EIR APPENDIX A

Technical Background Report

Public Review Draft

BURBANK2035

Technical Background Report

July 2012

Public Review Draft

BURBANK2035

Technical Background Report

July 2012

City of Burbank, Community Development Department
Planning and Transportation Division
150 N. Third St.
Burbank, CA 91502

P 09120101.03
60210056.000

TABLE OF CONTENTS

TABLE OF CONTENTS

Continued **Page**

Appendices

Figures

TABLE OF CONTENTS

Continued **Page**

Tables

TABLE OF CONTENTS

Continued **Page**

ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
µg/m3	micrograms of particulate matter per cubic meter of air
AB	Assembly Bill
Accords	United Nations Urban Environmental Accords
af	acre-feet
af/day	acre-feet per day
afy	acre-feet per year
Airport Authority	Burbank-Glendale-Pasadena Airport Authority
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
ALS	Advanced Life Support
ALUC	Airport Land Use Commission
ALUP	*Los Angeles County Airport Land Use Plan*
ANCA	Airport Noise and Capacity Act of 1990
ANSI	American National Standards Institute
APS	Alternative Planning Strategy
AQMP	air quality management plan
ARB	California Air Resources Board
Area Plan	Hazardous Materials Area Plan
B.P.	before present
BACT	best available control technology
Basin	South Coast Air Basin
basin plans	California's water quality control plans
BAT	best available technology
BCP	*Burbank Center Plan*
BCT	best conventional pollutant control technology
BFD	Burbank Fire Department
BMP	best management practice
BOU	Burbank Operable Unit
BPD	Burbank Police Department
BSC	California Building Standards Commission
BUSD	Burbank Unified School District
BWP	Burbank Water and Power
BWRP	Burbank Water Reclamation Plant
CAA	Clean Air Act

CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire
Cal/EPA	California Environmental Protection Agency
CalEMA	California Emergency Management Agency
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
Calveno	California Vehicle Noise
CAPs	criteria air pollutants
CBC	California Building Code
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CDE	California Department of Education
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CGS	California Geological Survey
CH_4	methane
CHLs	California Historical Landmarks
CHP	California Highway Patrol
City	City of Burbank
CIWMA	California Integrated Waste Management Act
CIWMB	California Integrated Waste Management Board
CLG	Certified Local Government
CLUP	comprehensive land use plan
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2-equivalency

COPS	Community Outreach and Personnel Services
CRA	Colorado River Aqueduct
CRHR	California Register of Historical Resources
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
D/C	demand-to-capacity
dB	decibel
dBA	A-weighted sound levels
Delta	Sacramento–San Joaquin Delta
DFG	Department of Fish and Game’s
DPH	California Department of Public Health
DPW	Department of Public Works
DTSC	California Department of Toxic Substances Control
EAP	Energy Action Plan
EF	emission factor
EPA	U.S. Environmental Protection Agency
EQ basin	equalization basin
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FARs	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
GAC	Granular Activated Carbon
GDP	General Dewatering Permit
GGRP	Greenhouse Gas Reduction Plan
GHG	greenhouse gas
GWP	global warming potential
HAPs	hazardous air pollutants
HCD	California Department of Housing and Community Development
HCFCs	hydrochlorofluorocarbons
HFCs	hydrofluorocarbons

HR	House Resolution
Hz	hertz
I/I	inflow and infiltration
I-5	Interstate 5
I-I	Internal–Internal
inventory	communitywide GHG emissions inventory
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Plan
ISO	Insurance Services Office
I-X	Internal–External
kV	kilovolt
kW	kilowatts
kWh	kilowatt-hours
LACD	Los Angeles County Drainage Area
LACFCD	Los Angeles County Flood Control District
LACFD	Los Angeles County Fire Department
LADWP	Los Angeles Department of Water and Power
LAFCO	Los Angeles County Local Agency Formation Commission
LARWMP	Los Angeles River Watershed Monitoring Program
LD	Larson Davis
LEA	Local Enforcement Agency
Lead SIP	Lead State Implementation Plan for Los Angeles County
LOS	level of service
LTO	landing/take-off
LUSTs	leaking underground storage tanks
M	earthquake magnitude
MACT	maximum available control technology
MCLs	maximum contaminant levels
MDSP	*Burbank Media District: Specific Plan*
MEP	maximum extent practicable
Metro	Los Angeles County Metropolitan Transportation Authority
Metropolitan	Metropolitan Water District of Southern California
MMT	million metric tons
MOEs	Measures of Effectiveness
mph	miles per hour
mpn/100 ml	most probable number of colonies per 100 milliliter

