	2962		5677		5436	5319		10755
								NB	SB	EB	WB	Total									
Daily Totals :								8,151	8,281	0	0	16,432									
AM				PM																	
Split %	47.8%	52.2%	34.5 %				50.5%	49.5%	65.5 %												
AM					PM																
Peak Hr.	11:30	11:15	11:15				Peak Hr.	12:45	12:30	12:30											
Volume	690	798	1485				Volume	804	739	1537											
P.H.F.	0.922	0.864	0.888				P.H.F.	0.897	0.957	0.937											
7 - 9 Vol.	509	610	1119				4 - 6 Vol.	963	1000	1963											
Peak Hr.	08:00	07:45	08:00				Peak Hr.	16:00	16:00	16:00											
Volume	306	337	631				Volume	493	514	1007											
P.H.F.	0.757	0.887	0.857				P.H.F.	0.913	0.905	0.972											

Prepared by NDS/ATD

Volumes for: Monday, April 25, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd btwn Cerritos Ave & Katella Ave						Project: 11-5131-002		NB	SB	EB	WB	Total						
								12,586	12,174	0	0	24,760						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	17		26				12:00	238		208								
00:15	20		12				12:15	223		175								
00:30	11		8				12:30	275		201								
00:45	11	59	7	53		112	12:45	203	939	214	798		1737					
01:00	14		4				13:00	227		210								
01:15	3		5				13:15	198		219								
01:30	6		2				13:30	208		181								
01:45	6	29	5	16		45	13:45	219	852	214	824		1676					
02:00	5		2				14:00	234		176								
02:15	6		5				14:15	204		192								
02:30	7		6				14:30	209		166								
02:45	7	25	2	15		40	14:45	230	877	203	737		1614					
03:00	2		3				15:00	237		195								
03:15	4		5				15:15	225		199								
03:30	7		13				15:30	270		224								
03:45	5	18	16	37		55	15:45	250	982	204	822		1804					
04:00	4		14				16:00	289		196								
04:15	8		39				16:15	284		206								
04:30	14		33				16:30	244		214								
04:45	23	49	40	126		175	16:45	313	1130	187	803		1933					
05:00	12		53				17:00	287		219								
05:15	20		71				17:15	276		194								
05:30	36		108				17:30	274		225								
05:45	33	101	116	348		449	17:45	253	1090	213	851		1941					
06:00	42		109				18:00	247		194								
06:15	56		119				18:15	229		167								
06:30	63		138				18:30	209		161								
06:45	87	248	185	551		799	18:45	211	896	180	702		1598					
07:00	94		163				19:00	174		169								
07:15	108		155				19:15	170		148								
07:30	111		214				19:30	151		155								
07:45	113	426	220	752		1178	19:45	149	644	108	580		1224					
08:00	137		206				20:00	134		106								
08:15	118		180				20:15	114		98								
08:30	153		194				20:30	122		86								
08:45	176	584	247	827		1411	20:45	120	490	96	386		876					
09:00	173		186				21:00	103		90								
09:15	181		211				21:15	96		82								
09:30	181		172				21:30	93		68								
09:45	184	719	225	794		1513	21:45	74	366	70	310		676					
10:00	183		167				22:00	81		67								
10:15	190		190				22:15	67		50								
10:30	189		210				22:30	50		43								
10:45	208	770	196	763		1533	22:45	54	252	37	197		449					
11:00	191		163				23:00	55		30								
11:15	228		199				23:15	45		36								
11:30	238		192				23:30	23		21								
11:45	225	882	214	768		1650	23:45	35	158	27	114		272					
Total Vol.													3910	5050	8960	8676	7124	15800
								NB	SB	EB	WB	Total						
Daily Totals :								12,586	12,174	0	0	24,760						
AM						PM												
Split %	43.6%		56.4%		36.2 %		54.9%		45.1%		63.8 %							
AM					PM													
Peak Hr.	11:45		08:30		11:45		Peak Hr.		16:45		17:00		16:45					
Volume	961		838		1759		Volume		1150		851		1975					
P.H.F.	0.874		0.848		0.924		P.H.F.		0.919		0.946		0.976					
7 - 9 Vol.	1010		1579		2589		4 - 6 Vol.		2220		1654		3874					
Peak Hr.	08:00		08:00		08:00		Peak Hr.		16:45		17:00		16:45					
Volume	584		827		1411		Volume		1150		851		1975					
P.H.F.	0.830		0.837		0.834		P.H.F.		0.919		0.946		0.976					

Prepared by NDS/ATD

Volumes for: Tuesday, April 19, 2011						City: Los Alamitos		Daily Totals				Total	
Location: Los Alamitos Blvd S/o Katella Ave						Project: 11-5131-003		NB	SB	EB	WB	Total	
								21,916	22,424	0	0		
AM Period	NB		SB	EB	WB	PM Period	NB		SB	EB	WB		
00:00	35		45			12:00	308		385				
00:15	52		26			12:15	351		392				
00:30	47		14			12:30	308		364				
00:45	35	169	17	102		12:45	363	1330	327	1468		2798	
01:00	32		10			13:00	328		328				
01:15	22		22			13:15	405		344				
01:30	23		6			13:30	381		421				
01:45	12	89	13	51		13:45	339	1453	396	1489		2942	
02:00	20		6			14:00	366		394				
02:15	22		10			14:15	443		372				
02:30	25		3			14:30	449		391				
02:45	13	80	3	22		14:45	448	1706	460	1617		3323	
03:00	15		9			15:00	419		491				
03:15	12		5			15:15	404		429				
03:30	23		6			15:30	421		381				
03:45	25	75	9	29		15:45	388	1632	400	1701		3333	
04:00	16		8			16:00	376		431				
04:15	20		17			16:15	361		476				
04:30	28		23			16:30	377		429				
04:45	33	97	33	81		16:45	381	1495	499	1835		3330	
05:00	39		27			17:00	368		524				
05:15	58		30			17:15	357		469				
05:30	76		47			17:30	347		492				
05:45	95	268	80	184		17:45	418	1490	451	1936		3426	
06:00	100		92			18:00	400		456				
06:15	153		92			18:15	357		431				
06:30	234		127			18:30	312		388				
06:45	255	742	202	513		18:45	327	1396	366	1641		3037	
07:00	340		239			19:00	286		337				
07:15	476		310			19:15	300		317				
07:30	460		397			19:30	268		351				
07:45	452	1728	437	1383		19:45	228	1082	266	1271		2353	
08:00	477		286			20:00	192		210				
08:15	341		410			20:15	209		147				
08:30	315		385			20:30	213		165				
08:45	342	1475	436	1517		20:45	163	777	168	690		1467	
09:00	310		397			21:00	158		146				
09:15	284		322			21:15	120		123				
09:30	294		285			21:30	145		97				
09:45	321	1209	282	1286		21:45	106	529	126	492		1021	
10:00	315		273			22:00	108		98				
10:15	274		266			22:15	89		83				
10:30	326		308			22:30	83		80				
10:45	312	1227	259	1106		22:45	56	336	69	330		666	
11:00	310		320			23:00	74		92				
11:15	344		332			23:15	63		90				
11:30	321		355			23:30	44		67				
11:45	333	1308	361	1368		23:45	42	223	63	312		535	
Total Vol.													28231
								NB	SB	EB	WB	Total	
Daily Totals :								21,916	22,424	0	0	44,340	
AM						PM							
Split %	52.6%	47.4%	36.3 %			47.6%	52.4%	63.7 %					
AM						PM							
Peak Hr.	07:15	08:15	07:15	Peak Hr.			14:15	16:45	14:30				
Volume	1865	1628	3295	Volume			1759	1984	3491				
P.H.F.	0.977	0.933	0.927	P.H.F.			0.979	0.947	0.959				
7 - 9 Vol.	3203	2900	6103	4 - 6 Vol.			2985	3771	6756				
Peak Hr.	07:15	07:30	07:15	Peak Hr.			16:00	16:45	16:45				
Volume	1865	1530	3295	Volume			1495	1984	3437				
P.H.F.	0.977	0.875	0.927	P.H.F.			0.981	0.947	0.963				

Prepared by NDS/ATD

Volumes for: Wednesday, April 20, 2011					City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd S/o Katella Ave					Project: 11-5131-003		NB	SB	EB	WB	
AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB		
00:00	30	46			12:00	381	388				
00:15	29	31			12:15	431	386				
00:30	17	28			12:30	367	403				
00:45	28	104	26	131	12:45	411	1590	377	1554		3144
01:00	7	28			13:00	393	395				
01:15	24	24			13:15	490	364				
01:30	24	21			13:30	478	391				
01:45	19	74	27	100	13:45	409	1770	395	1545		3315
02:00	20	14			14:00	367	339				
02:15	15	15			14:15	421	367				
02:30	17	19			14:30	423	392				
02:45	9	61	15	63	14:45	444	1655	493	1591		3246
03:00	6	17			15:00	452	472				
03:15	14	24			15:15	461	418				
03:30	26	26			15:30	406	391				
03:45	17	63	20	87	15:45	396	1715	441	1722		3437
04:00	13	21			16:00	376	480				
04:15	13	41			16:15	343	471				
04:30	29	54			16:30	390	484				
04:45	43	98	26	142	16:45	401	1510	539	1974		3484
05:00	63	26			17:00	387	523				
05:15	55	54			17:15	435	532				
05:30	100	49			17:30	415	509				
05:45	110	328	70	199	17:45	410	1647	511	2075		3722
06:00	112	81			18:00	429	511				
06:15	174	112			18:15	368	404				
06:30	232	121			18:30	396	380				
06:45	259	777	222	536	18:45	389	1582	371	1666		3248
07:00	402	230			19:00	335	351				
07:15	524	304			19:15	355	298				
07:30	548	404			19:30	296	281				
07:45	481	1955	486	1424	19:45	228	1214	266	1196		2410
08:00	574	314			20:00	232	233				
08:15	441	352			20:15	202	195				
08:30	310	278			20:30	189	175				
08:45	343	1668	274	1218	20:45	150	773	193	796		1569
09:00	293	250			21:00	158	174				
09:15	309	245			21:15	172	152				
09:30	301	282			21:30	133	107				
09:45	364	1267	282	1059	21:45	107	570	91	524		1094
10:00	302	298			22:00	101	82				
10:15	343	304			22:15	110	73				
10:30	290	314			22:30	89	79				
10:45	343	1278	337	1253	22:45	65	365	54	288		653
11:00	360	339			23:00	64	45				
11:15	347	348			23:15	55	52				
11:30	348	393			23:30	43	35				
11:45	372	1427	389	1469	23:45	61	223	39	171		394
Total Vol.	9100	7681			16781		14614	15102			29716
Daily Totals :							NB	SB	EB	WB	Total
							23,714	22,783	0	0	46,497
AM							PM				
Split %	54.2%	45.8%			36.1%		49.2%	50.8%			63.9%
AM					PM						
Peak Hr.	07:15	11:45			07:15	Peak Hr.	14:30	16:45			17:15
Volume	2127	1566			3635	Volume	1780	2103			3752
P.H.F.	0.926	0.971			0.940	P.H.F.	0.965	0.975			0.970
7 - 9 Vol.	3623	2642			6265	4 - 6 Vol.	3157	4049			7206
Peak Hr.	07:15	07:30			07:15	Peak Hr.	17:00	16:45			16:45
Volume	2127	1556			3635	Volume	1647	2103			3741
P.H.F.	0.926	0.800			0.940	P.H.F.	0.947	0.975			0.967

Volumes for: Thursday, April 21, 2011						City: Los Alamitos		Daily Totals				Total	
Location: Los Alamitos Blvd S/o Katella Ave						Project: 11-5131-003		NB	SB	EB	WB	Total	
								22,340	23,913	0	0		
AM Period	NB		SB	EB	WB	PM Period	NB		SB	EB	WB		
00:00	34		34			12:00	361		423				
00:15	32		22			12:15	375		409				
00:30	28		18			12:30	348		342				
00:45	17	111	11	85	196	12:45	333	1417	412	1586		3003	
01:00	15		15			13:00	345		377				
01:15	25		12			13:15	381		347				
01:30	18		11			13:30	397		397				
01:45	20	78	4	42	120	13:45	399	1522	420	1541		3063	
02:00	11		7			14:00	403		483				
02:15	24		3			14:15	410		392				
02:30	14		11			14:30	465		391				
02:45	18	67	8	29	96	14:45	438	1716	452	1718		3434	
03:00	17		11			15:00	430		507				
03:15	12		13			15:15	399		504				
03:30	12		3			15:30	373		546				
03:45	20	61	8	35	96	15:45	455	1657	554	2111		3768	
04:00	17		8			16:00	425		575				
04:15	18		15			16:15	388		549				
04:30	21		23			16:30	383		471				
04:45	33	89	21	67	156	16:45	417	1613	583	2178		3791	
05:00	38		19			17:00	393		570				
05:15	55		29			17:15	424		507				
05:30	74		55			17:30	382		547				
05:45	125	292	62	165	457	17:45	386	1585	482	2106		3691	
06:00	101		66			18:00	420		557				
06:15	150		87			18:15	393		519				
06:30	216		143			18:30	364		468				
06:45	228	695	219	515	1210	18:45	334	1511	450	1994		3505	
07:00	335		213			19:00	321		364				
07:15	451		297			19:15	302		337				
07:30	452		408			19:30	262		322				
07:45	397	1635	448	1366	3001	19:45	236	1121	303	1326		2447	
08:00	521		294			20:00	264		244				
08:15	345		360			20:15	234		288				
08:30	282		255			20:30	200		244				
08:45	304	1452	259	1168	2620	20:45	171	869	194	970		1839	
09:00	262		248			21:00	185		189				
09:15	259		271			21:15	159		202				
09:30	310		278			21:30	117		157				
09:45	345	1176	273	1070	2246	21:45	112	573	116	664		1237	
10:00	299		250			22:00	146		107				
10:15	293		300			22:15	92		120				
10:30	305		307			22:30	97		75				
10:45	284	1181	286	1143	2324	22:45	70	405	66	368		773	
11:00	322		307			23:00	74		56				
11:15	310		356			23:15	71		69				
11:30	314		366			23:30	49		33				
11:45	327	1273	425	1454	2727	23:45	47	241	54	212		453	
Total Vol.													31004
Daily Totals :								NB	SB	EB	WB	Total	
								22,340	23,913	0	0	46,253	
AM													PM
Split %	53.2%		46.8%	33.0 %			45.9%		54.1%	67.0 %			
AM						PM							
Peak Hr.	07:15		11:30	07:15		PM	14:15		15:30	15:30			
Volume	1821		1623	3268		Peak Hr.	1743		2224	3865			
P.H.F.	0.874		0.955	0.950		Volume	0.937		0.967	0.958			
7 - 9 Vol.	3087		2534	5621		4 - 6 Vol.	3198		4284	7482			
Peak Hr.	07:15		07:30	07:15		Peak Hr.	16:30		16:45	16:45			
Volume	1821		1510	3268		Volume	1617		2207	3823			
P.H.F.	0.874		0.843	0.950		P.H.F.	0.953		0.946	0.956			

Prepared by NDS/ATD

Volumes for: Friday, April 22, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd S/o Katella Ave						Project: 11-5131-003		NB	SB	EB	WB							
								22,266	23,612	0	0	45,878						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	23		44				12:00	365		445								
00:15	25		41				12:15	357		393								
00:30	22		30				12:30	354		413								
00:45	21	91	29	144		235	12:45	442	1518	459	1710		3228					
01:00	14		21				13:00	414		396								
01:15	17		27				13:15	418		417								
01:30	20		18				13:30	444		464								
01:45	11	62	19	85		147	13:45	429	1705	542	1819		3524					
02:00	19		27				14:00	389		458								
02:15	25		24				14:15	401		448								
02:30	21		6				14:30	452		461								
02:45	12	77	21	78		155	14:45	433	1675	562	1929		3604					
03:00	16		13				15:00	425		536								
03:15	10		14				15:15	394		532								
03:30	17		26				15:30	403		502								
03:45	13	56	20	73		129	15:45	388	1610	473	2043		3653					
04:00	12		24				16:00	391		454								
04:15	10		22				16:15	385		490								
04:30	23		19				16:30	456		468								
04:45	37	82	30	95		177	16:45	410	1642	474	1886		3528					
05:00	30		25				17:00	416		481								
05:15	50		25				17:15	381		511								
05:30	56		45				17:30	378		417								
05:45	86	222	54	149		371	17:45	386	1561	374	1783		3344					
06:00	98		68				18:00	386		426								
06:15	136		87				18:15	337		353								
06:30	184		77				18:30	316		336								
06:45	213	631	212	444		1075	18:45	320	1359	324	1439		2798					
07:00	299		223				19:00	254		289								
07:15	414		272				19:15	314		279								
07:30	445		420				19:30	211		235								
07:45	402	1560	398	1313		2873	19:45	251	1030	257	1060		2090					
08:00	420		282				20:00	229		276								
08:15	330		367				20:15	216		196								
08:30	290		220				20:30	173		220								
08:45	287	1327	252	1121		2448	20:45	191	809	166	858		1667					
09:00	274		265				21:00	171		155								
09:15	291		281				21:15	147		160								
09:30	295		283				21:30	160		128								
09:45	340	1200	303	1132		2332	21:45	130	608	137	580		1188					
10:00	299		315				22:00	129		126								
10:15	318		330				22:15	125		103								
10:30	332		391				22:30	97		121								
10:45	347	1296	382	1418		2714	22:45	85	436	92	442		878					
11:00	328		399				23:00	94		105								
11:15	355		366				23:15	98		91								
11:30	342		422				23:30	60		115								
11:45	373	1398	429	1616		3014	23:45	59	311	84	395		706					
Total Vol.													8002	7668	15670	14264	15944	30208
Daily Totals :								NB	SB	EB	WB	Total						
								22,266	23,612	0	0	45,878						
AM						PM												
Split %	51.1%		48.9%		34.2 %		47.2%		52.8%		65.8 %							
AM					PM													
Peak Hr.	07:15		11:30		11:45		Peak Hr.		12:45		14:45		14:30					
Volume	1681		1689		3129		Volume		1718		2132		3795					
P.H.F.	0.944		0.949		0.966		P.H.F.		0.967		0.948		0.954					
7 - 9 Vol.	2887		2434		5321		4 - 6 Vol.		3203		3669		6872					
Peak Hr.	07:15		07:30		07:30		Peak Hr.		16:15		16:30		16:30					
Volume	1681		1467		3064		Volume		1667		1934		3597					
P.H.F.	0.944		0.873		0.886		P.H.F.		0.914		0.946		0.973					

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Volumes for: Saturday, April 23, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd S/o Katella Ave						Project: 11-5131-003		NB	SB	EB	WB	Total						
								18,583	19,353	0	0	37,936						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	48		57				12:00	369		426								
00:15	30		68				12:15	403		423								
00:30	36		54				12:30	390		344								
00:45	26	140	57	236		376	12:45	439	1601	390	1583		3184					
01:00	26		52				13:00	375		354								
01:15	32		44				13:15	373		384								
01:30	25		29				13:30	393		381								
01:45	26	109	43	168		277	13:45	379	1520	381	1500		3020					
02:00	20		34				14:00	358		372								
02:15	17		47				14:15	342		377								
02:30	14		42				14:30	364		396								
02:45	16	67	28	151		218	14:45	314	1378	402	1547		2925					
03:00	13		21				15:00	339		362								
03:15	9		27				15:15	313		361								
03:30	16		20				15:30	356		365								
03:45	13	51	23	91		142	15:45	307	1315	358	1446		2761					
04:00	15		29				16:00	321		334								
04:15	10		18				16:15	323		326								
04:30	6		16				16:30	342		359								
04:45	14	45	23	86		131	16:45	322	1308	329	1348		2656					
05:00	10		24				17:00	302		341								
05:15	32		21				17:15	312		295								
05:30	31		30				17:30	336		305								
05:45	53	126	35	110		236	17:45	301	1251	330	1271		2522					
06:00	42		37				18:00	283		290								
06:15	62		58				18:15	263		333								
06:30	75		55				18:30	259		276								
06:45	79	258	100	250		508	18:45	242	1047	262	1161		2208					
07:00	86		98				19:00	247		252								
07:15	119		107				19:15	234		206								
07:30	141		140				19:30	240		232								
07:45	187	533	178	523		1056	19:45	226	947	261	951		1898					
08:00	167		165				20:00	195		256								
08:15	149		161				20:15	183		200								
08:30	197		196				20:30	160		167								
08:45	238	751	259	781		1532	20:45	150	688	160	783		1471					
09:00	254		244				21:00	150		183								
09:15	285		222				21:15	156		143								
09:30	313		286				21:30	154		127								
09:45	362	1214	344	1096		2310	21:45	132	592	122	575		1167					
10:00	297		365				22:00	143		99								
10:15	334		370				22:15	140		87								
10:30	342		357				22:30	95		92								
10:45	356	1329	388	1480		2809	22:45	99	477	96	374		851					
11:00	355		370				23:00	114		93								
11:15	364		375				23:15	112		61								
11:30	354		428				23:30	81		51								
11:45	384	1457	414	1587		3044	23:45	72	379	50	255		634					
Total Vol.													6080	6559	12639	12503	12794	25297
Daily Totals :								NB	SB	EB	WB	Total						
								18,583	19,353	0	0	37,936						
AM						PM												
Split %	48.1%		51.9%		33.3 %		49.4%		50.6%		66.7 %							
AM						PM												
Peak Hr.	11:45		11:30		11:30		Peak Hr.		12:15		12:00							
Volume	1546		1691		3201		Volume		1607		1583							
P.H.F.	0.959		0.988		0.969		P.H.F.		0.915		0.929							
7 - 9 Vol.	1284		1304		2588		4 - 6 Vol.		2559		2619							
Peak Hr.	08:00		08:00		08:00		Peak Hr.		16:00		16:15							
Volume	751		781		1532		Volume		1308		1355							
P.H.F.	0.789		0.754		0.771		P.H.F.		0.956		0.944							