MPOs	metropolitan planning organizations
MRZs	Mineral Resource Zones
MS4s	NPDES General Permit for Small Municipal Separate Storm Sewer Systems
MT CO_2e/yr	metric tons of CO_2e emissions per year
MW	megawatts
MWD	Metropolitan Water District of Southern California
MWh	megawatt-hours
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAL	Technology-Based Numeric Action Levels
NBC	National Broadcasting Corporation
NECPA	National Energy Conservation Policy Act
NEHRP	National Earthquake Hazards Reduction Program
NEHRPA	National Earthquake Hazards Reduction Program Act
NEL	Technology-Based Numeric Effluent Limitations
NESHAP	national emissions standards for hazardous air pollutants
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NIMS	National Incident Management System
NO	nitric oxide
NO_2	nitrogen dioxide
NOS	North Outfall Sewer
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NSHP	New Solar Homes Partnership
NTU	Nephelometric Turbidity Units
NWP	nationwide permit program
OD	Origin-Destination
ODSs	ozone depleting substances
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	tetrachloroethylene
PeMS	Performance Measurement System
PFCs	perfluorocarbons

PLWDC	Providencia Land, Water and Development Company
PM	particulate matter
PM_{10}	particulate matter with a diameter of 10 micrometers or less
$PM_{2.5}$	particulate matter with a diameter of 2.5 micrometers or less
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
POUs	publicly owned utilities
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PRCS	Park, Recreation, and Community Services Department
PTC	Production Tax Credit
RADS	Reactive Airways Disease Syndrome
RAF	British Royal Air Force
RATP	Residential Acoustical Treatment Program
RCP	*2008 Regional Comprehensive Plan*
RCRA	Resource Conservation and Recovery Act
REMELs	Reference Energy Mean Emission Levels
RMS	root-mean-square
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RTP	regional transportation plan
RWDs	reports of waste discharge
RWQCB	Regional Water Quality Control Board
SAP	Sustainability Action Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCPPA	Southern California Public Power Authority
SCS	Sustainable Communities Strategy
SDG&E	San Diego Gas and Electric
SEL	Sound Exposure Level
SEMS	Standardized Emergency Management System
SF_6	sulfur hexafluoride
SHMA	1990 Seismic Hazards Mapping Act
SIC	Standard Industrial Code

SIP	State Implementation Plan
SLIC	Spills-Leaks-Investigations-Cleanups
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SP	service population
SQMP	Stormwater Quality Management Program
SSC	California Species of Special Concern
SSMP	Sewer System Management Plan
SUSMP	*Standard Urban Storm Water Mitigation Plan*
SWP	State Water Project
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TCE	trichloroethylene
TMDL	Total Maximum Daily Load
tpy	tons per year
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEIA	U.S. Energy Information Administration
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	underground storage tanks
UWMP	urban water management plan
V/C	volume-to-capacity
VdB	vibration decibels
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WARM	WAste Reduction Model
WDRs	waste discharge requirements
Williamson Act	California Land Conservation Act of 1965
WSA	water supply assessment
X-I	External–Internal
X-X	External-External

ZLD	zero liquid discharge

1 INTRODUCTION

1.1 BACKGROUND

The General Plan is a State-required legal document that provides guidance to decision-makers regarding the allocation of resources and determination of the future physical form and character of development in counties and cities. It is the official statement of the jurisdiction regarding the extent and types of development needed to achieve the community's physical, economic, social, and environmental goals. Although the General Plan consists of individual sections, or "elements," that address a specific area of concern, it also embodies a comprehensive and integrated planning approach for the jurisdiction.

Burbank2035 clarifies and articulates the City of Burbank's (City's) intentions with respect to the rights and expectations of the general public, property owners, special interest groups, prospective investors, and businesses. Through *Burbank2035*, the City informs the community of its goals, policies, and development standards, thereby communicating the City's expectations in meeting the intentions of *Burbank2035*.

Under State law, each county and city General Plan must contain the following seven elements:

- Land Use
- Circulation
- Housing
- Conservation
- Open Space
- Noise
- Safety

California Government Code Section 65303 permits local jurisdictions to formulate other elements, which, in the "judgment of the planning agency," relate to the physical development of a region. These "optional" elements are as legally binding as a mandatory element, once adopted.

The current General Plan consists of several stand-alone elements dating back to the 1960s. Various elements of the General Plan have been updated but the plan has not been comprehensively revised since that time. Much of the data, analyses, and policies in the current General Plan do not reflect current conditions in the city. Thus, an update of the General Plan is necessary to reflect the current vision to accommodate future growth, as well as what resources to protect and how quality of life is defined within the City of Burbank over the next 25 years.

Development of *Burbank2035* was initiated in 2005. A community visioning process was undertaken to elicit the values, aspirations, and ideas of Burbank residents and businesses. This process led to draft revisions of the Land Use and Mobility Elements, which were reviewed with the City Council and broader community in 2006 and again in 2008. *Burbank2035* has since evolved to include updates to the Land Use and Mobility Elements, in addition to preparation of updated Open Space and Conservation; Noise; and Safety Elements, and an optional Air Quality and Climate Change Element. Together, these updated elements form a comprehensive General Plan update for the City through 2035.

1.2 PURPOSE OF THE BACKGROUND REPORT

This background report presents a "snapshot" of the available information about existing conditions in Burbank relevant to the General Plan, and summarizes the physical, social, and economic information required to update *Burbank2035*. This information is also used as the environmental setting within the *Burbank2035* Program EIR.

The data and information in this background report generally reflect conditions as of April 2010.

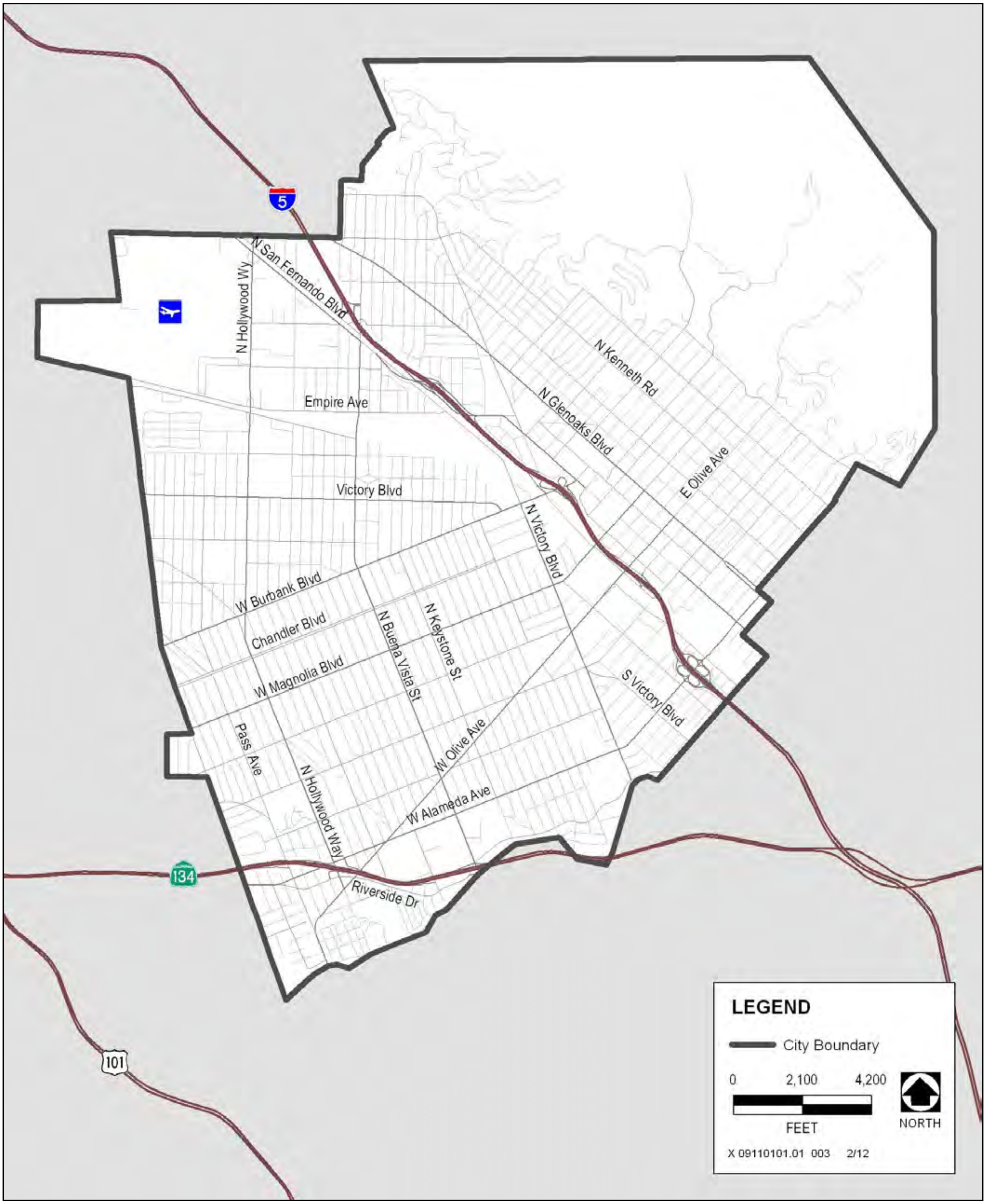
1.3 PLANNING AREA

The City's planning area includes all land designated for future development as part of Burbank, including all land within the existing city limits. Figure 1-1 shows the city boundary and planning area.