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Volumes for: Sunday, April 24, 2011					City: Los Alamitos		Daily Totals				Total
Location: Los Alamitos Blvd S/o Katella Ave					Project: 11-5131-003		NB	SB	EB	WB	Total
AM Period					PM Period						
NB	SB	EB	WB		NB	SB	EB	WB			
00:00	43	26			12:00	226	283				
00:15	34	54			12:15	234	253				
00:30	47	26			12:30	256	241				
00:45	23	147	28	134	12:45	204	920	271	1048		1968
01:00	30	15			13:00	250	296				
01:15	35	28			13:15	298	289				
01:30	21	29			13:30	258	257				
01:45	21	107	22	94	13:45	231	1037	203	1045		2082
02:00	23	24			14:00	246	213				
02:15	22	14			14:15	202	214				
02:30	9	15			14:30	175	217				
02:45	13	67	8	61	14:45	221	844	194	838		1682
03:00	8	9			15:00	216	169				
03:15	8	9			15:15	188	184				
03:30	5	7			15:30	191	170				
03:45	9	30	12	37	15:45	192	787	196	719		1506
04:00	9	6			16:00	190	152				
04:15	10	12			16:15	183	174				
04:30	5	5			16:30	166	184				
04:45	11	35	6	29	16:45	185	724	184	694		1418
05:00	11	16			17:00	154	172				
05:15	22	12			17:15	160	146				
05:30	22	15			17:30	164	167				
05:45	31	86	21	64	17:45	153	631	153	638		1269
06:00	22	26			18:00	175	165				
06:15	38	27			18:15	161	144				
06:30	50	41			18:30	156	155				
06:45	58	168	39	133	18:45	160	652	148	612		1264
07:00	44	47			19:00	173	128				
07:15	61	67			19:15	150	118				
07:30	99	107			19:30	161	126				
07:45	99	303	116	337	19:45	134	618	147	519		1137
08:00	95	90			20:00	139	137				
08:15	111	112			20:15	136	134				
08:30	144	117			20:30	139	118				
08:45	168	518	115	434	20:45	103	517	104	493		1010
09:00	171	124			21:00	96	83				
09:15	253	150			21:15	83	66				
09:30	176	160			21:30	65	80				
09:45	195	795	218	652	21:45	94	338	97	326		664
10:00	256	168			22:00	76	58				
10:15	226	235			22:15	67	64				
10:30	208	215			22:30	45	49				
10:45	223	913	206	824	22:45	60	248	48	219		467
11:00	254	195			23:00	32	41				
11:15	283	199			23:15	35	36				
11:30	245	269			23:30	28	29				
11:45	277	1059	348	1011	23:45	33	128	27	133		261
Total Vol.	4228	3810			8038		7444	7284			14728
					Daily Totals :		NB	SB	EB	WB	Total
							11,672	11,094	0	0	22,766
AM					PM						
Split %	52.6%	47.4%		35.3 %	50.5%	49.5%				64.7 %	
AM					PM						
Peak Hr.	11:00	11:30		11:30	Peak Hr.	13:00	12:45			12:45	
Volume	1059	1153		2135	Volume	1037	1113			2123	
P.H.F.	0.936	0.828		0.854	P.H.F.	0.870	0.940			0.904	
7 - 9 Vol.	821	771		1592	4 - 6 Vol.	1355	1332			2687	
Peak Hr.	08:00	07:45		08:00	Peak Hr.	16:00	16:15			16:00	
Volume	518	435		952	Volume	724	714			1418	
P.H.F.	0.771	0.929		0.841	P.H.F.	0.953	0.970			0.961	

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Volumes for: Monday, April 25, 2011						City: Los Alamitos		Daily Totals				Total						
Location: Los Alamitos Blvd S/o Katella Ave						Project: 11-5131-003		NB	SB	EB	WB							
								17,970	18,358	0	0	36,328						
AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB					
00:00	15		26				12:00	272		347								
00:15	15		11				12:15	310		333								
00:30	16		14				12:30	329		321								
00:45	14	60	7	58		118	12:45	313	1224	328	1329		2553					
01:00	9		8				13:00	325		342								
01:15	9		13				13:15	324		295								
01:30	7		6				13:30	321		307								
01:45	8	33	9	36		69	13:45	334	1304	291	1235		2539					
02:00	10		5				14:00	317		339								
02:15	9		11				14:15	299		310								
02:30	12		6				14:30	283		333								
02:45	7	38	10	32		70	14:45	306	1205	325	1307		2512					
03:00	7		7				15:00	322		333								
03:15	15		4				15:15	324		346								
03:30	11		8				15:30	330		380								
03:45	8	41	11	30		71	15:45	297	1273	367	1426		2699					
04:00	13		6				16:00	344		353								
04:15	17		18				16:15	344		394								
04:30	18		19				16:30	338		417								
04:45	41	89	23	66		155	16:45	359	1385	430	1594		2979					
05:00	40		23				17:00	341		438								
05:15	46		32				17:15	334		439								
05:30	76		44				17:30	333		451								
05:45	86	248	60	159		407	17:45	303	1311	425	1753		3064					
06:00	89		64				18:00	289		359								
06:15	134		86				18:15	283		291								
06:30	153		118				18:30	246		306								
06:45	220	596	168	436		1032	18:45	246	1064	308	1264		2328					
07:00	237		162				19:00	240		264								
07:15	238		161				19:15	230		282								
07:30	268		190				19:30	190		227								
07:45	279	1022	173	686		1708	19:45	177	837	209	982		1819					
08:00	282		201				20:00	165		176								
08:15	248		214				20:15	163		142								
08:30	303		213				20:30	145		146								
08:45	319	1152	232	860		2012	20:45	139	612	163	627		1239					
09:00	310		205				21:00	136		135								
09:15	271		237				21:15	132		114								
09:30	258		238				21:30	97		102								
09:45	295	1134	274	954		2088	21:45	110	475	79	430		905					
10:00	296		292				22:00	81		85								
10:15	296		273				22:15	80		70								
10:30	257		295				22:30	69		64								
10:45	305	1154	315	1175		2329	22:45	64	294	68	287		581					
11:00	307		355				23:00	56		63								
11:15	305		292				23:15	60		67								
11:30	311		338				23:30	31		74								
11:45	315	1238	386	1371		2609	23:45	34	181	57	261		442					
Total Vol.													6805	5863	12668	11165	12495	23660
Daily Totals :								NB	SB	EB	WB	Total						
								17,970	18,358	0	0	36,328						
Split %				AM				PM										
				53.7%	46.3%	34.9 %		47.2%	52.8%	65.1 %								
AM				PM														
Peak Hr.				11:00	11:30	11:45	Peak Hr.				16:00	16:45	16:45					
Volume				1238	1404	2613	Volume				1385	1758	3125					
P.H.F.				0.983	0.909	0.932	P.H.F.				0.964	0.975	0.990					
7 - 9 Vol.				2174	1546	3720	4 - 6 Vol.				2696	3347	6043					
Peak Hr.				08:00	08:00	08:00	Peak Hr.				16:00	16:45	16:45					
Volume				1152	860	2012	Volume				1385	1758	3125					
P.H.F.				0.903	0.927	0.913	P.H.F.				0.964	0.975	0.990					

EXISTING ROADWAY COUNT SOURCE 3

COLLECTED BY FEHR & PEERS SEPTEMBER 2012



VOLUME

Los Alamitos Blvd btwn Farquhar Ave & Orangewood Ave

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_004

DAILY TOTALS					NB	SB						EB	WB						Total
					23,769	21,704						0	0						45,473
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00	325	35			360		12:00	295	392			687							
00:15	284	22			306		12:15	274	387			661							
00:30	271	22			293		12:30	311	325			636							
00:45	189	1069	19	98	208	1167	12:45	356	1236	406	1510	762	2746						
01:00	146	24			170		13:00	314	389			703							
01:15	156	27			183		13:15	428	359			787							
01:30	119	16			135		13:30	400	365			765							
01:45	100	521	17	84	117	605	13:45	383	1525	340	1453	723	2978						
02:00	100	16			116		14:00	396	349			745							
02:15	124	11			135		14:15	397	387			784							
02:30	123	6			129		14:30	401	455			856							
02:45	111	458	5	38	116	496	14:45	409	1603	459	1650	868	3253						
03:00	130	15			145		15:00	418	412			830							
03:15	131	13			144		15:15	361	400			761							
03:30	168	8			176		15:30	318	432			750							
03:45	120	549	17	53	137	602	15:45	366	1463	438	1682	804	3145						
04:00	31	7			38		16:00	354	405			759							
04:15	25	16			41		16:15	373	432			805							
04:30	21	27			48		16:30	364	445			809							
04:45	38	115	29	79	67	194	16:45	383	1474	471	1753	854	3227						
05:00	28	30			58		17:00	369	505			874							
05:15	46	39			85		17:15	340	488			828							
05:30	72	64			136		17:30	356	436			792							
05:45	107	253	83	216	190	469	17:45	397	1462	457	1886	854	3348						
06:00	89	106			195		18:00	354	452			806							
06:15	152	100			252		18:15	362	390			752							
06:30	200	142			342		18:30	326	391			717							
06:45	201	642	214	562	415	1204	18:45	312	1354	365	1598	677	2952						
07:00	341	202			543		19:00	306	355			661							
07:15	519	278			797		19:15	273	284			557							
07:30	372	459			831		19:30	230	296			526							
07:45	421	1653	486	1425	907	3078	19:45	197	1006	258	1193	455	2199						
08:00	517	316			833		20:00	182	203			385							
08:15	408	326			734		20:15	184	186			370							
08:30	336	321			657		20:30	182	198			380							
08:45	308	1569	261	1224	569	2793	20:45	156	704	229	816	385	1520						
09:00	292	230			522		21:00	172	181			353							
09:15	267	215			482		21:15	136	137			273							
09:30	256	231			487		21:30	111	126			237							
09:45	281	1096	254	930	535	2026	21:45	104	523	117	561	221	1084						
10:00	246	246			492		22:00	68	92			160							
10:15	269	318			587		22:15	135	107			242							
10:30	252	253			505		22:30	97	71			168							
10:45	222	989	306	1123	528	2112	22:45	75	375	52	322	127	697						
11:00	254	287			541		23:00	64	48			112							
11:15	289	333			622		23:15	289	45			334							
11:30	296	281			577		23:30	301	61			362							
11:45	343	1182	325	1226	668	2408	23:45	294	948	68	222	362	1170						
TOTALS	10096	7058			17154		TOTALS	13673	14646			28319							
SPLIT %	58.9%	41.1%			37.7%		SPLIT %	48.3%	51.7%			62.3%							

DAILY TOTALS					NB	SB						EB	WB						Total
					23,769	21,704						0	0						45,473

AM Peak Hour	07:15	07:30			07:15		PM Peak Hour	14:15	16:30			16:30							
AM Pk Volume	1829	1587			3368		PM Pk Volume	1625	1909			3365							
Pk Hr Factor	0.881	0.816			0.928		Pk Hr Factor	0.972	0.945			0.963							
7 - 9 Volume	3222	2649	0	0	5871		4 - 6 Volume	2936	3639	0	0	6575							
7 - 9 Peak Hour	07:15	07:30			07:15		4 - 6 Peak Hour	16:15	16:30			16:30							
7 - 9 Pk Volume	1829	1587	0	0	3368		4 - 6 Pk Volume	1489	1909	0	0	3365							
Pk Hr Factor	0.881	0.816	0.000	0.000	0.928		Pk Hr Factor	0.972	0.945	0.000	0.000	0.963							

VOLUME

Los Alamitos Blvd btwn Orangewood Ave & Bradbury Rd

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_005

DAILY TOTALS					NB	SB						EB	WB						Total
					21,005	20,614						0	0						41,619
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00	174	34			208		12:00	274	351			625							
00:15	160	24			184		12:15	261	368			629							
00:30	154	22			176		12:30	288	313			601							
00:45	106	594	18	98	124	692	12:45	310	1133	347	1379	657	2512						
01:00	100	24			124		13:00	299	356			655							
01:15	104	27			131		13:15	370	353			723							
01:30	101	16			117		13:30	289	343			632							
01:45	63	368	17	84	80	452	13:45	332	1290	326	1378	658	2668						
02:00	61	15			76		14:00	362	328			690							
02:15	85	12			97		14:15	388	338			726							
02:30	70	6			76		14:30	384	417			801							
02:45	61	277	3	36	64	313	14:45	386	1520	441	1524	827	3044						
03:00	98	15			113		15:00	356	429			785							
03:15	86	13			99		15:15	338	375			713							
03:30	117	7			124		15:30	293	429			722							
03:45	76	377	17	52	93	429	15:45	344	1331	412	1645	756	2976						
04:00	36	7			43		16:00	348	390			738							
04:15	12	17			29		16:15	363	411			774							
04:30	6	27			33		16:30	330	413			743							
04:45	19	73	29	80	48	153	16:45	350	1391	432	1646	782	3037						
05:00	14	28			42		17:00	322	468			790							
05:15	22	37			59		17:15	356	477			833							
05:30	34	64			98		17:30	373	425			798							
05:45	49	119	85	214	134	333	17:45	383	1434	440	1810	823	3244						
06:00	40	108			148		18:00	331	430			761							
06:15	82	106			188		18:15	347	396			743							
06:30	110	144			254		18:30	327	371			698							
06:45	125	357	205	563	330	920	18:45	323	1328	344	1541	667	2869						
07:00	210	210			420		19:00	279	335			614							
07:15	274	255			529		19:15	261	283			544							
07:30	248	315			563		19:30	225	273			498							
07:45	294	1026	404	1184	698	2210	19:45	193	958	240	1131	433	2089						
08:00	339	353			692		20:00	175	196			371							
08:15	412	307			719		20:15	186	176			362							
08:30	449	313			762		20:30	175	196			371							
08:45	475	1675	256	1229	731	2904	20:45	144	680	222	790	366	1470						
09:00	410	226			636		21:00	154	178			332							
09:15	369	203			572		21:15	123	129			252							
09:30	325	217			542		21:30	97	123			220							
09:45	316	1420	240	886	556	2306	21:45	87	461	119	549	206	1010						
10:00	282	236			518		22:00	67	91			158							
10:15	283	304			587		22:15	80	104			184							
10:30	266	248			514		22:30	70	70			140							
10:45	237	1068	294	1082	531	2150	22:45	44	261	50	315	94	576						
11:00	245	280			525		23:00	71	43			114							
11:15	273	326			599		23:15	235	46			281							
11:30	280	265			545		23:30	257	61			318							
11:45	321	1119	309	1180	630	2299	23:45	182	745	68	218	250	963						
TOTALS	8473	6688			15161		TOTALS	12532	13926			26458							
SPLIT %	55.9%	44.1%			36.4%		SPLIT %	47.4%	52.6%			63.6%							

DAILY TOTALS					NB	SB						EB	WB						Total
					21,005	20,614						0	0						41,619

AM Peak Hour	08:15	07:30			08:00		PM Peak Hour	14:00	17:00			17:00							
AM Pk Volume	1746	1379			2904		PM Pk Volume	1520	1810			3244							
Pk Hr Factor	0.919	0.853			0.953		Pk Hr Factor	0.979	0.949			0.974							
7 - 9 Volume	2701	2413	0	0	5114		4 - 6 Volume	2825	3456	0	0	6281							
7 - 9 Peak Hour	08:00	07:30			08:00		4 - 6 Peak Hour	17:00	17:00			17:00							
7 - 9 Pk Volume	1675	1379	0	0	2904		4 - 6 Pk Volume	1434	1810	0	0	3244							
Pk Hr Factor	0.882	0.853	0.000	0.000	0.953		Pk Hr Factor	0.936	0.949	0.000	0.000	0.974							

VOLUME

Los Alamitos Blvd btwn Bradbury Rd & St Cloud Dr

Day: Wednesday

Date: 9/5/2012

City: Seal Beach

Project #: CA12_1169_006

DAILY TOTALS					NB	SB						EB	WB						Total
					21,150	19,655						0	0						40,805
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00	304	36			340		12:00	297	341			638							
00:15	297	27			324		12:15	256	365			621							
00:30	255	22			277		12:30	288	316			604							
00:45	180	1036	19	104	199	1140	12:45	358	1199	348	1370	706	2569						
01:00	143	27			170		13:00	319	331			650							
01:15	149	18			167		13:15	313	389			702							
01:30	109	17			126		13:30	332	323			655							
01:45	105	506	17	79	122	585	13:45	304	1268	327	1370	631	2638						
02:00	97	17			114		14:00	359	315			674							
02:15	115	13			128		14:15	363	316			679							
02:30	132	5			137		14:30	361	361			722							
02:45	115	459	8	43	123	502	14:45	358	1441	384	1376	742	2817						
03:00	121	10			131		15:00	334	421			755							
03:15	121	15			136		15:15	318	358			676							
03:30	166	6			172		15:30	291	405			696							
03:45	109	517	19	50	128	567	15:45	315	1258	375	1559	690	2817						
04:00	32	8			40		16:00	319	366			685							
04:15	19	15			34		16:15	314	400			714							
04:30	13	33			46		16:30	317	393			710							
04:45	30	94	31	87	61	181	16:45	343	1293	396	1555	739	2848						
05:00	17	34			51		17:00	323	401			724							
05:15	39	40			79		17:15	346	431			777							
05:30	61	70			131		17:30	353	408			761							
05:45	79	196	95	239	174	435	17:45	351	1373	393	1633	744	3006						
06:00	68	120			188		18:00	305	366			671							
06:15	119	121			240		18:15	352	332			684							
06:30	158	166			324		18:30	334	358			692							
06:45	210	555	209	616	419	1171	18:45	302	1293	310	1366	612	2659						
07:00	267	206			473		19:00	271	310			581							
07:15	338	236			574		19:15	265	265			530							
07:30	303	255			558		19:30	213	225			438							
07:45	318	1226	336	1033	654	2259	19:45	190	939	219	1019	409	1958						
08:00	280	410			690		20:00	185	190			375							
08:15	314	315			629		20:15	194	160			354							
08:30	266	297			563		20:30	187	181			368							
08:45	246	1106	259	1281	505	2387	20:45	165	731	193	724	358	1455						
09:00	198	244			442		21:00	167	155			322							
09:15	204	226			430		21:15	141	127			268							
09:30	219	222			441		21:30	105	104			209							
09:45	236	857	245	937	481	1794	21:45	124	537	99	485	223	1022						
10:00	225	224			449		22:00	78	87			165							
10:15	223	285			508		22:15	143	89			232							
10:30	219	264			483		22:30	94	60			154							
10:45	205	872	291	1064	496	1936	22:45	73	388	43	279	116	667						
11:00	227	278			505		23:00	81	45			126							
11:15	258	315			573		23:15	270	42			312							
11:30	267	282			549		23:30	314	56			370							
11:45	316	1068	312	1187	628	2255	23:45	273	938	56	199	329	1137						
TOTALS	8492	6720			15212		TOTALS	12658	12935			25593							
SPLIT %	55.8%	44.2%			37.3%		SPLIT %	49.5%	50.5%			62.7%							

DAILY TOTALS					NB	SB						EB	WB						Total
					21,150	19,655						0	0						40,805

AM Peak Hour	07:15	07:45			07:45		PM Peak Hour	14:00	16:45			17:00							
AM Pk Volume	1239	1358			2536		PM Pk Volume	1441	1636			3006							
Pk Hr Factor	0.916	0.828			0.919		Pk Hr Factor	0.992	0.949			0.967							
7 - 9 Volume	2332	2314	0	0	4646		4 - 6 Volume	2666	3188	0	0	5854							
7 - 9 Peak Hour	07:15	07:45			07:45		4 - 6 Peak Hour	17:00	16:45			17:00							
7 - 9 Pk Volume	1239	1358	0	0	2536		4 - 6 Pk Volume	1373	1636	0	0	3006							
Pk Hr Factor	0.916	0.828	0.000	0.000	0.919		Pk Hr Factor	0.972	0.949	0.000	0.000	0.967							

VOLUME

Katella Ave btwn Los Alamitos Blvd & Bloomfield St

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_008

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						27,254	24,329	51,583	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			80	58	138		12:00			351	421	772			
00:15			72	51	123		12:15			360	414	774			
00:30			57	59	116		12:30			398	371	769			
00:45			70	279	29	197	12:45			449	1558	364	1570	813	3128
01:00			46	40	86		13:00			416	336	752			
01:15			33	29	62		13:15			467	328	795			
01:30			43	45	88		13:30			487	384	871			
01:45			35	157	36	150	13:45			456	1826	323	1371	779	3197
02:00			28	28	56		14:00			443	416	859			
02:15			38	28	66		14:15			413	332	745			
02:30			34	23	57		14:30			459	456	915			
02:45			31	131	14	93	14:45			495	1810	399	1603	894	3413
03:00			33	30	63		15:00			470	406	876			
03:15			39	19	58		15:15			465	449	914			
03:30			44	25	69		15:30			450	459	909			
03:45			53	169	23	97	15:45			492	1877	395	1709	887	3586
04:00			51	27	78		16:00			451	477	928			
04:15			49	39	88		16:15			463	436	899			
04:30			73	49	122		16:30			437	508	945			
04:45			67	240	66	181	16:45			480	1831	460	1881	940	3712
05:00			76	75	151		17:00			459	455	914			
05:15			105	86	191		17:15			455	458	913			
05:30			182	134	316		17:30			439	497	936			
05:45			224	587	117	412	17:45			469	1822	434	1844	903	3666
06:00			163	188	351		18:00			468	410	878			
06:15			227	225	452		18:15			455	352	807			
06:30			315	276	591		18:30			395	345	740			
06:45			385	1090	299	988	18:45			441	1759	349	1456	790	3215
07:00			386	422	808		19:00			373	339	712			
07:15			505	432	937		19:15			331	266	597			
07:30			474	470	944		19:30			255	258	513			
07:45			499	1864	476	1800	19:45			257	1216	200	1063	457	2279
08:00			594	396	990		20:00			219	217	436			
08:15			560	403	963		20:15			189	218	407			
08:30			562	388	950		20:30			187	306	493			
08:45			509	2225	367	1554	20:45			160	755	280	1021	440	1776
09:00			467	300	767		21:00			154	201	355			
09:15			398	302	700		21:15			147	163	310			
09:30			385	325	710		21:30			150	119	269			
09:45			392	1642	322	1249	21:45			153	604	137	620	290	1224
10:00			353	299	652		22:00			130	92	222			
10:15			393	317	710		22:15			219	100	319			
10:30			334	315	649		22:30			124	91	215			
10:45			321	1401	300	1231	22:45			109	582	66	349	175	931
11:00			339	345	684		23:00			76	94	170			
11:15			405	366	771		23:15			93	78	171			
11:30			359	377	736		23:30			87	138	225			
11:45			401	1504	382	1470	23:45			69	325	110	420	179	745
TOTALS			11289	9422	20711		TOTALS			15965	14907	30872			
SPLIT %			54.5%	45.5%	40.2%		SPLIT %			51.7%	48.3%	59.8%			

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						27,254	24,329	51,583	

AM Peak Hour			08:00	07:00	07:45		PM Peak Hour			14:30	16:00	16:00			
AM Pk Volume			2225	1800	3878		PM Pk Volume			1889	1881	3712			
Pk Hr Factor			0.936	0.945	0.979		Pk Hr Factor			0.954	0.926	0.982			
7 - 9 Volume	0	0	4089	3354	7443		4 - 6 Volume	0	0	3653	3725	7378			
7 - 9 Peak Hour			08:00	07:00	07:45		4 - 6 Peak Hour			16:15	16:00	16:00			
7 - 9 Pk Volume	0	0	2225	1800	3878		4 - 6 Pk Volume	0	0	1839	1881	3712			
Pk Hr Factor	0.000	0.000	0.936	0.945	0.979		Pk Hr Factor	0.000	0.000	0.958	0.926	0.982			

VOLUME

Katella Ave btwn Bloomfield St & Lexington

Day: Wednesday

Date: 9/5/2012

City: Cypress

Project #: CA12_1169_009

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						23,896	22,204	46,100	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			48	59	107		12:00			348	394	742			
00:15			50	46	96		12:15			329	343	672			
00:30			45	52	97		12:30			380	341	721			
00:45			44	187 26	183 70	370	12:45			387	1444 324	1402 711	2846		
01:00			28	42	70		13:00			354	325	679			
01:15			29	32	61		13:15			368	327	695			
01:30			25	45	70		13:30			449	321	770			
01:45			26	108 40	159 66	267	13:45			383	1554 282	1255 665	2809		
02:00			19	28	47		14:00			367	354	721			
02:15			23	23	46		14:15			386	305	691			
02:30			22	26	48		14:30			381	396	777			
02:45			22	86 18	95 40	181	14:45			441	1575 356	1411 797	2986		
03:00			22	25	47		15:00			423	361	784			
03:15			31	22	53		15:15			412	384	796			
03:30			31	23	54		15:30			427	447	874			
03:45			47	131 16	86 63	217	15:45			457	1719 364	1556 821	3275		
04:00			42	31	73		16:00			437	427	864			
04:15			49	36	85		16:15			438	412	850			
04:30			60	37	97		16:30			426	454	880			
04:45			78	229 63	167 141	396	16:45			477	1778 459	1752 936	3530		
05:00			62	47	109		17:00			488	478	966			
05:15			102	78	180		17:15			459	460	919			
05:30			172	119	291		17:30			456	458	914			
05:45			206	542 106	350 312	892	17:45			452	1855 419	1815 871	3670		
06:00			144	153	297		18:00			451	373	824			
06:15			167	186	353		18:15			437	370	807			
06:30			204	258	462		18:30			377	332	709			
06:45			302	817 282	879 584	1696	18:45			396	1661 336	1411 732	3072		
07:00			263	400	663		19:00			328	303	631			
07:15			347	435	782		19:15			320	229	549			
07:30			421	477	898		19:30			244	198	442			
07:45			451	1482 406	1718 857	3200	19:45			232	1124 175	905 407	2029		
08:00			523	353	876		20:00			188	205	393			
08:15			438	394	832		20:15			167	200	367			
08:30			422	355	777		20:30			186	310	496			
08:45			361	1744 336	1438 697	3182	20:45			137	678 270	985 407	1663		
09:00			324	259	583		21:00			138	181	319			
09:15			341	259	600		21:15			124	134	258			
09:30			322	285	607		21:30			134	116	250			
09:45			349	1336 275	1078 624	2414	21:45			127	523 128	559 255	1082		
10:00			297	252	549		22:00			118	83	201			
10:15			307	266	573		22:15			188	90	278			
10:30			305	252	557		22:30			102	81	183			
10:45			314	1223 269	1039 583	2262	22:45			71	479 66	320 137	799		
11:00			299	306	605		23:00			78	87	165			
11:15			379	300	679		23:15			65	72	137			
11:30			351	319	670		23:30			71	131	202			
11:45			332	1361 321	1246 653	2607	23:45			46	260 105	395 151	655		
TOTALS			9246	8438	17684		TOTALS			14650	13766	28416			
SPLIT %			52.3%	47.7%	38.4%		SPLIT %			51.6%	48.4%	61.6%			

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						23,896	22,204	46,100	

AM Peak Hour			07:45	07:00	07:30		PM Peak Hour			16:45	16:45	16:45			
AM Pk Volume			1834	1718	3463		PM Pk Volume			1880	1855	3735			
Pk Hr Factor			0.877	0.900	0.964		Pk Hr Factor			0.963	0.970	0.967			
7 - 9 Volume	0	0	3226	3156	6382		4 - 6 Volume	0	0	3633	3567	7200			
7 - 9 Peak Hour			07:45	07:00	07:30		4 - 6 Peak Hour			16:45	16:45	16:45			
7 - 9 Pk Volume	0	0	1834	1718	3463		4 - 6 Pk Volume	0	0	1880	1855	3735			
Pk Hr Factor	0.000	0.000	0.877	0.900	0.964		Pk Hr Factor	0.000	0.000	0.963	0.970	0.967			

VOLUME

Katella Ave btwn Bloomfield St & Lexington

Day: Wednesday

Date: 9/5/2012

City: Cypress

Project #: CA12_1169_009

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						23,896	22,204	46,100	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			48	59	107		12:00			348	394	742			
00:15			50	46	96		12:15			329	343	672			
00:30			45	52	97		12:30			380	341	721			
00:45			44	187	26	183	12:45			387	1444	324	1402	711	2846
01:00			28	42	70		13:00			354	325	679			
01:15			29	32	61		13:15			368	327	695			
01:30			25	45	70		13:30			449	321	770			
01:45			26	108	40	159	13:45			383	1554	282	1255	665	2809
02:00			19	28	47		14:00			367	354	721			
02:15			23	23	46		14:15			386	305	691			
02:30			22	26	48		14:30			381	396	777			
02:45			22	86	18	95	14:45			441	1575	356	1411	797	2986
03:00			22	25	47		15:00			423	361	784			
03:15			31	22	53		15:15			412	384	796			
03:30			31	23	54		15:30			427	447	874			
03:45			47	131	16	86	15:45			457	1719	364	1556	821	3275
04:00			42	31	73		16:00			437	427	864			
04:15			49	36	85		16:15			438	412	850			
04:30			60	37	97		16:30			426	454	880			
04:45			78	229	63	167	16:45			477	1778	459	1752	936	3530
05:00			62	47	109		17:00			488	478	966			
05:15			102	78	180		17:15			459	460	919			
05:30			172	119	291		17:30			456	458	914			
05:45			206	542	106	350	17:45			452	1855	419	1815	871	3670
06:00			144	153	297		18:00			451	373	824			
06:15			167	186	353		18:15			437	370	807			
06:30			204	258	462		18:30			377	332	709			
06:45			302	817	282	879	18:45			396	1661	336	1411	732	3072
07:00			263	400	663		19:00			328	303	631			
07:15			347	435	782		19:15			320	229	549			
07:30			421	477	898		19:30			244	198	442			
07:45			451	1482	406	1718	19:45			232	1124	175	905	407	2029
08:00			523	353	876		20:00			188	205	393			
08:15			438	394	832		20:15			167	200	367			
08:30			422	355	777		20:30			186	310	496			
08:45			361	1744	336	1438	20:45			137	678	270	985	407	1663
09:00			324	259	583		21:00			138	181	319			
09:15			341	259	600		21:15			124	134	258			
09:30			322	285	607		21:30			134	116	250			
09:45			349	1336	275	1078	21:45			127	523	128	559	255	1082
10:00			297	252	549		22:00			118	83	201			
10:15			307	266	573		22:15			188	90	278			
10:30			305	252	557		22:30			102	81	183			
10:45			314	1223	269	1039	22:45			71	479	66	320	137	799
11:00			299	306	605		23:00			78	87	165			
11:15			379	300	679		23:15			65	72	137			
11:30			351	319	670		23:30			71	131	202			
11:45			332	1361	321	1246	23:45			46	260	105	395	151	655
TOTALS			9246	8438	17684		TOTALS			14650	13766	28416			
SPLIT %			52.3%	47.7%	38.4%		SPLIT %			51.6%	48.4%	61.6%			

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						23,896	22,204	46,100	

AM Peak Hour			07:45	07:00	07:30		PM Peak Hour			16:45	16:45	16:45			
AM Pk Volume			1834	1718	3463		PM Pk Volume			1880	1855	3735			
Pk Hr Factor			0.877	0.900	0.964		Pk Hr Factor			0.963	0.970	0.967			
7 - 9 Volume	0	0	3226	3156	6382		4 - 6 Volume	0	0	3633	3567	7200			
7 - 9 Peak Hour			07:45	07:00	07:30		4 - 6 Peak Hour			16:45	16:45	16:45			
7 - 9 Pk Volume	0	0	1834	1718	3463		4 - 6 Pk Volume	0	0	1880	1855	3735			
Pk Hr Factor	0.000	0.000	0.877	0.900	0.964		Pk Hr Factor	0.000	0.000	0.963	0.970	0.967			

VOLUME

Katella Ave btwn Lexington & Walker St

Day: Wednesday

Date: 9/5/2012

City: Cypress

Project #: CA12_1169_010

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						24,053	21,837	45,890	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			74	67	141		12:00			336	337	673			
00:15			71	51	122		12:15			332	310	642			
00:30			61	48	109		12:30			357	331	688			
00:45			60	266	27	193	12:45			364	1389	333	1311	697	2700
01:00			39	40	79		13:00			355	335	690			
01:15			35	34	69		13:15			351	332	683			
01:30			30	27	57		13:30			432	290	722			
01:45			45	149	35	136	13:45			382	1520	296	1253	678	2773
02:00			25	25	50		14:00			372	335	707			
02:15			24	24	48		14:15			329	303	632			
02:30			44	21	65		14:30			422	318	740			
02:45			30	123	19	89	14:45			427	1550	349	1305	776	2855
03:00			21	23	44		15:00			425	326	751			
03:15			36	20	56		15:15			409	389	798			
03:30			34	19	53		15:30			493	355	848			
03:45			43	134	17	79	15:45			469	1796	381	1451	850	3247
04:00			48	36	84		16:00			473	374	847			
04:15			59	36	95		16:15			456	366	822			
04:30			59	55	114		16:30			512	420	932			
04:45			67	233	78	205	16:45			453	1894	445	1605	898	3499
05:00			71	57	128		17:00			526	419	945			
05:15			77	98	175		17:15			481	495	976			
05:30			139	157	296		17:30			433	440	873			
05:45			160	447	140	452	17:45			437	1877	425	1779	862	3656
06:00			158	159	317		18:00			409	369	778			
06:15			181	191	372		18:15			421	392	813			
06:30			224	281	505		18:30			352	327	679			
06:45			362	925	300	931	18:45			371	1553	357	1445	728	2998
07:00			316	419	735		19:00			322	306	628			
07:15			387	484	871		19:15			288	217	505			
07:30			387	481	868		19:30			249	183	432			
07:45			464	1554	396	1780	19:45			252	1111	177	883	429	1994
08:00			426	450	876		20:00			203	191	394			
08:15			447	406	853		20:15			178	206	384			
08:30			427	359	786		20:30			197	212	409			
08:45			398	1698	341	1556	20:45			187	765	222	831	409	1596
09:00			328	274	602		21:00			138	157	295			
09:15			329	268	597		21:15			125	121	246			
09:30			310	271	581		21:30			113	123	236			
09:45			307	1274	266	1079	21:45			129	505	106	507	235	1012
10:00			283	267	550		22:00			127	83	210			
10:15			301	242	543		22:15			193	75	268			
10:30			274	259	533		22:30			105	103	208			
10:45			302	1160	257	1025	22:45			85	510	64	325	149	835
11:00			326	287	613		23:00			87	95	182			
11:15			293	310	603		23:15			73	80	153			
11:30			353	299	652		23:30			92	122	214			
11:45			334	1306	321	1217	23:45			62	314	103	400	165	714
TOTALS			9269	8742	18011		TOTALS			14784	13095	27879			
SPLIT %			51.5%	48.5%	39.2%		SPLIT %			53.0%	47.0%	60.8%			

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						24,053	21,837	45,890	

AM Peak Hour			07:45	07:15	07:15		PM Peak Hour			16:30	16:45	16:30			
AM Pk Volume			1764	1811	3475		PM Pk Volume			1972	1799	3751			
Pk Hr Factor			0.950	0.935	0.992		Pk Hr Factor			0.937	0.909	0.961			
7 - 9 Volume	0	0	3252	3336	6588		4 - 6 Volume	0	0	3771	3384	7155			
7 - 9 Peak Hour			07:45	07:15	07:15		4 - 6 Peak Hour			16:30	16:45	16:30			
7 - 9 Pk Volume	0	0	1764	1811	3475		4 - 6 Pk Volume	0	0	1972	1799	3751			
Pk Hr Factor	0.000	0.000	0.950	0.935	0.992		Pk Hr Factor	0.000	0.000	0.937	0.909	0.961			

VOLUME

Bloomfield St btwn Katella Ave & Cerritos Ave

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_011

DAILY TOTALS					NB	SB						EB	WB						Total
					6,969	7,194						0	0						14,163
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00	11	5			16		12:00	116	99			215							
00:15	5	5			10		12:15	126	100			226							
00:30	6	4			10		12:30	105	138			243							
00:45	6	28	3	17	9	45	12:45	87	434	117	454	204	888						
01:00	13	1			14		13:00	113	108			221							
01:15	9	4			13		13:15	153	170			323							
01:30	5	2			7		13:30	104	164			268							
01:45	4	31	1	8	5	39	13:45	101	471	121	563	222	1034						
02:00	2	3			5		14:00	113	102			215							
02:15	4	2			6		14:15	113	91			204							
02:30	5	2			7		14:30	142	123			265							
02:45	6	17	2	9	8	26	14:45	135	503	149	465	284	968						
03:00	5	2			7		15:00	177	122			299							
03:15	5	4			9		15:15	169	267			436							
03:30	2	1			3		15:30	146	151			297							
03:45	5	17	6	13	11	30	15:45	118	610	134	674	252	1284						
04:00	7	5			12		16:00	141	105			246							
04:15	1	6			7		16:15	146	103			249							
04:30	6	8			14		16:30	158	117			275							
04:45	6	20	14	33	20	53	16:45	162	607	133	458	295	1065						
05:00	7	22			29		17:00	179	110			289							
05:15	9	22			31		17:15	164	109			273							
05:30	12	31			43		17:30	133	107			240							
05:45	23	51	53	128	76	179	17:45	149	625	107	433	256	1058						
06:00	22	50			72		18:00	161	109			270							
06:15	33	48			81		18:15	108	83			191							
06:30	42	77			119		18:30	108	97			205							
06:45	51	148	108	283	159	431	18:45	88	465	103	392	191	857						
07:00	100	110			210		19:00	96	106			202							
07:15	213	147			360		19:15	70	78			148							
07:30	231	269			500		19:30	92	108			200							
07:45	156	700	263	789	419	1489	19:45	74	332	60	352	134	684						
08:00	121	154			275		20:00	71	41			112							
08:15	154	176			330		20:15	47	38			85							
08:30	180	194			374		20:30	57	49			106							
08:45	87	542	126	650	213	1192	20:45	51	226	41	169	92	395						
09:00	69	93			162		21:00	43	38			81							
09:15	51	101			152		21:15	36	42			78							
09:30	57	74			131		21:30	35	21			56							
09:45	65	242	77	345	142	587	21:45	35	149	24	125	59	274						
10:00	55	75			130		22:00	28	15			43							
10:15	56	69			125		22:15	48	15			63							
10:30	49	96			145		22:30	25	18			43							
10:45	92	252	88	328	180	580	22:45	24	125	22	70	46	195						
11:00	57	76			133		23:00	16	7			23							
11:15	90	94			184		23:15	23	12			35							
11:30	76	100			176		23:30	25	9			34							
11:45	79	302	129	399	208	701	23:45	8	72	9	37	17	109						
TOTALS	2350	3002			5352		TOTALS	4619	4192			8811							
SPLIT %	43.9%	56.1%			37.8%		SPLIT %	52.4%	47.6%			62.2%							

DAILY TOTALS					NB	SB						EB	WB						Total
					6,969	7,194						0	0						14,163

AM Peak Hour	07:15	07:30			07:15		PM Peak Hour	16:30	14:45			14:45							
AM Pk Volume	721	862			1554		PM Pk Volume	663	689			1316							
Pk Hr Factor	0.780	0.801			0.777		Pk Hr Factor	0.926	0.645			0.755							
7 - 9 Volume	1242	1439	0	0	2681		4 - 6 Volume	1232	891	0	0	2123							
7 - 9 Peak Hour	07:15	07:30			07:15		4 - 6 Peak Hour	16:30	16:30			16:30							
7 - 9 Pk Volume	721	862	0	0	1554		4 - 6 Pk Volume	663	469	0	0	1132							
Pk Hr Factor	0.780	0.801	0.000	0.000	0.777		Pk Hr Factor	0.926	0.882	0.000	0.000	0.959							

VOLUME

Bloomfield St btwn Cerritos Ave & Ball Rd

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_012

DAILY TOTALS					NB	SB						EB	WB						Total
					6,535	5,936						0	0						12,471
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00	17	7			24		12:00	103	78			181							
00:15	8	3			11		12:15	98	103			201							
00:30	5	2			7		12:30	90	98			188							
00:45	7	37	3	15	10	52	12:45	102	393	97	376	199	769						
01:00	13	1			14		13:00	71	107			178							
01:15	7	4			11		13:15	161	134			295							
01:30	7	0			7		13:30	114	100			214							
01:45	6	33	0	5	6	38	13:45	95	441	88	429	183	870						
02:00	2	1			3		14:00	105	93			198							
02:15	2	2			4		14:15	91	78			169							
02:30	2	1			3		14:30	139	104			243							
02:45	4	10	1	5	5	15	14:45	100	435	118	393	218	828						
03:00	5	0			5		15:00	123	131			254							
03:15	2	1			3		15:15	168	102			270							
03:30	1	1			2		15:30	146	102			248							
03:45	2	10	4	6	6	16	15:45	132	569	82	417	214	986						
04:00	1	7			8		16:00	140	93			233							
04:15	0	7			7		16:15	152	78			230							
04:30	4	5			9		16:30	145	89			234							
04:45	5	10	10	29	15	39	16:45	159	596	98	358	257	954						
05:00	4	23			27		17:00	184	78			262							
05:15	2	25			27		17:15	161	100			261							
05:30	11	45			56		17:30	169	96			265							
05:45	13	30	53	146	66	176	17:45	149	663	86	360	235	1023						
06:00	23	62			85		18:00	167	97			264							
06:15	27	64			91		18:15	135	76			211							
06:30	21	100			121		18:30	125	93			218							
06:45	25	96	106	332	131	428	18:45	105	532	90	356	195	888						
07:00	40	111			151		19:00	115	81			196							
07:15	71	165			236		19:15	94	64			158							
07:30	138	168			306		19:30	116	65			181							
07:45	126	375	149	593	275	968	19:45	99	424	45	255	144	679						
08:00	99	117			216		20:00	88	38			126							
08:15	71	122			193		20:15	64	25			89							
08:30	87	136			223		20:30	75	25			100							
08:45	82	339	110	485	192	824	20:45	76	303	43	131	119	434						
09:00	64	92			156		21:00	59	38			97							
09:15	58	99			157		21:15	55	29			84							
09:30	67	79			146		21:30	42	18			60							
09:45	55	244	100	370	155	614	21:45	35	191	24	109	59	300						
10:00	57	76			133		22:00	44	20			64							
10:15	63	72			135		22:15	37	15			52							
10:30	75	79			154		22:30	24	12			36							
10:45	99	294	89	316	188	610	22:45	29	134	13	60	42	194						
11:00	62	79			141		23:00	13	7			20							
11:15	81	82			163		23:15	21	7			28							
11:30	83	88			171		23:30	22	6			28							
11:45	78	304	113	362	191	666	23:45	16	72	8	28	24	100						
TOTALS	1782	2664			4446		TOTALS	4753	3272			8025							
SPLIT %	40.1%	59.9%			35.7%		SPLIT %	59.2%	40.8%			64.3%							

DAILY TOTALS					NB	SB						EB	WB						Total
					6,535	5,936						0	0						12,471

AM Peak Hour	07:15	07:15			07:15		PM Peak Hour	16:45	14:30			16:45							
AM Pk Volume	434	599			1033		PM Pk Volume	673	455			1045							
Pk Hr Factor	0.786	0.891			0.844		Pk Hr Factor	0.914	0.868			0.986							
7 - 9 Volume	714	1078	0	0	1792		4 - 6 Volume	1259	718	0	0	1977							
7 - 9 Peak Hour	07:15	07:15			07:15		4 - 6 Peak Hour	16:45	16:45	0	0	16:45							
7 - 9 Pk Volume	434	599	0	0	1033		4 - 6 Pk Volume	673	372	0	0	1045							
Pk Hr Factor	0.786	0.891	0.000	0.000	0.844		Pk Hr Factor	0.914	0.930	0.000	0.000	0.986							

VOLUME

Cerritos Ave btwn I-605 & Los Alamitos Blvd

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_013

DAILY TOTALS					NB	SB	EBWB					Total			
					0	0						15,696	13,695	29,391	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			9	34	43		12:00			185	193	378			
00:15			10	21	31		12:15			169	172	341			
00:30			8	20	28		12:30			166	165	331			
00:45			4	31	9	84	12:45			206	726	153	683	359	1409
01:00			3	7	10		13:00			210	179	389			
01:15			7	10	17		13:15			206	184	390			
01:30			7	5	12		13:30			220	237	457			
01:45			5	22	9	31	13:45			229	865	191	791	420	1656
02:00			2	10	12		14:00			210	201	411			
02:15			2	14	16		14:15			307	194	501			
02:30			4	12	16		14:30			246	271	517			
02:45			5	13	13	49	14:45			288	1051	262	928	550	1979
03:00			8	10	18		15:00			274	239	513			
03:15			7	13	20		15:15			262	242	504			
03:30			4	20	24		15:30			252	244	496			
03:45			3	22	19	62	15:45			293	1081	228	953	521	2034
04:00			8	23	31		16:00			287	266	553			
04:15			21	17	38		16:15			313	239	552			
04:30			37	38	75		16:30			356	273	629			
04:45			65	131	49	127	16:45			334	1290	311	1089	645	2379
05:00			46	77	123		17:00			343	342	685			
05:15			63	91	154		17:15			364	284	648			
05:30			102	106	208		17:30			348	279	627			
05:45			154	365	119	393	17:45			358	1413	222	1127	580	2540
06:00			91	159	250		18:00			412	248	660			
06:15			111	173	284		18:15			296	241	537			
06:30			159	221	380		18:30			260	210	470			
06:45			234	595	233	786	18:45			272	1240	162	861	434	2101
07:00			276	268	544		19:00			305	140	445			
07:15			298	282	580		19:15			264	147	411			
07:30			333	261	594		19:30			212	139	351			
07:45			377	1284	298	1109	19:45			171	952	100	526	271	1478
08:00			334	243	577		20:00			159	84	243			
08:15			307	282	589		20:15			158	83	241			
08:30			254	275	529		20:30			146	152	298			
08:45			260	1155	211	1011	20:45			138	601	119	438	257	1039
09:00			196	194	390		21:00			159	105	264			
09:15			174	162	336		21:15			119	71	190			
09:30			177	185	362		21:30			72	70	142			
09:45			168	715	139	680	21:45			54	404	56	302	110	706
10:00			171	166	337		22:00			85	54	139			
10:15			151	189	340		22:15			54	46	100			
10:30			151	157	308		22:30			62	47	109			
10:45			192	665	150	662	22:45			46	247	39	186	85	433
11:00			150	167	317		23:00			36	38	74			
11:15			190	160	350		23:15			35	47	82			
11:30			193	175	368		23:30			20	36	56			
11:45			189	722	167	669	23:45			15	106	27	148	42	254
TOTALS			5720	5663	11383		TOTALS			9976	8032	18008			
SPLIT %			50.3%	49.7%	38.7%		SPLIT %			55.4%	44.6%	61.3%			

DAILY TOTALS					NB	SB	EB WB				Total
					0	0	15,696 13,695				29,391

AM Peak Hour			07:30	07:00	07:30	PM Peak Hour			17:15	16:45	16:30
AM Pk Volume			1351	1109	2435	PM Pk Volume			1482	1216	2607
Pk Hr Factor			0.896	0.930	0.902	Pk Hr Factor			0.899	0.889	0.951
7 - 9 Volume	0	0	2439	2120	4559	4 - 6 Volume	0	0	2703	2216	4919
7 - 9 Peak Hour			07:30	07:00	07:30	4 - 6 Peak Hour			17:00	16:45	16:30
7 - 9 Pk Volume	0	0	1351	1109	2435	4 - 6 Pk Volume	0	0	1413	1216	2607
Pk Hr Factor	0.000	0.000	0.896	0.930	0.902	Pk Hr Factor	0.000	0.000	0.970	0.889	0.951

VOLUME

Cerritos Ave btwn Los Alamitos Blvd & Bloomfield St

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_014

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0	13,798		13,134			26,932	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			18	23	41		12:00			173	169	342	
00:15			20	15	35		12:15			147	175	322	
00:30			15	14	29		12:30			183	148	331	
00:45			7	60	6	58	12:45			185	688	154	646
01:00			9	8	17		13:00			193	167	360	
01:15			8	4	12		13:15			196	173	369	
01:30			5	4	9		13:30			205	205	410	
01:45			10	32	4	20	13:45			207	801	164	709
02:00			5	9	14		14:00			171	172	343	
02:15			4	8	12		14:15			217	182	399	
02:30			4	8	12		14:30			282	264	546	
02:45			9	22	8	33	14:45			359	1029	190	808
03:00			8	14	22		15:00			292	209	501	
03:15			8	11	19		15:15			277	268	545	
03:30			5	9	14		15:30			230	251	481	
03:45			9	30	13	47	15:45			243	1042	201	929
04:00			5	23	28		16:00			263	255	518	
04:15			19	23	42		16:15			298	232	530	
04:30			39	49	88		16:30			307	240	547	
04:45			58	121	55	150	16:45			293	1161	297	1024
05:00			43	73	116		17:00			326	313	639	
05:15			51	97	148		17:15			331	288	619	
05:30			69	126	195		17:30			315	239	554	
05:45			111	274	146	442	17:45			290	1262	227	1067
06:00			85	137	222		18:00			361	229	590	
06:15			93	175	268		18:15			294	210	504	
06:30			128	253	381		18:30			254	179	433	
06:45			174	480	260	825	18:45			261	1170	149	767
07:00			166	309	475		19:00			221	138	359	
07:15			188	414	602		19:15			233	107	340	
07:30			285	375	660		19:30			174	99	273	
07:45			333	972	247	1345	19:45			152	780	90	434
08:00			291	235	526		20:00			140	73	213	
08:15			266	283	549		20:15			126	79	205	
08:30			224	275	499		20:30			110	132	242	
08:45			233	1014	216	1009	20:45			110	486	112	396
09:00			164	164	328		21:00			128	89	217	
09:15			150	159	309		21:15			88	73	161	
09:30			128	163	291		21:30			72	67	139	
09:45			124	566	158	644	21:45			45	333	56	285
10:00			154	160	314		22:00			84	47	131	
10:15			146	151	297		22:15			37	42	79	
10:30			117	138	255		22:30			39	40	79	
10:45			159	576	134	583	22:45			34	194	37	166
11:00			129	145	274		23:00			33	30	63	
11:15			150	142	292		23:15			26	30	56	
11:30			159	166	325		23:30			24	30	54	
11:45			164	602	185	638	23:45			20	103	19	109
TOTALS			4749	5794	10543		TOTALS			9049	7340	16389	
SPLIT %			45.0%	55.0%	39.1%		SPLIT %			55.2%	44.8%	60.9%	

DAILY TOTALS					NB	SB	EB				WB	Total
					0	0	13,798				13,134	26,932

AM Peak Hour			07:30	06:45	07:15	PM Peak Hour			17:15	16:30	16:45
AM Pk Volume			1175	1358	2368	PM Pk Volume			1297	1138	2402
Pk Hr Factor			0.882	0.820	0.897	Pk Hr Factor			0.898	0.909	0.940
7 - 9 Volume	0	0	1986	2354	4340	4 - 6 Volume	0	0	2423	2091	4514
7 - 9 Peak Hour			07:30	07:00	07:15	4 - 6 Peak Hour			16:45	16:30	16:45
7 - 9 Pk Volume	0	0	1175	1345	2368	4 - 6 Pk Volume	0	0	1265	1138	2402
Pk Hr Factor	0.000	0.000	0.882	0.812	0.897	Pk Hr Factor	0.000	0.000	0.955	0.909	0.940

VOLUME

Cerritos Ave btwn Bloomfield St & Lexington

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_015

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						12,215	11,844
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			18	17	35		12:00			156	148	304	
00:15			24	11	35		12:15			148	176	324	
00:30			17	7	24		12:30			166	159	325	
00:45			22	81	6	41	12:45			148	618	138	621
01:00			12	13	25		13:00			151	151	302	
01:15			14	2	16		13:15			141	122	263	
01:30			12	9	21		13:30			126	159	285	
01:45			15	53	9	33	13:45			148	566	166	598
02:00			5	5	10		14:00			131	158	289	
02:15			14	8	22		14:15			173	155	328	
02:30			13	6	19		14:30			183	202	385	
02:45			11	43	12	31	14:45			216	703	223	738
03:00			7	10	17		15:00			207	206	413	
03:15			11	6	17		15:15			309	238	547	
03:30			10	10	20		15:30			239	188	427	
03:45			18	46	14	40	15:45			237	992	162	794
04:00			17	29	46		16:00			256	233	489	
04:15			21	25	46		16:15			256	205	461	
04:30			32	58	90		16:30			298	259	557	
04:45			57	127	46	158	16:45			316	1126	249	946
05:00			31	72	103		17:00			287	335	622	
05:15			50	99	149		17:15			282	285	567	
05:30			76	111	187		17:30			328	256	584	
05:45			111	268	125	407	17:45			293	1190	210	1086
06:00			67	123	190		18:00			268	210	478	
06:15			83	168	251		18:15			230	174	404	
06:30			117	195	312		18:30			215	138	353	
06:45			193	460	272	758	18:45			173	886	146	668
07:00			159	260	419		19:00			167	129	296	
07:15			182	363	545		19:15			135	123	258	
07:30			248	237	485		19:30			121	99	220	
07:45			354	943	234	1094	19:45			118	541	84	435
08:00			314	227	541		20:00			104	92	196	
08:15			263	242	505		20:15			104	70	174	
08:30			251	244	495		20:30			88	59	147	
08:45			192	1020	213	926	20:45			84	380	60	281
09:00			148	181	329		21:00			74	80	154	
09:15			153	169	322		21:15			85	66	151	
09:30			123	177	300		21:30			54	51	105	
09:45			140	564	131	658	21:45			65	278	40	237
10:00			114	137	251		22:00			48	33	81	
10:15			119	107	226		22:15			47	42	89	
10:30			127	123	250		22:30			53	43	96	
10:45			130	490	141	508	22:45			53	201	28	146
11:00			115	122	237		23:00			31	36	67	
11:15			138	107	245		23:15			25	20	45	
11:30			148	154	302		23:30			34	27	61	
11:45			126	527	155	538	23:45			22	112	19	102
TOTALS			4622	5192	9814		TOTALS			7593	6652	14245	
SPLIT %			47.1%	52.9%	40.8%		SPLIT %			53.3%	46.7%	59.2%	

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						12,215	11,844						24,059

AM Peak Hour			07:45	06:45	07:15		PM Peak Hour			16:45	16:30	16:45							
AM Pk Volume			1182	1132	2159		PM Pk Volume			1213	1128	2338							
Pk Hr Factor			0.835	0.780	0.918		Pk Hr Factor			0.925	0.842	0.940							
7 - 9 Volume	0	0	1963	2020	3983		4 - 6 Volume	0	0	2316	2032	4348							
7 - 9 Peak Hour			07:45	07:00	07:15		4 - 6 Peak Hour			16:45	16:30	16:45							
7 - 9 Pk Volume	0	0	1182	1094	2159		4 - 6 Pk Volume	0	0	1213	1128	2338							
Pk Hr Factor	0.000	0.000	0.835	0.753	0.918		Pk Hr Factor	0.000	0.000	0.925	0.842	0.940							

VOLUME

Farquhar Ave btwn Los Alamitos Blvd & Bloomfield St

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_016

DAILY TOTALS					NB	SB	EB				WB	Total
					0	0	2,780				2,745	5,525
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL
00:00			5	2	7		12:00			33	62	95
00:15			1	0	1		12:15			42	33	75
00:30			0	2	2		12:30			34	54	88
00:45			0	6	0	10	12:45			55	164	203
01:00			0	1	1		13:00			39	42	81
01:15			0	0	0		13:15			58	41	99
01:30			2	0	2		13:30			41	37	78
01:45			1	3	1	4	13:45			49	187	236
02:00			0	0	0		14:00			39	45	84
02:15			3	3	6		14:15			45	24	69
02:30			0	0	0		14:30			52	51	103
02:45			0	3	1	4	14:45			38	174	212
03:00			0	2	2		15:00			68	56	124
03:15			1	2	3		15:15			49	90	139
03:30			3	0	3		15:30			34	70	104
03:45			1	5	1	9	15:45			51	202	253
04:00			1	1	2		16:00			55	66	121
04:15			1	2	3		16:15			63	55	118
04:30			4	1	5		16:30			49	92	141
04:45			5	11	7	17	16:45			45	212	257
05:00			3	6	9		17:00			38	76	114
05:15			7	5	12		17:15			66	59	125
05:30			10	9	19		17:30			46	63	109
05:45			15	35	29	69	17:45			64	214	278
06:00			5	13	18		18:00			58	54	112
06:15			15	10	25		18:15			59	43	102
06:30			16	20	36		18:30			48	52	100
06:45			34	70	61	140	18:45			38	203	241
07:00			42	21	63		19:00			49	37	86
07:15			65	40	105		19:15			36	37	73
07:30			62	100	162		19:30			36	41	77
07:45			70	239	137	467	19:45			37	158	195
08:00			100	31	131		20:00			23	21	44
08:15			85	46	131		20:15			26	16	42
08:30			62	46	108		20:30			22	21	43
08:45			56	303	90	460	20:45			18	89	107
09:00			32	27	59		21:00			20	15	35
09:15			32	25	57		21:15			32	14	46
09:30			27	25	52		21:30			11	13	24
09:45			29	120	56	224	21:45			17	80	97
10:00			23	38	61		22:00			10	11	21
10:15			28	39	67		22:15			14	8	22
10:30			21	23	44		22:30			8	3	11
10:45			22	94	52	224	22:45			5	37	42
11:00			31	42	73		23:00			6	2	8
11:15			44	48	92		23:15			5	3	8
11:30			34	28	62		23:30			1	2	3
11:45			44	153	84	311	23:45			6	18	24
TOTALS			1042	900	1942		TOTALS			1738	1845	3583
SPLIT %			53.7%	46.3%	35.1%		SPLIT %			48.5%	51.5%	64.9%

DAILY TOTALS					NB	SB	EB				WB	Total
					0	0	2,780				2,745	5,525

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:15	16:30	16:00
AM Pk Volume			317	244	561	PM Pk Volume			234	300	498
Pk Hr Factor			0.793	0.610	0.866	Pk Hr Factor			0.886	0.815	0.883
7 - 9 Volume	0	0	542	385	927	4 - 6 Volume	0	0	426	540	966
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	16:30	16:00
7 - 9 Pk Volume	0	0	317	244	561	4 - 6 Pk Volume	0	0	214	300	498
Pk Hr Factor	0.000	0.000	0.793	0.610	0.866	Pk Hr Factor	0.000	0.000	0.811	0.815	0.883

VOLUME

Farquhar Ave btwn Bloomfield St & Lexington

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_017

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						1,875	1,887
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			3	0	3		12:00			22	40	62	
00:15			1	0	1		12:15			33	27	60	
00:30			0	0	0		12:30			25	42	67	
00:45			1	5	1	1	12:45			36	116	41	150
01:00			0	2	2		13:00			37	35	72	
01:15			1	0	1		13:15			46	27	73	
01:30			1	0	1		13:30			27	23	50	
01:45			1	3	0	2	13:45			35	145	21	106
02:00			0	0	0		14:00			28	22	50	
02:15			2	2	4		14:15			25	15	40	
02:30			0	0	0		14:30			31	30	61	
02:45			0	2	0	2	14:45			20	104	23	90
03:00			0	1	1		15:00			37	41	78	
03:15			0	1	1		15:15			25	42	67	
03:30			2	1	3		15:30			26	54	80	
03:45			1	3	0	3	15:45			43	131	39	176
04:00			1	1	2		16:00			42	44	86	
04:15			1	2	3		16:15			43	47	90	
04:30			4	1	5		16:30			32	73	105	
04:45			5	11	2	6	16:45			33	150	47	211
05:00			5	6	11		17:00			31	55	86	
05:15			7	3	10		17:15			44	41	85	
05:30			9	6	15		17:30			27	42	69	
05:45			16	37	9	24	17:45			43	145	43	181
06:00			4	8	12		18:00			41	49	90	
06:15			13	12	25		18:15			38	39	77	
06:30			16	17	33		18:30			41	37	78	
06:45			24	57	14	51	18:45			26	146	28	153
07:00			30	17	47		19:00			24	25	49	
07:15			24	24	48		19:15			29	20	49	
07:30			30	68	98		19:30			26	18	44	
07:45			61	145	39	148	19:45			24	103	21	84
08:00			63	20	83		20:00			12	18	30	
08:15			32	23	55		20:15			13	10	23	
08:30			27	18	45		20:30			14	16	30	
08:45			40	162	19	80	20:45			12	51	27	71
09:00			16	19	35		21:00			19	14	33	
09:15			20	19	39		21:15			19	12	31	
09:30			17	20	37		21:30			11	12	23	
09:45			25	78	10	68	21:45			9	58	12	50
10:00			18	22	40		22:00			4	8	12	
10:15			26	21	47		22:15			8	5	13	
10:30			15	19	34		22:30			6	5	11	
10:45			17	76	24	86	22:45			4	22	3	21
11:00			22	34	56		23:00			5	1	6	
11:15			28	31	59		23:15			2	1	3	
11:30			28	19	47		23:30			1	4	5	
11:45			35	113	28	112	23:45			4	12	5	11
TOTALS			692	583	1275		TOTALS			1183	1304	2487	
SPLIT %			54.3%	45.7%	33.9%		SPLIT %			47.6%	52.4%	66.1%	

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,875	1,887						3,762

AM Peak Hour			07:30	07:15	07:30	PM Peak Hour			17:45	16:15	15:45
AM Pk Volume			186	151	336	PM Pk Volume			163	222	363
Pk Hr Factor			0.738	0.555	0.840	Pk Hr Factor			0.948	0.760	0.864
7 - 9 Volume	0	0	307	228	535	4 - 6 Volume	0	0	295	392	687
7 - 9 Peak Hour			07:30	07:15	07:30	4 - 6 Peak Hour			16:00	16:15	16:00
7 - 9 Pk Volume	0	0	186	151	336	4 - 6 Pk Volume	0	0	150	222	361
Pk Hr Factor	0.000	0.000	0.738	0.555	0.840	Pk Hr Factor	0.000	0.000	0.872	0.760	0.860

VOLUME

Bloomfield St btwn Farquhar Ave & Katella Ave

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_018

DAILY TOTALS					NB	SB	EBWB					Total
					1,449	1,476						0
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	1	4			5	12:00	21	27			48	
00:15	0	0			0	12:15	14	16			30	
00:30	1	2			3	12:30	16	22			38	
00:45	0	2	0	6	0	12:45	22	73	19	84	41	
01:00	0	1			1	13:00	14	20			34	
01:15	0	1			1	13:15	20	24			44	
01:30	1	3			4	13:30	20	22			42	
01:45	2	3	2	7	4	13:45	22	76	26	92	48	
02:00	0	0			0	14:00	21	24			45	
02:15	0	0			0	14:15	17	15			32	
02:30	0	0			0	14:30	35	35			70	
02:45	0	0			0	14:45	19	92	33	107	52	
03:00	0	1			1	15:00	45	29			74	
03:15	2	1			3	15:15	26	58			84	
03:30	1	0			1	15:30	27	36			63	
03:45	1	4	0	2	1	15:45	13	111	20	143	33	
04:00	1	2			3	16:00	24	34			58	
04:15	0	1			1	16:15	24	21			45	
04:30	2	1			3	16:30	25	30			55	
04:45	4	7	0	4	4	16:45	23	96	35	120	58	
05:00	2	4			6	17:00	15	37			52	
05:15	2	3			5	17:15	32	36			68	
05:30	5	3			8	17:30	20	39			59	
05:45	4	13	6	16	10	17:45	35	102	22	134	57	
06:00	2	1			3	18:00	24	31			55	
06:15	8	2			10	18:15	27	19			46	
06:30	17	12			29	18:30	13	31			44	
06:45	17	44	15	30	32	18:45	16	80	22	103	38	
07:00	31	9			40	19:00	24	26			50	
07:15	70	18			88	19:15	9	21			30	
07:30	58	41			99	19:30	16	28			44	
07:45	33	192	46	114	79	19:45	22	71	14	89	36	
08:00	56	31			87	20:00	15	12			27	
08:15	63	33			96	20:15	15	16			31	
08:30	48	38			86	20:30	10	16			26	
08:45	28	195	19	121	47	20:45	8	48	12	56	20	
09:00	17	14			31	21:00	4	5			9	
09:15	17	14			31	21:15	13	14			27	
09:30	15	12			27	21:30	6	12			18	
09:45	11	60	15	55	26	21:45	6	29	6	37	12	
10:00	11	14			25	22:00	5	3			8	
10:15	18	21			39	22:15	10	8			18	
10:30	10	10			20	22:30	6	6			12	
10:45	10	49	9	54	19	22:45	4	25	6	23	10	
11:00	16	13			29	23:00	5	2			7	
11:15	18	19			37	23:15	2	8			10	
11:30	14	18			32	23:30	1	1			2	
11:45	18	66	17	67	35	23:45	3	11	1	12	4	
TOTALS	635	476			1111	TOTALS	814	1000			1814	
SPLIT %	57.2%	42.8%			38.0%	SPLIT %	44.9%	55.1%			62.0%	

DAILY TOTALS					NB	SB	EB	WB	Total
					1,449	1,476	0	0	2,925

AM Peak Hour	07:15	07:30			07:30	PM Peak Hour	14:30	14:45			14:30
AM Pk Volume	217	151			361	PM Pk Volume	125	156			280
Pk Hr Factor	0.775	0.821			0.912	Pk Hr Factor	0.694	0.672			0.833
7 - 9 Volume	387	235	0	0	622	4 - 6 Volume	198	254	0	0	452
7 - 9 Peak Hour	07:15	07:30			07:30	4 - 6 Peak Hour	17:00	16:45			16:45
7 - 9 Pk Volume	217	151	0	0	361	4 - 6 Pk Volume	102	147	0	0	237
Pk Hr Factor	0.775	0.821	0.000	0.000	0.912	Pk Hr Factor	0.729	0.942	0.000	0.000	0.871

VOLUME

Lexington Dr btwn Farquhar Ave & Katella Ave

Day: Wednesday

Date: 9/5/2012

City: Los Alamitos

Project #: CA12_1169_019

DAILY TOTALS					NB	SB	EBWB					Total
					2,752	2,919						0
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	2	2			4	12:00	66	51			117	
00:15	0	4			4	12:15	47	40			87	
00:30	2	1			3	12:30	30	52			82	
00:45	0	4	1	8	13	12:45	50	193	54	197	104 390	
01:00	1	2			3	13:00	45	53			98	
01:15	0	2			2	13:15	43	49			92	
01:30	0	0			0	13:30	37	30			67	
01:45	0	1	4	8	4	13:45	41	166	30	162	71 328	
02:00	0	0			0	14:00	33	21			54	
02:15	2	1			3	14:15	22	31			53	
02:30	1	0			1	14:30	49	25			74	
02:45	0	3	3	4	3	14:45	52	156	47	124	99 280	
03:00	3	2			5	15:00	64	27			91	
03:15	0	3			3	15:15	58	38			96	
03:30	1	1			2	15:30	89	39			128	
03:45	2	6	4	10	6	15:45	91	302	57	161	148 463	
04:00	2	5			7	16:00	78	34			112	
04:15	3	9			12	16:15	66	54			120	
04:30	2	10			12	16:30	133	37			170	
04:45	5	12	26	50	31	16:45	59	336	46	171	105 507	
05:00	3	21			24	17:00	73	46			119	
05:15	4	46			50	17:15	61	52			113	
05:30	8	89			97	17:30	56	43			99	
05:45	7	22	80	236	87	17:45	54	244	66	207	120 451	
06:00	9	37			46	18:00	44	61			105	
06:15	16	42			58	18:15	31	41			72	
06:30	21	62			83	18:30	57	33			90	
06:45	27	73	56	197	83	18:45	41	173	30	165	71 338	
07:00	46	48			94	19:00	25	24			49	
07:15	54	68			122	19:15	26	20			46	
07:30	47	69			116	19:30	18	28			46	
07:45	38	185	63	248	101	19:45	26	95	18	90	44 185	
08:00	47	87			134	20:00	36	22			58	
08:15	43	55			98	20:15	13	23			36	
08:30	36	62			98	20:30	36	22			58	
08:45	28	154	59	263	87	20:45	38	123	13	80	51 203	
09:00	25	55			80	21:00	10	10			20	
09:15	31	40			71	21:15	12	15			27	
09:30	22	39			61	21:30	11	30			41	
09:45	23	101	30	164	53	21:45	18	51	13	68	31 119	
10:00	30	31			61	22:00	23	6			29	
10:15	29	16			45	22:15	4	5			9	
10:30	27	36			63	22:30	6	13			19	
10:45	33	119	35	118	68	22:45	2	35	8	32	10 67	
11:00	47	27			74	23:00	3	14			17	
11:15	35	33			68	23:15	3	3			6	
11:30	57	28			85	23:30	7	5			12	
11:45	44	183	42	130	86	23:45	2	15	4	26	6 41	
TOTALS	863	1436			2299	TOTALS	1889	1483			3372	
SPLIT %	37.5%	62.5%			40.5%	SPLIT %	56.0%	44.0%			59.5%	

DAILY TOTALS					NB	SB	EB	WB	Total
					2,752	2,919	0	0	5,671

AM Peak Hour	11:30	07:15			07:15	PM Peak Hour	15:45	17:15			15:45
AM Pk Volume	214	287			473	PM Pk Volume	368	222			550
Pk Hr Factor	0.811	0.825			0.882	Pk Hr Factor	0.692	0.841			0.809
7 - 9 Volume	339	511	0	0	850	4 - 6 Volume	580	378	0	0	958
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:00	17:00			16:15
7 - 9 Pk Volume	186	287	0	0	473	4 - 6 Pk Volume	336	207	0	0	514
Pk Hr Factor	0.861	0.825	0.000	0.000	0.882	Pk Hr Factor	0.632	0.784	0.000	0.000	0.756

EXISTING ROADWAY COUNT SOURCE 4
I-605 CERRITOS INTERCHANGE STUDY, MARCH 2011
COUNTS TAKEN SEPTEMBER 2010



Volumes for: Tuesday, September 21, 2010						City: Los Alamitos	Daily Totals				Total
Location: Katella Ave just W/o Oak Ave						Project: 10-5365-003	NB	SB	EB	WB	
							0	0	32,535	31,472	64,007

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			40	57	12:00			402	435
00:15			44	36	12:15			428	430
00:30			33	28	12:30			411	442
00:45			27	144	12:45			433	1674
01:00			19	35	13:00			422	433
01:15			18	22	13:15			433	443
01:30			20	41	13:30			418	457
01:45			26	83	13:45			534	1807
02:00			10	19	14:00			547	467
02:15			13	25	14:15			517	527
02:30			20	21	14:30			501	524
02:45			17	60	14:45			525	2090
03:00			32	24	15:00			548	584
03:15			20	11	15:15			542	541
03:30			31	21	15:30			624	539
03:45			29	112	15:45			634	2348
04:00			33	48	16:00			640	551
04:15			31	51	16:15			640	613
04:30			48	77	16:30			686	603
04:45			65	177	16:45			715	2681
05:00			56	139	17:00			714	630
05:15			102	198	17:15			806	666
05:30			171	234	17:30			847	651
05:45			235	564	17:45			818	3185
06:00			168	328	18:00			846	554
06:15			239	406	18:15			716	521
06:30			295	492	18:30			572	444
06:45			490	1192	18:45			536	2670
07:00			411	660	19:00			426	401
07:15			615	650	19:15			368	347
07:30			728	685	19:30			393	341
07:45			740	2494	19:45			330	1517
08:00			695	595	20:00			301	260
08:15			563	617	20:15			276	208
08:30			536	498	20:30			233	197
08:45			537	2331	20:45			200	1010
09:00			442	464	21:00			206	242
09:15			405	429	21:15			198	194
09:30			387	383	21:30			182	193
09:45			431	1665	21:45			188	774
10:00			342	363	22:00			149	151
10:15			395	372	22:15			137	142
10:30			372	382	22:30			129	92
10:45			414	1523	22:45			88	503
11:00			409	423	23:00			82	95
11:15			434	420	23:15			73	83
11:30			402	410	23:30			63	70
11:45			402	1647	23:45			66	284

Total Vol.	11992	13069	25061		20543	18403	38946		
Daily Totals :					NB	SB	EB	WB	Total
					0	0	32,535	31,472	64,007
Split %	AM			PM					
	47.9%	52.1%	39.2%			52.7%	47.3%	60.8%	
AM				PM					
Peak Hr.	07:15	07:00	07:15	Peak Hr.		17:15	16:45	17:15	
Volume	2778	2690	5403	Volume		3317	2548	5783	
P.H.F.	0.939	0.968	0.941	P.H.F.		0.979	0.956	0.965	
7 - 9 Vol.	4825	4900	9725	4 - 6 Vol.		5866	4910	10776	
Peak Hr.	07:15	07:00	07:15	Peak Hr.		17:00	16:45	17:00	
Volume	2778	2690	5403	Volume		3185	2548	5727	
P.H.F.	0.939	0.968	0.941	P.H.F.		0.940	0.956	0.956	

APPENDIX B
EXISTING (2013) CONDITIONS LOS RESULTS



LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Scenario Report

Scenario:	Existing AM
Command:	Existing AM
Volume:	Existing AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Existing AM

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Impact Analysis Report
Level Of Service

Intersection		Base		Future		Change
		Del/	V/	Del/	V/	in
		LOS Veh	C	LOS Veh	C	
# 1 Los Alamitos Boulevard & Cerri	C	xxxxxx	0.770	C	xxxxxx	+ 0.000 V/C
# 2 Los Alamitos Boulevard & Katel	C	xxxxxx	0.787	C	xxxxxx	+ 0.000 V/C
# 3 Los Alamitos Boulevard & Farqu	A	xxxxxx	0.548	A	xxxxxx	+ 0.000 V/C
# 4 Los Alamitos Boulevard & Orang	B	xxxxxx	0.641	B	xxxxxx	+ 0.000 V/C
# 5 Los Alamitos Boulevard & Bradb	B	xxxxxx	0.623	B	xxxxxx	+ 0.000 V/C
# 6 Los Alamitos Boulevard & St. C	A	xxxxxx	0.534	A	xxxxxx	+ 0.000 V/C
# 7 Bloomfield Street & Ball Road	B	xxxxxx	0.690	B	xxxxxx	+ 0.000 V/C
# 8 Bloomfield Street & Cerritos A	D	xxxxxx	0.815	D	xxxxxx	+ 0.000 V/C
# 9 Bloomfield Street & Katella Av	B	xxxxxx	0.671	B	xxxxxx	+ 0.000 V/C
# 10 Lexington Avenue & Katella Ave	A	xxxxxx	0.528	A	xxxxxx	+ 0.000 V/C
# 11 Walker Street & Katella Avenue	B	xxxxxx	0.672	B	xxxxxx	+ 0.000 V/C
# 12 Wallingsford Road/ Walnut Stre	D	xxxxxx	0.857	D	xxxxxx	+ 0.000 V/C
# 13 Los Alamitos Boulevard & Rossm	A	xxxxxx	0.443	A	xxxxxx	+ 0.000 V/C
# 14 I-605 NB Ramps & Katella Ave	A	xxxxxx	0.355	A	xxxxxx	+ 0.000 V/C
#114 I-605 NB Ramps & Katella Ave	A	1.8	0.327	A	1.8	+ 0.000 D/V

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Los Alamitos Boulevard & Cerritos Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.770
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Los Alamitos Boulevard						Cerritos Avenue											
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R			
Control:	Protected						Protected						Protected					
Rights:	Include						Include						Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	2	1	0	1	0	2	0	1	1	0	2	0	1			

Volume Module:

Base Vol:	146	623	315	79	708	119	110	813	215	318	800	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	623	315	79	708	119	110	813	215	318	800	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	623	315	79	708	119	110	813	215	318	800	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	623	315	79	708	119	110	813	215	318	800	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	623	315	79	708	119	110	813	215	318	800	134

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1955	1700	3400	1955	1700	3400	1955	1700	3400	1955

Capacity Analysis Module:

Vol/Sat:	0.09	0.18	0.16	0.05	0.21	0.06	0.06	0.24	0.11	0.19	0.24	0.07
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Los Alamitos Boulevard & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.787

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 49 Level Of Service: C

Street Name: Los Alamitos Boulevard Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Ovl Ovl Ovl Ovl

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 2 0 3 0 1 2 0 3 0 1 2 0 3 0 1

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Volume Module:

Base Vol: 406 880 363 195 869 175 210 1878 314 267 1582 84

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

Initial Bse: 406 880 363 195 869 175 210 1878 314 267 1582 84

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 406 880 363 195 869 175 210 1878 314 267 1582 84

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

Reduced Vol: 406 880 363 195 869 175 210 1878 314 267 1582 84

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

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

FinalVolume: 406 880 363 195 869 175 210 1878 314 267 1582 84

OvlAdjVol: 209 54 81 0

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15

Lanes: 2.00 3.00 1.00 2.00 3.00 1.00 2.00 3.00 1.00 2.00 3.00 1.00

Final Sat.: 3400 5100 1955 3400 5100 1955 3400 5100 1955 3400 5100 1955

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Capacity Analysis Module:

Vol/Sat: 0.12 0.17 0.19 0.06 0.17 0.09 0.06 0.37 0.16 0.08 0.31 0.04

OvlAdjV/S: 0.11 0.03 0.04 0.00

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Los Alamitos Boulevard & Farquhar Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.548

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 26 Level Of Service: A

Street Name: Los Alamitos Boulevard Farquhar Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 2 1 0 1 0 3 0 0 0 0 0 0 1 0 1! 0 0

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Volume Module:

Base Vol: 0 1497 121 62 1176 0 0 0 0 373 0 118

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

Initial Bse: 0 1497 121 62 1176 0 0 0 0 373 0 118

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 1497 121 62 1176 0 0 0 0 373 0 118

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

Reduced Vol: 0 1497 121 62 1176 0 0 0 0 373 0 118

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

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

FinalVolume: 0 1497 121 62 1176 0 0 0 0 373 0 118

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 0.00 2.78 0.22 1.00 3.00 0.00 0.00 0.00 0.00 1.52 0.00 0.48

Final Sat.: 0 4719 381 1700 5100 0 0 0 0 2583 0 817

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Capacity Analysis Module:

Vol/Sat: 0.00 0.32 0.32 0.04 0.23 0.00 0.00 0.00 0.00 0.14 0.00 0.14

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Los Alamitos Boulevard & Orangewood Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.641

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 32 Level Of Service: B

Street Name: Los Alamitos Boulevard Orangewood Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Permitted Permitted

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 2 1 0 1 0 2 1 0 0 1 0 0 1 0 0 0 1! 0 0

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Volume Module:

Base Vol: 49 1393 85 102 1264 180 172 27 58 146 21 71

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

Initial Bse: 49 1393 85 102 1264 180 172 27 58 146 21 71

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 49 1393 85 102 1264 180 172 27 58 146 21 71

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

Reduced Vol: 49 1393 85 102 1264 180 172 27 58 146 21 71

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

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

FinalVolume: 49 1393 85 102 1264 180 172 27 58 146 21 71

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 1.00 2.83 0.17 1.00 2.63 0.37 0.86 0.14 1.00 0.61 0.09 0.30

Final Sat.: 1700 4807 293 1700 4464 636 1469 231 1955 1043 150 507

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Capacity Analysis Module:

Vol/Sat: 0.03 0.29 0.29 0.06 0.28 0.28 0.10 0.12 0.03 0.09 0.14 0.14

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Los Alamitos Boulevard & Bradbury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.623
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Los Alamitos Boulevard						Bradbury Road									
Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
Control:	Protected			Protected			Permitted			Permitted						
Rights:	Include			Include			Include			Include						
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0				
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Lanes:	1	0	2	1	0	1	0	2	1	0	0	0	1	0	0	1

Volume Module:

Base Vol:	92	1179	27	13	1224	179	256	9	92	57	15	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	1179	27	13	1224	179	256	9	92	57	15	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	1179	27	13	1224	179	256	9	92	57	15	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	1179	27	13	1224	179	256	9	92	57	15	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	1179	27	13	1224	179	256	9	92	57	15	23

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15
Lanes:	1.00	2.93	0.07	1.00	2.62	0.38	0.72	0.02	0.26	0.79	0.21	1.00
Final Sat.:	1700	4986	114	1700	4449	651	1219	43	438	1346	354	1955

Capacity Analysis Module:

Vol/Sat:	0.05	0.24	0.24	0.01	0.28	0.28	0.15	0.21	0.21	0.03	0.04	0.01
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Los Alamitos Boulevard & St. Cloud Drive

Cycle (sec): 100 Critical Vol./Cap.(X): 0.534

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 25 Level Of Service: A

Street Name: Los Alamitos Boulevard St. Cloud Drive

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Split Phase Split Phase

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 2 0 2 1 0 1 0 2 1 0 1 0 0 0 2 1 0 1! 0 0

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Volume Module:

Base Vol: 314 1132 45 2 1100 74 113 0 561 57 1 2

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

Initial Bse: 314 1132 45 2 1100 74 113 0 561 57 1 2

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 314 1132 45 2 1100 74 113 0 561 57 1 2

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

Reduced Vol: 314 1132 45 2 1100 74 113 0 561 57 1 2

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

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

FinalVolume: 314 1132 45 2 1100 74 113 0 561 57 1 2

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 2.00 2.89 0.11 1.00 2.81 0.19 1.00 0.00 2.00 1.90 0.03 0.07

Final Sat.: 3400 4905 195 1700 4779 321 1700 0 3910 3230 57 113

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Capacity Analysis Module:

Vol/Sat: 0.09 0.23 0.23 0.00 0.23 0.23 0.07 0.00 0.14 0.02 0.02 0.02

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Bloomfield Street & Ball Road

Cycle (sec): 100 Critical Vol./Cap.(X): 0.690
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: B

Street Name:	Bloomfield Street						Ball Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:	Bloomfield Street			Ball Road		
Base Vol:	96	268	57	99	556	203
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	268	57	99	556	203
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	268	57	99	556	203
Reduct Vol:	0	0	0	0	0	0
Reduced Vol:	96	268	57	99	556	203
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	268	57	99	556	203

Saturation Flow Module:	Bloomfield Street			Ball Road		
Sat/Lane:	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.47	0.53
Final Sat.:	1700	2804	596	1700	2491	909

Capacity Analysis Module:	Bloomfield Street			Ball Road		
Vol/Sat:	0.06	0.10	0.10	0.06	0.22	0.22
Crit Moves:	****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Bloomfield Street & Cerritos Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.815

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 55 Level Of Service: D

Street Name: Bloomfield Street Cerritos Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

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

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Volume Module:

Base Vol: 183 266 215 138 631 168 99 732 286 209 1000 68

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

Initial Bse: 183 266 215 138 631 168 99 732 286 209 1000 68

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 183 266 215 138 631 168 99 732 286 209 1000 68

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

Reduced Vol: 183 266 215 138 631 168 99 732 286 209 1000 68

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

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

FinalVolume: 183 266 215 138 631 168 99 732 286 209 1000 68

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

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

Lanes: 1.00 1.11 0.89 1.00 1.58 0.42 1.00 1.44 0.56 1.00 1.87 0.13

Final Sat.: 1700 1880 1520 1700 2685 715 1700 2445 955 1700 3184 216

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Capacity Analysis Module:

Vol/Sat: 0.11 0.14 0.14 0.08 0.24 0.23 0.06 0.30 0.30 0.12 0.31 0.31

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Bloomfield Street & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.671
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Street Name:	Bloomfield Street						Katella Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected					
Rights:	Include			Ovl			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	1	0	1	1	0	2	1	0

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Volume Module:

Base Vol:	101	354	37	152	163	250	189	1505	47	38	1443	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	354	37	152	163	250	189	1505	47	38	1443	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	354	37	152	163	250	189	1505	47	38	1443	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	354	37	152	163	250	189	1505	47	38	1443	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	354	37	152	163	250	189	1505	47	38	1443	116
OvlAdjVol:							33					

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Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.00	1.00	1.00	2.91	0.09	1.00	2.78	0.22
Final Sat.:	1700	3078	322	1700	1700	1955	1700	4946	154	1700	4721	379

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Capacity Analysis Module:

Vol/Sat:	0.06	0.11	0.12	0.09	0.10	0.13	0.11	0.30	0.30	0.02	0.31	0.31
OvlAdjV/S:							0.02					
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Lexington Avenue & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.528

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 25 Level Of Service: A

Street Name: Lexington Avenue

Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 1 0 1 1 0 1! 0 0 2 0 3 0 1 1 0 2 1 0

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Volume Module:

Base Vol: 68 41 52 87 20 77 47 1494 98 150 1388 55

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

Initial Bse: 68 41 52 87 20 77 47 1494 98 150 1388 55

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 68 41 52 87 20 77 47 1494 98 150 1388 55

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

Reduced Vol: 68 41 52 87 20 77 47 1494 98 150 1388 55

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

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

FinalVolume: 68 41 52 87 20 77 47 1494 98 150 1388 55

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 1.00 1.00 1.00 1.00 0.21 0.79 2.00 3.00 1.00 1.00 2.89 0.11

Final Sat.: 1700 1700 1955 1700 351 1349 3400 5100 1955 1700 4906 194

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Capacity Analysis Module:

Vol/Sat: 0.04 0.02 0.03 0.05 0.06 0.06 0.01 0.29 0.05 0.09 0.28 0.28

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Walker Street & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.672
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Street Name:	Walker Street						Katella Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase			Split Phase			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	0	1	0	1	0	1	1	0	0	2	2	0	2	1	0

Volume Module:												
Base Vol:	1	0	0	775	6	207	186	1415	9	4	1721	366
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	0	775	6	207	186	1415	9	4	1721	366
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	0	0	775	6	207	186	1415	9	4	1721	366
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	0	0	775	6	207	186	1415	9	4	1721	366
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	0	0	775	6	207	186	1415	9	4	1721	366

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.15
Lanes:	1.00	1.00	0.00	1.98	0.02	2.00	2.00	2.98	0.02	1.00	3.00	1.00
Final Sat.:	1700	1700	0	3374	26	3910	3400	5068	32	1700	5100	1955

Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.05	0.05	0.28	0.28	0.00	0.34	0.19
Crit Moves:	****				****				****			

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Wallingsford Road/ Walnut Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.857

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 67 Level Of Service: D

Street Name: Wallingsford Road/ Walnut Street Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 1! 0 0 1 0 1 0 1 1 0 3 1 0 1 0 3 0 1

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Volume Module:

Base Vol: 594 112 149 18 128 85 32 2295 324 161 2041 19

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

Initial Bse: 594 112 149 18 128 85 32 2295 324 161 2041 19

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 594 112 149 18 128 85 32 2295 324 161 2041 19

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

Reduced Vol: 594 112 149 18 128 85 32 2295 324 161 2041 19

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

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

FinalVolume: 594 112 149 18 128 85 32 2295 324 161 2041 19

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15

Lanes: 1.39 0.26 0.35 1.00 1.00 1.00 1.00 3.51 0.49 1.00 3.00 1.00

Final Sat.: 2362 445 593 1700 1700 1955 1700 5959 841 1700 5100 1955

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Capacity Analysis Module:

Vol/Sat: 0.25 0.25 0.25 0.01 0.08 0.04 0.02 0.39 0.39 0.09 0.40 0.01

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Los Alamitos Boulevard & Rossmoor Center Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.443

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 21 Level Of Service: A

Street Name: Los Alamitos Boulevard Rossmoor Center Way

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Permitted Permitted

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 2 1 0 1 0 2 1 0 1 0 0 1 0

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Volume Module:

Base Vol: 59 1153 7 24 1229 108 122 4 95 8 10 32

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

Initial Bse: 59 1153 7 24 1229 108 122 4 95 8 10 32

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 59 1153 7 24 1229 108 122 4 95 8 10 32

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

Reduced Vol: 59 1153 7 24 1229 108 122 4 95 8 10 32

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

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

FinalVolume: 59 1153 7 24 1229 108 122 4 95 8 10 32

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

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

Lanes: 1.00 2.98 0.02 1.00 2.76 0.24 1.00 0.04 0.96 1.00 0.24 0.76

Final Sat.: 1700 5069 31 1700 4688 412 1700 69 1631 1700 405 1295

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Capacity Analysis Module:

Vol/Sat: 0.03 0.23 0.23 0.01 0.26 0.26 0.07 0.06 0.06 0.00 0.02 0.02

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 I-605 NB Ramps & Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.355

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 19 Level Of Service: A

Street Name: I-605 NB Ramps Katella Ave

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Permitted Permitted

Rights: Include Include Include Ignore

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 3 0 2

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Volume Module:

Base Vol: 0 0 0 0 0 0 55 0 0 0 1389 795

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

Initial Bse: 0 0 0 0 0 0 55 0 0 0 1389 795

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Volume: 0 0 0 0 0 0 55 0 0 0 1389 0

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

Reduced Vol: 0 0 0 0 0 0 55 0 0 0 1389 0

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

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

FinalVolume: 0 0 0 0 0 0 55 0 0 0 1389 0

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15

Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 0.00 3.00 2.00

Final Sat.: 0 0 0 0 0 0 1700 0 0 0 5100 3910

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Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.03 0.00 0.00 0.00 0.27 0.00

Crit Moves: *****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
AM PEAK HOUR

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #114 I-605 NB Ramps & Katella Ave

Cycle (sec): 45 Critical Vol./Cap.(X): 0.327

Loss Time (sec): 4 Average Delay (sec/veh): 1.8

Optimal Cycle: 17 Level Of Service: A

Street Name: I-605 NB Ramps Katella Ave

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Ignore

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 3 0 2

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Volume Module:

Base Vol: 0 0 0 0 0 0 55 0 0 0 1389 795

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

Initial Bse: 0 0 0 0 0 0 55 0 0 0 1389 795

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Volume: 0 0 0 0 0 0 55 0 0 0 1389 0

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

Reduced Vol: 0 0 0 0 0 0 55 0 0 0 1389 0

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

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

Final Volume: 0 0 0 0 0 0 55 0 0 0 1389 0

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Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 0.95 1.00 1.00 1.00 0.91 0.88

Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 0.00 3.00 2.00

Final Sat.: 0 0 0 0 0 0 1805 0 0 0 5187 3344

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Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.03 0.00 0.00 0.00 0.27 0.00

Crit Moves: **** *

Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.00 0.09 0.00 0.00 0.00 0.82 0.00

Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.33 0.00 0.00 0.00 0.33 0.00

Delay/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 20.2 0.0 0.0 0.0 1.1 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 20.2 0.0 0.0 0.0 1.1 0.0

LOS by Move: A A A A A A C A A A A A

HCM2kAvgQ: 0 0 0 0 0 0 1 0 0 0 2 0

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Scenario Report

Scenario:	Existing PM
Command:	Existing PM
Volume:	Existing PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Existing PM

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Impact Analysis Report
Level Of Service

Intersection		Base		Future		Change in
		Del/	V/	Del/	V/	
		LOS Veh	C	LOS Veh	C	
# 1	Los Alamitos Boulevard & Cerri	D xxxxx	0.834	D xxxxx	0.834	+ 0.000 V/C
# 2	Los Alamitos Boulevard & Katel	D xxxxx	0.819	D xxxxx	0.819	+ 0.000 V/C
# 3	Los Alamitos Boulevard & Farqu	A xxxxx	0.517	A xxxxx	0.517	+ 0.000 V/C
# 4	Los Alamitos Boulevard & Orang	A xxxxx	0.491	A xxxxx	0.491	+ 0.000 V/C
# 5	Los Alamitos Boulevard & Bradb	A xxxxx	0.589	A xxxxx	0.589	+ 0.000 V/C
# 6	Los Alamitos Boulevard & St. C	A xxxxx	0.563	A xxxxx	0.563	+ 0.000 V/C
# 7	Bloomfield Street & Ball Road	B xxxxx	0.660	B xxxxx	0.660	+ 0.000 V/C
# 8	Bloomfield Street & Cerritos A	C xxxxx	0.727	C xxxxx	0.727	+ 0.000 V/C
# 9	Bloomfield Street & Katella Av	B xxxxx	0.677	B xxxxx	0.677	+ 0.000 V/C
# 10	Lexington Avenue & Katella Ave	A xxxxx	0.561	A xxxxx	0.561	+ 0.000 V/C
# 11	Walker Street & Katella Avenue	B xxxxx	0.634	B xxxxx	0.634	+ 0.000 V/C
# 12	Wallingsford Road/ Walnut Stre	C xxxxx	0.721	C xxxxx	0.721	+ 0.000 V/C
# 13	Los Alamitos Boulevard & Rossm	B xxxxx	0.617	B xxxxx	0.617	+ 0.000 V/C
# 14	I-605 NB Ramps & Katella Ave	A xxxxx	0.543	A xxxxx	0.543	+ 0.000 V/C
#114	I-605 NB Ramps & Katella Ave	A 7.5	0.523	A 7.5	0.523	+ 0.000 D/V

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Los Alamitos Boulevard & Cerritos Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.834

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 60 Level Of Service: D

Street Name: Los Alamitos Boulevard Cerritos Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 2 1 0 1 0 2 0 1 1 0 2 0 1

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Volume Module:

Base Vol: 192 836 408 66 592 61 172 963 289 363 843 111

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

Initial Bse: 192 836 408 66 592 61 172 963 289 363 843 111

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 192 836 408 66 592 61 172 963 289 363 843 111

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

Reduced Vol: 192 836 408 66 592 61 172 963 289 363 843 111

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

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

FinalVolume: 192 836 408 66 592 61 172 963 289 363 843 111

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15

Lanes: 1.00 2.02 0.98 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00

Final Sat.: 1700 3427 1673 1700 3400 1955 1700 3400 1955 1700 3400 1955

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Capacity Analysis Module:

Vol/Sat: 0.11 0.24 0.24 0.04 0.17 0.03 0.10 0.28 0.15 0.21 0.25 0.06

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Los Alamitos Boulevard & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.819

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 56 Level Of Service: D

Street Name: Los Alamitos Boulevard Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Ovl Ovl Ovl Ovl

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 2 0 3 0 1 2 0 3 0 1 2 0 3 0 1

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Volume Module:

Base Vol: 389 806 286 188 1035 214 254 1695 686 404 1696 119

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

Initial Bse: 389 806 286 188 1035 214 254 1695 686 404 1696 119

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 389 806 286 188 1035 214 254 1695 686 404 1696 119

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

Reduced Vol: 389 806 286 188 1035 214 254 1695 686 404 1696 119

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

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

FinalVolume: 389 806 286 188 1035 214 254 1695 686 404 1696 119

OvlAdjVol: 54 68 462 11

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15

Lanes: 2.00 3.00 1.00 2.00 3.00 1.00 2.00 3.00 1.00 2.00 3.00 1.00

Final Sat.: 3400 5100 1955 3400 5100 1955 3400 5100 1955 3400 5100 1955

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Capacity Analysis Module:

Vol/Sat: 0.11 0.16 0.15 0.06 0.20 0.11 0.07 0.33 0.35 0.12 0.33 0.06

OvlAdjV/S: 0.03 0.03 0.24 0.01

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Los Alamitos Boulevard & Farquhar Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.517

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 24 Level Of Service: A

Street Name: Los Alamitos Boulevard Farquhar Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 2 1 0 1 0 3 0 0 0 0 0 0 0 1 0 1! 0 0

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Volume Module:

Base Vol: 0 1408 124 84 1347 0 0 0 0 300 0 100

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

Initial Bse: 0 1408 124 84 1347 0 0 0 0 300 0 100

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 1408 124 84 1347 0 0 0 0 300 0 100

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

Reduced Vol: 0 1408 124 84 1347 0 0 0 0 300 0 100

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

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

FinalVolume: 0 1408 124 84 1347 0 0 0 0 300 0 100

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 0.00 2.76 0.24 1.00 3.00 0.00 0.00 0.00 0.00 1.50 0.00 0.50

Final Sat.: 0 4687 413 1700 5100 0 0 0 0 2550 0 850

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

Capacity Analysis Module:

Vol/Sat: 0.00 0.30 0.30 0.05 0.26 0.00 0.00 0.00 0.00 0.12 0.00 0.12

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Los Alamitos Boulevard & Orangewood Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.491

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 23 Level Of Service: A

Street Name: Los Alamitos Boulevard Orangewood Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Permitted Permitted

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 2 1 0 1 0 2 1 0 0 1 0 0 0 0

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

Volume Module:

Base Vol: 13 1402 47 38 1466 91 108 10 37 44 22 44

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

Initial Bse: 13 1402 47 38 1466 91 108 10 37 44 22 44

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 13 1402 47 38 1466 91 108 10 37 44 22 44

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

Reduced Vol: 13 1402 47 38 1466 91 108 10 37 44 22 44

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

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

FinalVolume: 13 1402 47 38 1466 91 108 10 37 44 22 44

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 1.00 2.90 0.10 1.00 2.82 0.18 0.92 0.08 1.00 0.40 0.20 0.40

Final Sat.: 1700 4935 165 1700 4802 298 1556 144 1955 680 340 680

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

Capacity Analysis Module:

Vol/Sat: 0.01 0.28 0.28 0.02 0.31 0.31 0.06 0.07 0.02 0.03 0.06 0.06

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Los Alamitos Boulevard & Bradbury Road

Cycle (sec): 100 Critical Vol./Cap.(X): 0.589

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 28 Level Of Service: A

Street Name: Los Alamitos Boulevard

Bradbury Road

Approach: North Bound

South Bound

East Bound

West Bound

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

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Control: Protected

Protected

Permitted

Permitted

Rights: Include

Include

Include

Include

Min. Green: 0 0 0

0 0 0

0 0 0

0 0 0

Y+R: 4.0 4.0 4.0

4.0 4.0 4.0

4.0 4.0 4.0

4.0 4.0 4.0

Lanes: 1 0 2 1 0

1 0 2 1 0

0 0 1! 0 0

0 1 0 0 1

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

Volume Module:

Base Vol: 83 1293 49 22 1626 194 112 10 62 43 9 10

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

Initial Bse: 83 1293 49 22 1626 194 112 10 62 43 9 10

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 83 1293 49 22 1626 194 112 10 62 43 9 10

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

Reduced Vol: 83 1293 49 22 1626 194 112 10 62 43 9 10

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

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

FinalVolume: 83 1293 49 22 1626 194 112 10 62 43 9 10

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.15

Lanes: 1.00 2.89 0.11 1.00 2.68 0.32 0.61 0.05 0.34 0.83 0.17 1.00

Final Sat.: 1700 4914 186 1700 4556 544 1035 92 573 1406 294 1955

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

Capacity Analysis Module:

Vol/Sat: 0.05 0.26 0.26 0.01 0.36 0.36 0.07 0.11 0.11 0.03 0.03 0.01

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Los Alamitos Boulevard & St. Cloud Drive

Cycle (sec): 100 Critical Vol./Cap.(X): 0.563

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 27 Level Of Service: A

Street Name: Los Alamitos Boulevard St. Cloud Drive

Approach: North Bound South Bound East Bound West Bound

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

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

Control: Protected Protected Split Phase Split Phase

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 2 0 2 1 0 1 0 2 1 0 1 0 0 0 2 1 0 1! 0 0

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

Volume Module:

Base Vol: 277 1243 113 14 1431 93 72 0 307 168 2 13

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

Initial Bse: 277 1243 113 14 1431 93 72 0 307 168 2 13

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 277 1243 113 14 1431 93 72 0 307 168 2 13

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

Reduced Vol: 277 1243 113 14 1431 93 72 0 307 168 2 13

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

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

FinalVolume: 277 1243 113 14 1431 93 72 0 307 168 2 13

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 2.00 2.75 0.25 1.00 2.82 0.18 1.00 0.00 2.00 1.84 0.02 0.14

Final Sat.: 3400 4675 425 1700 4789 311 1700 0 3910 3121 37 242

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

Capacity Analysis Module:

Vol/Sat: 0.08 0.27 0.27 0.01 0.30 0.30 0.04 0.00 0.08 0.05 0.05 0.05

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Bloomfield Street & Ball Road

Cycle (sec): 100 Critical Vol./Cap.(X): 0.660

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 33 Level Of Service: B

Street Name: Bloomfield Street

Ball Road

Approach: North Bound South Bound East Bound West Bound

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

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

Control: Prot+Permit Prot+Permit Prot+Permit Prot+Permit

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

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

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

Volume Module:

Base Vol: 112 594 90 136 238 100 127 807 148 81 742 116

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

Initial Bse: 112 594 90 136 238 100 127 807 148 81 742 116

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 112 594 90 136 238 100 127 807 148 81 742 116

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

Reduced Vol: 112 594 90 136 238 100 127 807 148 81 742 116

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

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

FinalVolume: 112 594 90 136 238 100 127 807 148 81 742 116

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

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

Lanes: 1.00 1.74 0.26 1.00 1.41 0.59 1.00 1.69 0.31 1.00 1.73 0.27

Final Sat.: 1700 2953 447 1700 2394 1006 1700 2873 527 1700 2940 460

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

Capacity Analysis Module:

Vol/Sat: 0.07 0.20 0.20 0.08 0.10 0.10 0.07 0.28 0.28 0.05 0.25 0.25

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Bloomfield Street & Cerritos Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.727

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 40 Level Of Service: C

Street Name: Bloomfield Street Cerritos Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

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

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Volume Module:

Base Vol: 188 429 170 69 235 165 163 994 281 125 1038 124

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

Initial Bse: 188 429 170 69 235 165 163 994 281 125 1038 124

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 188 429 170 69 235 165 163 994 281 125 1038 124

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

Reduced Vol: 188 429 170 69 235 165 163 994 281 125 1038 124

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

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

FinalVolume: 188 429 170 69 235 165 163 994 281 125 1038 124

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

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

Lanes: 1.00 1.43 0.57 1.00 1.18 0.82 1.00 1.56 0.44 1.00 1.79 0.21

Final Sat.: 1700 2435 965 1700 1998 1403 1700 2651 749 1700 3037 363

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

Capacity Analysis Module:

Vol/Sat: 0.11 0.18 0.18 0.04 0.12 0.12 0.10 0.37 0.38 0.07 0.34 0.34

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Bloomfield Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.677

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 35 Level Of Service: B

Street Name: Bloomfield Street Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Prot+Permit Prot+Permit Protected Protected

Rights: Include Ovl Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 1 1 0 1 0 1 0 1 0 1 0 2 1 0

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

Volume Module:

Base Vol: 73 156 42 215 168 208 238 1157 94 33 1326 216

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

Initial Bse: 73 156 42 215 168 208 238 1157 94 33 1326 216

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 73 156 42 215 168 208 238 1157 94 33 1326 216

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

Reduced Vol: 73 156 42 215 168 208 238 1157 94 33 1326 216

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

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

FinalVolume: 73 156 42 215 168 208 238 1157 94 33 1326 216

OvlAdjVol: 0

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 1.00 1.58 0.42 1.00 1.00 1.00 1.00 2.77 0.23 1.00 2.58 0.42

Final Sat.: 1700 2679 721 1700 1700 1955 1700 4717 383 1700 4386 714

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

Capacity Analysis Module:

Vol/Sat: 0.04 0.06 0.06 0.13 0.10 0.11 0.14 0.25 0.25 0.02 0.30 0.30

OvlAdjV/S: 0.00

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Lexington Avenue & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.561

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 27 Level Of Service: A

Street Name: Lexington Avenue

Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 1 0 1 1 0 1! 0 0 2 0 3 0 1 1 0 2 1 0

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

Volume Module:

Base Vol: 180 36 159 66 65 26 37 1327 19 156 1365 41

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

Initial Bse: 180 36 159 66 65 26 37 1327 19 156 1365 41

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 180 36 159 66 65 26 37 1327 19 156 1365 41

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

Reduced Vol: 180 36 159 66 65 26 37 1327 19 156 1365 41

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

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

FinalVolume: 180 36 159 66 65 26 37 1327 19 156 1365 41

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 1.00 1.00 1.00 1.00 0.71 0.29 2.00 3.00 1.00 1.00 2.91 0.09

Final Sat.: 1700 1700 1955 1700 1214 486 3400 5100 1955 1700 4951 149

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

Capacity Analysis Module:

Vol/Sat: 0.11 0.02 0.08 0.04 0.05 0.05 0.01 0.26 0.01 0.09 0.28 0.28

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Walker Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.634

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 31 Level Of Service: B

Street Name: Walker Street

Katella Avenue

Approach: North Bound

South Bound

East Bound

West Bound

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

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

Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 1 0 1 0 1 1 0 0 2 2 0 2 1 0 1 0 3 0 1

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

Volume Module:

Base Vol: 27 18 4 610 0 212 251 1844 3 5 1608 501

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

Initial Bse: 27 18 4 610 0 212 251 1844 3 5 1608 501

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 27 18 4 610 0 212 251 1844 3 5 1608 501

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

Reduced Vol: 27 18 4 610 0 212 251 1844 3 5 1608 501

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

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

FinalVolume: 27 18 4 610 0 212 251 1844 3 5 1608 501

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15

Lanes: 1.00 0.84 0.16 2.00 0.00 2.00 2.00 2.99 0.01 1.00 3.00 1.00

Final Sat.: 1700 1422 278 3400 0 3910 3400 5092 8 1700 5100 1955

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

Capacity Analysis Module:

Vol/Sat: 0.02 0.01 0.01 0.18 0.00 0.05 0.07 0.36 0.36 0.00 0.32 0.26

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Wallingsford Road/ Walnut Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.721

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 39 Level Of Service: C

Street Name: Wallingsford Road/ Walnut Street Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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

Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 1! 0 0 1 0 1 0 1 1 0 3 1 0 1 0 3 0 1

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

Volume Module:

Base Vol: 322 63 135 12 68 52 23 2270 480 125 2077 18

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

Initial Bse: 322 63 135 12 68 52 23 2270 480 125 2077 18

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 322 63 135 12 68 52 23 2270 480 125 2077 18

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

Reduced Vol: 322 63 135 12 68 52 23 2270 480 125 2077 18

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

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

FinalVolume: 322 63 135 12 68 52 23 2270 480 125 2077 18

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15

Lanes: 1.24 0.24 0.52 1.00 1.00 1.00 1.00 3.30 0.70 1.00 3.00 1.00

Final Sat.: 2105 412 883 1700 1700 1955 1700 5613 1187 1700 5100 1955

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

Capacity Analysis Module:

Vol/Sat: 0.15 0.15 0.15 0.01 0.04 0.03 0.01 0.40 0.40 0.07 0.41 0.01

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Los Alamitos Boulevard & Rossmoor Center Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.617

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 30 Level Of Service: B

Street Name: Los Alamitos Boulevard Rossmoor Center Way

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Permitted Permitted

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 2 1 0 1 0 2 1 0 1 0 0 1 0

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

Volume Module:

Base Vol: 171 1229 18 31 1504 197 208 1 166 9 2 16

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

Initial Bse: 171 1229 18 31 1504 197 208 1 166 9 2 16

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 171 1229 18 31 1504 197 208 1 166 9 2 16

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

Reduced Vol: 171 1229 18 31 1504 197 208 1 166 9 2 16

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

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

FinalVolume: 171 1229 18 31 1504 197 208 1 166 9 2 16

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

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

Lanes: 1.00 2.96 0.04 1.00 2.65 0.35 1.00 0.01 0.99 1.00 0.11 0.89

Final Sat.: 1700 5026 74 1700 4509 591 1700 10 1690 1700 189 1511

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Capacity Analysis Module:

Vol/Sat: 0.10 0.24 0.24 0.02 0.33 0.33 0.12 0.10 0.10 0.01 0.01 0.01

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 I-605 NB Ramps & Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.543

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 26 Level Of Service: A

Street Name: I-605 NB Ramps Katella Ave

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Permitted Permitted

Rights: Include Include Include Ignore

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 3 0 2

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

Volume Module:

Base Vol: 0 0 0 0 0 0 338 0 0 0 1502 930

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

Initial Bse: 0 0 0 0 0 0 338 0 0 0 1502 930

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Volume: 0 0 0 0 0 0 338 0 0 0 1502 0

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

Reduced Vol: 0 0 0 0 0 0 338 0 0 0 1502 0

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

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

FinalVolume: 0 0 0 0 0 0 338 0 0 0 1502 0

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15

Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 0.00 3.00 2.00

Final Sat.: 0 0 0 0 0 0 1700 0 0 0 5100 3910

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Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.20 0.00 0.00 0.00 0.29 0.00

Crit Moves: *****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
EXISTING
PM PEAK HOUR

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #114 I-605 NB Ramps & Katella Ave

Cycle (sec): 45 Critical Vol./Cap.(X): 0.523

Loss Time (sec): 4 Average Delay (sec/veh): 7.5

Optimal Cycle: 22 Level Of Service: A

Street Name: I-605 NB Ramps Katella Ave

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Ignore

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 3 0 2

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

Volume Module:

Base Vol: 0 0 0 0 0 0 338 0 0 0 1502 930

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

Initial Bse: 0 0 0 0 0 0 338 0 0 0 1502 930

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Volume: 0 0 0 0 0 0 338 0 0 0 1502 0

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

Reduced Vol: 0 0 0 0 0 0 338 0 0 0 1502 0

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

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

Final Volume: 0 0 0 0 0 0 338 0 0 0 1502 0

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Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 0.95 1.00 1.00 1.00 0.91 0.88

Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 0.00 3.00 2.00

Final Sat.: 0 0 0 0 0 0 1805 0 0 0 5187 3344

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Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.19 0.00 0.00 0.00 0.29 0.00

Crit Moves: **** *

Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.00 0.36 0.00 0.00 0.00 0.55 0.00

Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.52 0.00 0.00 0.00 0.52 0.00

Delay/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 12.2 0.0 0.0 0.0 6.5 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 12.2 0.0 0.0 0.0 6.5 0.0

LOS by Move: A A A A A A B A A A A A

HCM2kAvgQ: 0 0 0 0 0 0 4 0 0 0 5 0

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

APPENDIX C
GENERAL PLAN (2035) CONDITIONS LOS RESULTS



LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Scenario Report

Scenario:	Future AM
Command:	Future AM
Volume:	Future AM
Geometry:	Future
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Future AM

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Impact Analysis Report
Level Of Service

Intersection		Base		Future		Change
		Del/	V/	Del/	V/	in
		LOS Veh	C	LOS Veh	C	
# 1 Los Alamitos Boulevard & Cerri	D	xxxxxx	0.897	D	xxxxxx	+ 0.000 V/C
# 2 Los Alamitos Boulevard & Katel	E	xxxxxx	0.938	E	xxxxxx	+ 0.000 V/C
# 3 Los Alamitos Boulevard & Farqu	A	xxxxxx	0.544	A	xxxxxx	+ 0.000 V/C
# 4 Los Alamitos Boulevard & Orang	B	xxxxxx	0.662	B	xxxxxx	+ 0.000 V/C
# 5 Los Alamitos Boulevard & Bradb	B	xxxxxx	0.675	B	xxxxxx	+ 0.000 V/C
# 6 Los Alamitos Boulevard & St. C	A	xxxxxx	0.570	A	xxxxxx	+ 0.000 V/C
# 7 Bloomfield Street & Ball Road	D	xxxxxx	0.809	D	xxxxxx	+ 0.000 V/C
# 8 Bloomfield Street & Cerritos A	F	xxxxxx	1.003	F	xxxxxx	+ 0.000 V/C
# 9 Bloomfield Street & Katella Av	D	xxxxxx	0.885	D	xxxxxx	+ 0.000 V/C
# 10 Lexington Avenue & Katella Ave	B	xxxxxx	0.681	B	xxxxxx	+ 0.000 V/C
# 11 Walker Street & Katella Avenue	C	xxxxxx	0.780	C	xxxxxx	+ 0.000 V/C
# 12 Wallingsford Road/ Walnut Stre	F	xxxxxx	1.012	F	xxxxxx	+ 0.000 V/C
# 13 Los Alamitos Boulevard & Rossm	A	xxxxxx	0.483	A	xxxxxx	+ 0.000 V/C
# 14 I-605 NB Ramps & Katella Ave	A	xxxxxx	0.315	A	xxxxxx	+ 0.000 V/C
#114 I-605 NB Ramps & Katella Ave	A	2.1	0.284	A	2.1	+ 0.000 D/V

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Los Alamitos Boulevard & Cerritos Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.897
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	85	Level Of Service:	D

Street Name:	Los Alamitos Boulevard						Cerritos Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	2	0	1	1	0	2	0	1

Volume Module:												
Base Vol:	100	710	210	120	620	110	170	1200	280	260	830	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	710	210	120	620	110	170	1200	280	260	830	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	710	210	120	620	110	170	1200	280	260	830	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	710	210	120	620	110	170	1200	280	260	830	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	710	210	120	620	110	170	1200	280	260	830	20

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15
Lanes:	1.00	1.54	0.46	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2624	776	1700	3400	1955	1700	3400	1955	1700	3400	1955

Capacity Analysis Module:												
Vol/Sat:	0.06	0.27	0.27	0.07	0.18	0.06	0.10	0.35	0.14	0.15	0.24	0.01
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Los Alamitos Boulevard & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.938

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 116 Level Of Service: E

Street Name: Los Alamitos Boulevard Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Ovl Ovl Ovl Ovl

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 2 0 3 0 1 2 0 3 0 1 2 0 3 0 1

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Volume Module:

Base Vol: 370 750 630 230 680 130 230 2540 670 400 1490 60

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

Initial Bse: 370 750 630 230 680 130 230 2540 670 400 1490 60

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 370 750 630 230 680 130 230 2540 670 400 1490 60

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

Reduced Vol: 370 750 630 230 680 130 230 2540 670 400 1490 60

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

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

FinalVolume: 370 750 630 230 680 130 230 2540 670 400 1490 60

OvlAdjVol: 400 457 0

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15 1.00 1.00 1.15

Lanes: 2.00 3.00 1.00 2.00 3.00 1.00 2.00 3.00 1.00 2.00 3.00 1.00

Final Sat.: 3400 5100 1955 3400 5100 1955 3400 5100 1955 3400 5100 1955

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Capacity Analysis Module:

Vol/Sat: 0.11 0.15 0.32 0.07 0.13 0.07 0.07 0.50 0.34 0.12 0.29 0.03

OvlAdjV/S: 0.20 0.00 0.23 0.00

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Los Alamitos Boulevard & Farquhar Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.544
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Street Name:	Los Alamitos Boulevard				Farquhar Avenue					
Approach:	North Bound		South Bound		East Bound		West Bound			
Movement:	L	T	R	L	T	R	L	T	R	
Control:	Protected		Protected		Protected		Protected			
Rights:	Include		Include		Include		Include			
Min. Green:	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	0	0	2	1	0	1	0	3	0	0

Volume Module:	Los Alamitos Boulevard				Farquhar Avenue						
Base Vol:	0	1430	130	70	1370	0	0	0	380	0	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1430	130	70	1370	0	0	0	380	0	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1430	130	70	1370	0	0	0	380	0	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1430	130	70	1370	0	0	0	380	0	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1430	130	70	1370	0	0	0	380	0	120

Saturation Flow Module:	Los Alamitos Boulevard				Farquhar Avenue						
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00
Lanes:	0.00	2.75	0.25	1.00	3.00	0.00	0.00	0.00	0.00	1.52	0.00
Final Sat.:	0	4675	425	1700	5100	0	0	0	0	2584	0

Capacity Analysis Module:	Los Alamitos Boulevard				Farquhar Avenue							
Vol/Sat:	0.00	0.31	0.31	0.04	0.27	0.00	0.00	0.00	0.00	0.15	0.00	
Crit Moves:	****		****		****		****		****		****	

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Los Alamitos Boulevard & Orangewood Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.662
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	B

Street Name:	Los Alamitos Boulevard				Orangewood Avenue															
Approach:	North Bound		South Bound		East Bound		West Bound													
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected				Protected				Permitted				Permitted							
Rights:	Include				Include				Include				Include							
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	1	0	1	0	2	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:															
Base Vol:	50	1330	90	110	1470	180	180	30	60	150	30	80			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	50	1330	90	110	1470	180	180	30	60	150	30	80			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	50	1330	90	110	1470	180	180	30	60	150	30	80			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	50	1330	90	110	1470	180	180	30	60	150	30	80			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	50	1330	90	110	1470	180	180	30	60	150	30	80			

Saturation Flow Module:															
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00			
Lanes:	1.00	2.81	0.19	1.00	2.67	0.33	0.86	0.14	1.00	0.58	0.11	0.31			
Final Sat.:	1700	4777	323	1700	4544	556	1457	243	1955	981	196	523			

Capacity Analysis Module:															
Vol/Sat:	0.03	0.28	0.28	0.06	0.32	0.32	0.11	0.12	0.03	0.09	0.15	0.15			
Crit Moves:	****				****		****				****				

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Los Alamitos Boulevard & Bradbury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.675
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Street Name:	Los Alamitos Boulevard						Bradbury Road									
Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
Control:	Protected			Protected			Permitted			Permitted						
Rights:	Include			Include			Include			Include						
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0				
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Lanes:	1	0	2	1	0	1	0	2	1	0	0	0	1	0	0	1

Volume Module:															
Base Vol:	100	1130	30	20	1420	180	260	10	100	60	20	30			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	100	1130	30	20	1420	180	260	10	100	60	20	30			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	100	1130	30	20	1420	180	260	10	100	60	20	30			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	100	1130	30	20	1420	180	260	10	100	60	20	30			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	100	1130	30	20	1420	180	260	10	100	60	20	30			

Saturation Flow Module:															
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15			
Lanes:	1.00	2.92	0.08	1.00	2.66	0.34	0.70	0.03	0.27	0.75	0.25	1.00			
Final Sat.:	1700	4968	132	1700	4526	574	1195	46	459	1275	425	1955			

Capacity Analysis Module:															
Vol/Sat:	0.06	0.23	0.23	0.01	0.31	0.31	0.15	0.22	0.22	0.04	0.05	0.02			
Crit Moves:	****			****			****			****					

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Los Alamitos Boulevard & St. Cloud Drive

Cycle (sec): 100 Critical Vol./Cap.(X): 0.570

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 27 Level Of Service: A

Street Name: Los Alamitos Boulevard St. Cloud Drive

Approach: North Bound South Bound East Bound West Bound

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

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

Control: Protected Protected Split Phase Split Phase

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 2 0 2 1 0 1 0 2 1 0 1 0 0 0 2 1 0 1! 0 0

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Volume Module:

Base Vol: 320 1060 50 10 1230 80 120 0 570 60 10 10

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

Initial Bse: 320 1060 50 10 1230 80 120 0 570 60 10 10

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 320 1060 50 10 1230 80 120 0 570 60 10 10

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

Reduced Vol: 320 1060 50 10 1230 80 120 0 570 60 10 10

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

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

FinalVolume: 320 1060 50 10 1230 80 120 0 570 60 10 10

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

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00

Lanes: 2.00 2.86 0.14 1.00 2.82 0.18 1.00 0.00 2.00 1.50 0.25 0.25

Final Sat.: 3400 4870 230 1700 4789 311 1700 0 3910 2550 425 425

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Capacity Analysis Module:

Vol/Sat: 0.09 0.22 0.22 0.01 0.26 0.26 0.07 0.00 0.15 0.02 0.02 0.02

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Bloomfield Street & Ball Road

Cycle (sec): 100 Critical Vol./Cap.(X): 0.809

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 54 Level Of Service: D

Street Name: Bloomfield Street

Ball Road

Approach: North Bound South Bound East Bound West Bound

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

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Control: Prot+Permit Prot+Permit Prot+Permit Prot+Permit

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

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

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

Volume Module:

Base Vol: 140 330 110 100 700 160 80 900 240 150 790 110

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

Initial Bse: 140 330 110 100 700 160 80 900 240 150 790 110

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 140 330 110 100 700 160 80 900 240 150 790 110

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

Reduced Vol: 140 330 110 100 700 160 80 900 240 150 790 110

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

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

FinalVolume: 140 330 110 100 700 160 80 900 240 150 790 110

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

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

Lanes: 1.00 1.50 0.50 1.00 1.63 0.37 1.00 1.58 0.42 1.00 1.76 0.24

Final Sat.: 1700 2550 850 1700 2767 633 1700 2684 716 1700 2984 416

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Capacity Analysis Module:

Vol/Sat: 0.08 0.13 0.13 0.06 0.25 0.25 0.05 0.34 0.34 0.09 0.26 0.26

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Bloomfield Street & Cerritos Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	1.003
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Bloomfield Street						Cerritos Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0

Volume Module:

Base Vol:	60	510	290	170	660	200	100	970	330	400	940	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	510	290	170	660	200	100	970	330	400	940	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	510	290	170	660	200	100	970	330	400	940	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	510	290	170	660	200	100	970	330	400	940	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	510	290	170	660	200	100	970	330	400	940	60

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.28	0.72	1.00	1.53	0.47	1.00	1.49	0.51	1.00	1.88	0.12
Final Sat.:	1700	2168	1233	1700	2609	791	1700	2537	863	1700	3196	204

Capacity Analysis Module:

Vol/Sat:	0.04	0.24	0.24	0.10	0.25	0.25	0.06	0.38	0.38	0.24	0.29	0.29
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Bloomfield Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.885
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 79 Level Of Service: D

Street Name:	Bloomfield Street						Katella Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	2	1	0	2

Volume Module:

Base Vol:	110	360	40	300	170	240	370	1980	50	40	1500	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	360	40	300	170	240	370	1980	50	40	1500	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	110	360	40	300	170	240	370	1980	50	40	1500	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	360	40	300	170	240	370	1980	50	40	1500	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	360	40	300	170	240	370	1980	50	40	1500	150
OvlAdjVol:	0											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.00	1.00	1.00	2.93	0.07	1.00	2.73	0.27
Final Sat.:	1700	3060	340	1700	1700	1955	1700	4974	126	1700	4636	464

Capacity Analysis Module:

Vol/Sat:	0.06	0.12	0.12	0.18	0.10	0.12	0.22	0.40	0.40	0.02	0.32	0.32
OvlAdjV/S:	0.00											

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Lexington Avenue & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.681
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Street Name:	Lexington Avenue						Katella Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase			Split Phase			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	0	1	1	0	1	0	0	2	0	3	0	1

Volume Module:												
Base Vol:	70	50	60	240	20	140	80	1960	100	150	1470	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	50	60	240	20	140	80	1960	100	150	1470	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	50	60	240	20	140	80	1960	100	150	1470	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	50	60	240	20	140	80	1960	100	150	1470	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	50	60	240	20	140	80	1960	100	150	1470	60

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.20	0.10	0.70	2.00	3.00	1.00	1.00	2.88	0.12
Final Sat.:	1700	1700	1955	2040	170	1190	3400	5100	1955	1700	4900	200

Capacity Analysis Module:												
Vol/Sat:	0.04	0.03	0.03	0.12	0.12	0.12	0.02	0.38	0.05	0.09	0.30	0.30
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Walker Street & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.780
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Walker Street						Katella Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase			Split Phase			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	0	1	0	1	0	1	1	0	0	2	2	0	2	1	0

Volume Module:												
Base Vol:	10	0	0	980	10	230	240	1940	10	10	1850	500
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	0	0	980	10	230	240	1940	10	10	1850	500
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	0	0	980	10	230	240	1940	10	10	1850	500
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	0	0	980	10	230	240	1940	10	10	1850	500
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	0	0	980	10	230	240	1940	10	10	1850	500

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.15
Lanes:	1.00	1.00	0.00	1.98	0.02	2.00	2.00	2.98	0.02	1.00	3.00	1.00
Final Sat.:	1700	1700	0	3366	34	3910	3400	5074	26	1700	5100	1955

Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.29	0.29	0.06	0.07	0.38	0.38	0.01	0.36	0.26
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Wallingsford Road/ Walnut Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 1.012
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name: Wallingsford Road/ Walnut Street Katella Avenue
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 1! 0 0 1 0 1 0 1 1 0 3 1 0 1 0 3 0 1

Volume Module:

Base Vol: 600 120 150 20 130 90 40 3270 330 170 1730 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 600 120 150 20 130 90 40 3270 330 170 1730 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 600 120 150 20 130 90 40 3270 330 170 1730 20
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 600 120 150 20 130 90 40 3270 330 170 1730 20
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 600 120 150 20 130 90 40 3270 330 170 1730 20

Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15
Lanes: 1.38 0.28 0.34 1.00 1.00 1.00 1.00 3.63 0.37 1.00 3.00 1.00
Final Sat.: 2345 469 586 1700 1700 1955 1700 6177 623 1700 5100 1955

Capacity Analysis Module:

Vol/Sat: 0.26 0.26 0.26 0.01 0.08 0.05 0.02 0.53 0.53 0.10 0.34 0.01
Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Los Alamitos Boulevard & Rossmoor Center Way

Cycle (sec):	100	Critical Vol./Cap.(X):	0.483
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Street Name:	Los Alamitos Boulevard						Rossmoor Center Way								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Permitted			Permitted					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	2	1	0	1	0	2	1	0	1	0	0	1	0

Volume Module:												
Base Vol:	60	1080	10	30	1380	110	130	10	100	10	10	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	1080	10	30	1380	110	130	10	100	10	10	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	1080	10	30	1380	110	130	10	100	10	10	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	1080	10	30	1380	110	130	10	100	10	10	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	1080	10	30	1380	110	130	10	100	10	10	40

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.97	0.03	1.00	2.78	0.22	1.00	0.09	0.91	1.00	0.20	0.80
Final Sat.:	1700	5053	47	1700	4723	377	1700	155	1545	1700	340	1360

Capacity Analysis Module:												
Vol/Sat:	0.04	0.21	0.21	0.02	0.29	0.29	0.08	0.06	0.06	0.01	0.03	0.03
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 I-605 NB Ramps & Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.315
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	18	Level Of Service:	A

Street Name:	I-605 NB Ramps						Katella Ave								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Permitted			Permitted					
Rights:	Include			Include			Include			Ignore					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	0	0	0	0	0	0	1	0	0	0	0	0	3	0	2

Volume Module:												
Base Vol:	0	0	0	0	0	0	60	0	0	0	1170	750
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	60	0	0	0	1170	750
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	60	0	0	0	1170	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	60	0	0	0	1170	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	60	0	0	0	1170	0

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2.00
Final Sat.:	0	0	0	0	0	0	1700	0	0	0	5100	3910

Capacity Analysis Module:													
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.23	0.00	
Crit Moves:							****	****					

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
AM PEAK HOUR

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #114 I-605 NB Ramps & Katella Ave

Cycle (sec): 45 Critical Vol./Cap.(X): 0.284

Loss Time (sec): 4 Average Delay (sec/veh): 2.1

Optimal Cycle: 16 Level Of Service: A

Street Name: I-605 NB Ramps Katella Ave

Approach: North Bound South Bound East Bound West Bound

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

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

Control: Protected Protected Protected Protected

Rights: Include Include Include Ignore

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 3 0 2

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Volume Module:

Base Vol: 0 0 0 0 0 0 60 0 0 0 1170 750

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

Initial Bse: 0 0 0 0 0 0 60 0 0 0 1170 750

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Volume: 0 0 0 0 0 0 60 0 0 0 1170 0

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

Reduced Vol: 0 0 0 0 0 0 60 0 0 0 1170 0

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

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

Final Volume: 0 0 0 0 0 0 60 0 0 0 1170 0

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Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 0.95 1.00 1.00 1.00 0.91 0.88

Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 0.00 3.00 2.00

Final Sat.: 0 0 0 0 0 0 1805 0 0 0 5187 3344

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

Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.03 0.00 0.00 0.00 0.23 0.00

Crit Moves: **** *

Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.00 0.12 0.00 0.00 0.00 0.79 0.00

Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.28 0.00 0.00 0.00 0.28 0.00

Delay/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 18.9 0.0 0.0 0.0 1.3 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 18.9 0.0 0.0 0.0 1.3 0.0

LOS by Move: A A A A A A B A A A A A

HCM2kAvgQ: 0 0 0 0 0 0 1 0 0 0 2 0

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

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Scenario Report

Scenario:	Future PM
Command:	Future PM
Volume:	Future PM
Geometry:	Future
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Future PM

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Impact Analysis Report
Level Of Service

Intersection	Base Del/ V/ LOS Veh C	Future Del/ V/ LOS Veh C	Change in
# 1 Los Alamitos Boulevard & Cerri	D xxxxxx 0.891	D xxxxxx 0.891	+ 0.000 V/C
# 2 Los Alamitos Boulevard & Katel	D xxxxxx 0.894	D xxxxxx 0.894	+ 0.000 V/C
# 3 Los Alamitos Boulevard & Farqu	A xxxxxx 0.515	A xxxxxx 0.515	+ 0.000 V/C
# 4 Los Alamitos Boulevard & Orang	A xxxxxx 0.491	A xxxxxx 0.491	+ 0.000 V/C
# 5 Los Alamitos Boulevard & Bradb	A xxxxxx 0.593	A xxxxxx 0.593	+ 0.000 V/C
# 6 Los Alamitos Boulevard & St. C	A xxxxxx 0.551	A xxxxxx 0.551	+ 0.000 V/C
# 7 Bloomfield Street & Ball Road	C xxxxxx 0.771	C xxxxxx 0.771	+ 0.000 V/C
# 8 Bloomfield Street & Cerritos A	E xxxxxx 0.915	E xxxxxx 0.915	+ 0.000 V/C
# 9 Bloomfield Street & Katella Av	D xxxxxx 0.894	D xxxxxx 0.894	+ 0.000 V/C
# 10 Lexington Avenue & Katella Ave	B xxxxxx 0.652	B xxxxxx 0.652	+ 0.000 V/C
# 11 Walker Street & Katella Avenue	C xxxxxx 0.776	C xxxxxx 0.776	+ 0.000 V/C
# 12 Wallingsford Road/ Walnut Stre	C xxxxxx 0.799	C xxxxxx 0.799	+ 0.000 V/C
# 13 Los Alamitos Boulevard & Rossm	B xxxxxx 0.609	B xxxxxx 0.609	+ 0.000 V/C
# 14 I-605 NB Ramps & Katella Ave	B xxxxxx 0.672	B xxxxxx 0.672	+ 0.000 V/C
#114 I-605 NB Ramps & Katella Ave	A 7.5 0.662	A 7.5 0.662	+ 0.000 D/V

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Los Alamitos Boulevard & Cerritos Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.891
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	D

Street Name:	Los Alamitos Boulevard						Cerritos Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	2	0	1	1	0	2	0	1

Volume Module:												
Base Vol:	220	830	250	80	670	110	160	1100	250	260	1110	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	830	250	80	670	110	160	1100	250	260	1110	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	830	250	80	670	110	160	1100	250	260	1110	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	830	250	80	670	110	160	1100	250	260	1110	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	830	250	80	670	110	160	1100	250	260	1110	70

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15
Lanes:	1.00	1.54	0.46	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2613	787	1700	3400	1955	1700	3400	1955	1700	3400	1955

Capacity Analysis Module:												
Vol/Sat:	0.13	0.32	0.32	0.05	0.20	0.06	0.09	0.32	0.13	0.15	0.33	0.04
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Los Alamitos Boulevard & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.894
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 83 Level Of Service: D

Street Name:	Los Alamitos Boulevard						Katella Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1		2	0	3	0	1	

Volume Module:

Base Vol:	410	700	410	140	880	280	220	1910	650	600	2280	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	410	700	410	140	880	280	220	1910	650	600	2280	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	410	700	410	140	880	280	220	1910	650	600	2280	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	410	700	410	140	880	280	220	1910	650	600	2280	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	410	700	410	140	880	280	220	1910	650	600	2280	120
OvlAdjVol:			65			153			414			40

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1955	3400	5100	1955	3400	5100	1955	3400	5100	1955

Capacity Analysis Module:

Vol/Sat:	0.12	0.14	0.21	0.04	0.17	0.14	0.06	0.37	0.33	0.18	0.45	0.06
OvlAdjV/S:			0.03			0.08			0.21			0.02
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Los Alamitos Boulevard & Farquhar Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.515
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 24 Level Of Service: A

Street Name:	Los Alamitos Boulevard						Farquhar Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2	1	0	1	0	3	0	0	0	0
	0	0	2	1	0	1	0	3	0	0	0	0

Volume Module:	Los Alamitos Boulevard			Los Alamitos Boulevard			Farquhar Avenue			Farquhar Avenue		
Base Vol:	0	1370	130	90	1290	0	0	0	0	300	0	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1370	130	90	1290	0	0	0	0	300	0	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1370	130	90	1290	0	0	0	0	300	0	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1370	130	90	1290	0	0	0	0	300	0	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1370	130	90	1290	0	0	0	0	300	0	100

Saturation Flow Module:	Los Alamitos Boulevard			Los Alamitos Boulevard			Farquhar Avenue			Farquhar Avenue		
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.00
Lanes:	0.00	2.74	0.26	1.00	3.00	0.00	0.00	0.00	0.00	1.50	0.00	0.50
Final Sat.:	0	4658	442	1700	5100	0	0	0	0	2550	0	850

Capacity Analysis Module:	Los Alamitos Boulevard			Los Alamitos Boulevard			Farquhar Avenue			Farquhar Avenue		
Vol/Sat:	0.00	0.29	0.29	0.05	0.25	0.00	0.00	0.00	0.00	0.12	0.00	0.12
Crit Moves:	****			****						****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Los Alamitos Boulevard & Orangewood Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.491
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Street Name:	Los Alamitos Boulevard						Orangewood Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Permitted			Permitted					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	2	1	0	1	0	2	1	0	0	1	0	0	1

Volume Module:												
Base Vol:	20	1360	50	40	1400	100	110	10	40	50	30	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	1360	50	40	1400	100	110	10	40	50	30	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	1360	50	40	1400	100	110	10	40	50	30	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	1360	50	40	1400	100	110	10	40	50	30	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	1360	50	40	1400	100	110	10	40	50	30	50

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00
Lanes:	1.00	2.89	0.11	1.00	2.80	0.20	0.92	0.08	1.00	0.39	0.23	0.38
Final Sat.:	1700	4919	181	1700	4760	340	1558	142	1955	654	392	654

Capacity Analysis Module:												
Vol/Sat:	0.01	0.28	0.28	0.02	0.29	0.29	0.06	0.07	0.02	0.03	0.08	0.08
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Los Alamitos Boulevard & Bradbury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.593
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Los Alamitos Boulevard						Bradbury Road									
Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
Control:	Protected			Protected			Permitted			Permitted						
Rights:	Include			Include			Include			Include						
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0				
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Lanes:	1	0	2	1	0	1	0	2	1	0	0	0	1	0	0	1

Volume Module:

Base Vol:	90	1260	50	30	1550	200	120	10	70	50	10	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	1260	50	30	1550	200	120	10	70	50	10	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	1260	50	30	1550	200	120	10	70	50	10	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	1260	50	30	1550	200	120	10	70	50	10	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	1260	50	30	1550	200	120	10	70	50	10	10

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15
Lanes:	1.00	2.89	0.11	1.00	2.66	0.34	0.60	0.05	0.35	0.83	0.17	1.00
Final Sat.:	1700	4905	195	1700	4517	583	1020	85	595	1417	283	1955

Capacity Analysis Module:

Vol/Sat:	0.05	0.26	0.26	0.02	0.34	0.34	0.07	0.12	0.12	0.03	0.04	0.01
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Los Alamitos Boulevard & St. Cloud Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.551
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Los Alamitos Boulevard						St. Cloud Drive								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Split Phase			Split Phase					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	2	0	2	1	0	1	0	2	1	0	1	0	1	0	0

Volume Module:												
Base Vol:	280	1170	120	20	1330	100	80	0	310	170	10	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	280	1170	120	20	1330	100	80	0	310	170	10	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	280	1170	120	20	1330	100	80	0	310	170	10	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	1170	120	20	1330	100	80	0	310	170	10	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	280	1170	120	20	1330	100	80	0	310	170	10	20

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00
Lanes:	2.00	2.72	0.28	1.00	2.79	0.21	1.00	0.00	2.00	1.70	0.10	0.20
Final Sat.:	3400	4626	474	1700	4743	357	1700	0	3910	2890	170	340

Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.25	0.01	0.28	0.28	0.05	0.00	0.08	0.06	0.06	0.06
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Bloomfield Street & Ball Road

Cycle (sec): 100 Critical Vol./Cap.(X): 0.771

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 47 Level Of Service: C

Street Name:	Bloomfield Street						Ball Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	160	680	140	140	300	120	110	730	180	130	1010	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	160	680	140	140	300	120	110	730	180	130	1010	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	160	680	140	140	300	120	110	730	180	130	1010	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	160	680	140	140	300	120	110	730	180	130	1010	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	160	680	140	140	300	120	110	730	180	130	1010	120

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.66	0.34	1.00	1.43	0.57	1.00	1.60	0.40	1.00	1.79	0.21
Final Sat.:	1700	2820	580	1700	2429	971	1700	2727	673	1700	3039	361

Capacity Analysis Module:

Vol/Sat:	0.09	0.24	0.24	0.08	0.12	0.12	0.06	0.27	0.27	0.08	0.33	0.33
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Bloomfield Street & Cerritos Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.915
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	E

Street Name:	Bloomfield Street						Cerritos Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0

Volume Module:												
Base Vol:	320	550	310	60	400	200	180	960	310	200	1200	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	320	550	310	60	400	200	180	960	310	200	1200	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	320	550	310	60	400	200	180	960	310	200	1200	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	320	550	310	60	400	200	180	960	310	200	1200	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	320	550	310	60	400	200	180	960	310	200	1200	140

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.28	0.72	1.00	1.33	0.67	1.00	1.51	0.49	1.00	1.79	0.21
Final Sat.:	1700	2174	1226	1700	2267	1133	1700	2570	830	1700	3045	355

Capacity Analysis Module:												
Vol/Sat:	0.19	0.25	0.25	0.04	0.18	0.18	0.11	0.37	0.37	0.12	0.39	0.39
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Bloomfield Street & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.894
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	83	Level Of Service:	D

Street Name:	Bloomfield Street						Katella Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected					
Rights:	Include			Ovl			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	1	0	1	1	0	2	1	0

Volume Module:												
Base Vol:	80	160	50	310	170	330	300	1290	100	40	1760	400
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	160	50	310	170	330	300	1290	100	40	1760	400
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	160	50	310	170	330	300	1290	100	40	1760	400
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	160	50	310	170	330	300	1290	100	40	1760	400
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	80	160	50	310	170	330	300	1290	100	40	1760	400
OvlAdjVol:						0						

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.00	1.00	1.00	2.78	0.22	1.00	2.44	0.56
Final Sat.:	1700	2590	810	1700	1700	1955	1700	4733	367	1700	4156	944

Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.06	0.18	0.10	0.17	0.18	0.27	0.27	0.02	0.42	0.42
OvlAdjV/S:						0.00						
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Lexington Avenue & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.652
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	B

Street Name:	Lexington Avenue						Katella Avenue								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase			Split Phase			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	1	0	1	1	0	1	0	0	2	0	3	0	1

Volume Module:												
Base Vol:	180	40	160	80	70	70	100	1500	20	160	1820	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	40	160	80	70	70	100	1500	20	160	1820	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	40	160	80	70	70	100	1500	20	160	1820	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	40	160	80	70	70	100	1500	20	160	1820	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	40	160	80	70	70	100	1500	20	160	1820	140

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.50	0.50	2.00	3.00	1.00	1.00	2.79	0.21
Final Sat.:	1700	1700	1955	1700	850	850	3400	5100	1955	1700	4736	364

Capacity Analysis Module:												
Vol/Sat:	0.11	0.02	0.08	0.05	0.08	0.08	0.03	0.29	0.01	0.09	0.38	0.38
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Walker Street & Katella Avenue

Cycle (sec): 100 Critical Vol./Cap.(X): 0.776

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 48 Level Of Service: C

Street Name: Walker Street

Katella Avenue

Approach: North Bound South Bound East Bound West Bound

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

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Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 1 0 1 0 1 1 0 0 2 2 0 2 1 0 1 0 3 0 1

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Volume Module:

Base Vol: 30 20 10 660 0 300 290 2120 10 10 2190 590

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

Initial Bse: 30 20 10 660 0 300 290 2120 10 10 2190 590

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 30 20 10 660 0 300 290 2120 10 10 2190 590

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

Reduced Vol: 30 20 10 660 0 300 290 2120 10 10 2190 590

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

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

FinalVolume: 30 20 10 660 0 300 290 2120 10 10 2190 590

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Saturation Flow Module:

Sat/Lane: 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.15 1.00 1.00 1.00 1.00 1.00 1.15

Lanes: 1.00 0.67 0.33 2.00 0.00 2.00 2.00 2.99 0.01 1.00 3.00 1.00

Final Sat.: 1700 1133 567 3400 0 3910 3400 5076 24 1700 5100 1955

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Capacity Analysis Module:

Vol/Sat: 0.02 0.02 0.02 0.19 0.00 0.08 0.09 0.42 0.42 0.01 0.43 0.30

Crit Moves: ****

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Wallingsford Road/ Walnut Street & Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.799
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name: Wallingsford Road/ Walnut Street						Katella Avenue									
Approach: North Bound			South Bound			East Bound			West Bound						
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
----- ----- ----- ----- -----															
Control:	Split Phase			Split Phase			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0	1	0	0	1	0	1	0	1	0	1	0	3	0
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Volume Module:

Base Vol:	330	70	140	20	70	60	30	2240	480	130	2710	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	330	70	140	20	70	60	30	2240	480	130	2710	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	330	70	140	20	70	60	30	2240	480	130	2710	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	330	70	140	20	70	60	30	2240	480	130	2710	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	330	70	140	20	70	60	30	2240	480	130	2710	20

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Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.15
Lanes:	1.22	0.26	0.52	1.00	1.00	1.00	1.00	3.29	0.71	1.00	3.00	1.00
Final Sat.:	2078	441	881	1700	1700	1955	1700	5600	1200	1700	5100	1955

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Capacity Analysis Module:

Vol/Sat:	0.16	0.16	0.16	0.01	0.04	0.03	0.02	0.40	0.40	0.08	0.53	0.01
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Los Alamitos Boulevard & Rossmoor Center Way

Cycle (sec):	100	Critical Vol./Cap.(X):	0.609
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxxx
Optimal Cycle:	29	Level Of Service:	B

Street Name:	Los Alamitos Boulevard						Rossmoor Center Way								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Permitted			Permitted					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lanes:	1	0	2	1	0	1	0	2	1	0	1	0	0	1	0

Volume Module:												
Base Vol:	180	1150	20	40	1390	200	210	10	170	10	10	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	1150	20	40	1390	200	210	10	170	10	10	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	1150	20	40	1390	200	210	10	170	10	10	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	1150	20	40	1390	200	210	10	170	10	10	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	1150	20	40	1390	200	210	10	170	10	10	20

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.95	0.05	1.00	2.62	0.38	1.00	0.06	0.94	1.00	0.33	0.67
Final Sat.:	1700	5013	87	1700	4458	642	1700	94	1606	1700	567	1133

Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.23	0.02	0.31	0.31	0.12	0.11	0.11	0.01	0.02	0.02
Crit Moves:	****			****			****			****		

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 I-605 NB Ramps & Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.672
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Street Name:	I-605 NB Ramps						Katella Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	0	0	1	0	0	0	0	2

Volume Module:	I-605 NB Ramps			I-605 SB Ramps			Katella Ave East			Katella Ave West		
Base Vol:	0	0	0	0	0	0	340	0	0	0	2150	950
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	340	0	0	0	2150	950
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	340	0	0	0	2150	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	340	0	0	0	2150	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	340	0	0	0	2150	0

Saturation Flow Module:	I-605 NB Ramps			I-605 SB Ramps			Katella Ave East			Katella Ave West		
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.15
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2.00
Final Sat.:	0	0	0	0	0	0	1700	0	0	0	5100	3910

Capacity Analysis Module:	I-605 NB Ramps			I-605 SB Ramps			Katella Ave East			Katella Ave West		
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.42	0.00
Crit Moves:							****				****	

LOS ALAMITOS GENERAL PLAN (IE11-0072)
FUTURE
PM PEAK HOUR

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #114 I-605 NB Ramps & Katella Ave

Cycle (sec): 45 Critical Vol./Cap.(X): 0.662

Loss Time (sec): 4 Average Delay (sec/veh): 7.5

Optimal Cycle: 29 Level Of Service: A

Street Name: I-605 NB Ramps Katella Ave

Approach: North Bound South Bound East Bound West Bound

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

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Control: Protected Protected Protected Protected

Rights: Include Include Include Ignore

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

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 3 0 2

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Volume Module:

Base Vol: 0 0 0 0 0 0 340 0 0 0 2150 950

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

Initial Bse: 0 0 0 0 0 0 340 0 0 0 2150 950

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

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00

PHF Volume: 0 0 0 0 0 0 340 0 0 0 2150 0

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

Reduced Vol: 0 0 0 0 0 0 340 0 0 0 2150 0

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

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

Final Volume: 0 0 0 0 0 0 340 0 0 0 2150 0

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Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 0.95 1.00 1.00 1.00 0.91 0.88

Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 0.00 3.00 2.00

Final Sat.: 0 0 0 0 0 0 1805 0 0 0 5187 3344

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Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.19 0.00 0.00 0.00 0.41 0.00

Crit Moves: **** *

Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.00 0.28 0.00 0.00 0.00 0.63 0.00

Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.66 0.00 0.00 0.00 0.66 0.00

Delay/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 17.4 0.0 0.0 0.0 5.9 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 17.4 0.0 0.0 0.0 5.9 0.0

LOS by Move: A A A A A A B A A A A A

HCM2kAvgQ: 0 0 0 0 0 0 6 0 0 0 8 0

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