1.4 ORGANIZATION OF THE BACKGROUND REPORT

The background report is organized into 18 chapters as described below.

- **Chapter 1, "Introduction,"** provides an overview of the role of the background report in preparing the General Plan and EIR, details the organization of the background report, and describes the range of the planning area.
- **Chapter 2, "Aesthetics,"** describes the existing visual environment of Burbank, including its residential, commercial, and industrial neighborhoods.
- **Chapter 3, "Agricultural Resources,"** addresses agricultural-related land uses in the planning area, such as residential areas that allow the keeping of horses.
- **Chapter 4, "Air Quality,"** frames the existing air quality regulatory environment and conditions in the planning area and surrounding region. Issues addressed in this chapter include criteria air pollutants (e.g., ozone and carbon monoxide), toxic air contaminants, and odors.
- **Chapter 5, "Greenhouse Gas Emissions,"** provides a discussion of existing climate conditions, climate change science, and greenhouse gas emission sources in California and in Burbank. The chapter also includes a description of potential effects of climate change on the planning area.
- **Chapter 6, "Biological Resources,"** provides information regarding natural resources located within the planning area, including vegetation, wildlife, and sensitive natural communities.
- **Chapter 7, "Cultural Resources,"** discusses the historical and cultural resources found within the planning area, including prehistoric resources and remaining historic structures.
- **Chapter 8, "Energy,"** presents an overview of energy sources and use within the planning area, including electricity, natural gas, and alternative and renewable energy sources.



Source: City of Burbank 2010, CASIL 1990

Planning Area **Figure 1-1**

- **Chapter 9, "Geology and Soils,"** discusses the presence of unique geological conditions in the planning area such as faults, landslide and liquefaction zones, and expansive soils.

- **Chapter 10, "Hazards and Hazardous Materials,"** provides information regarding potential hazards in the planning area, including hazardous materials, hazardous sites and aircraft and helicopter hazards.

- **Chapter 11, "Hydrology and Water Resources,"** discusses surface and groundwater resources within the planning area, including water quality and water supply and demand.

- **Chapter 12, "Land Use and Planning,"** documents current (2010) land use conditions in the planning area and provides a context for examining development constraints.

- **Chapter 13, "Mineral Resources,"** describes the presence of mineral resource zones within the planning area.

- **Chapter 14, "Noise,"** describes the noise environment in the planning area, including noise from roadway traffic, railroads, aircraft, and stationary sources. The chapter also describes noise-sensitive land uses in the planning area.

- **Chapter 15, "Population, Housing, and Employment,"** provides information regarding the population and housing characteristics of Burbank, including population growth, employment, and the jobs/housing ratio.

- **Chapter 16, "Public Services, Utilities, and Recreation,"** describes the public services provided in Burbank and who provides them. This chapter addresses police, fire, and emergency services; parks and recreation; schools and libraries; water supply, wastewater collection and treatment, storm drainage; and solid waste and recycling.

- **Chapter 17, "Transportation,"** identifies current transportation conditions within the planning area. This chapter is to be used as a baseline to develop goals and objectives, identify future needs, and explore alternative transportation scenarios. This chapter is a summary of the existing conditions traffic report prepared for the General Plan update and EIR, which is included as an appendix.

- **Chapter 18, "References,"** contains a list of references from each chapter.

1.5 FORMAT OF THE RESOURCE CHAPTERS

Each resource chapter of the background report includes the following sections:

- The first paragraph introduces the topics covered in the chapter.

- The Environmental Setting summarizes conditions as of April 2010 for each resource covered in the chapter.
- The Regulatory Setting describes the regulatory context pertaining to each resource addressed in the chapter. This section describes federal, state, and regional/local regulations where appropriate.

This page intentionally left blank.

2 AESTHETICS

2.1 ENVIRONMENTAL SETTING

2.1.1 SCENIC VISTAS

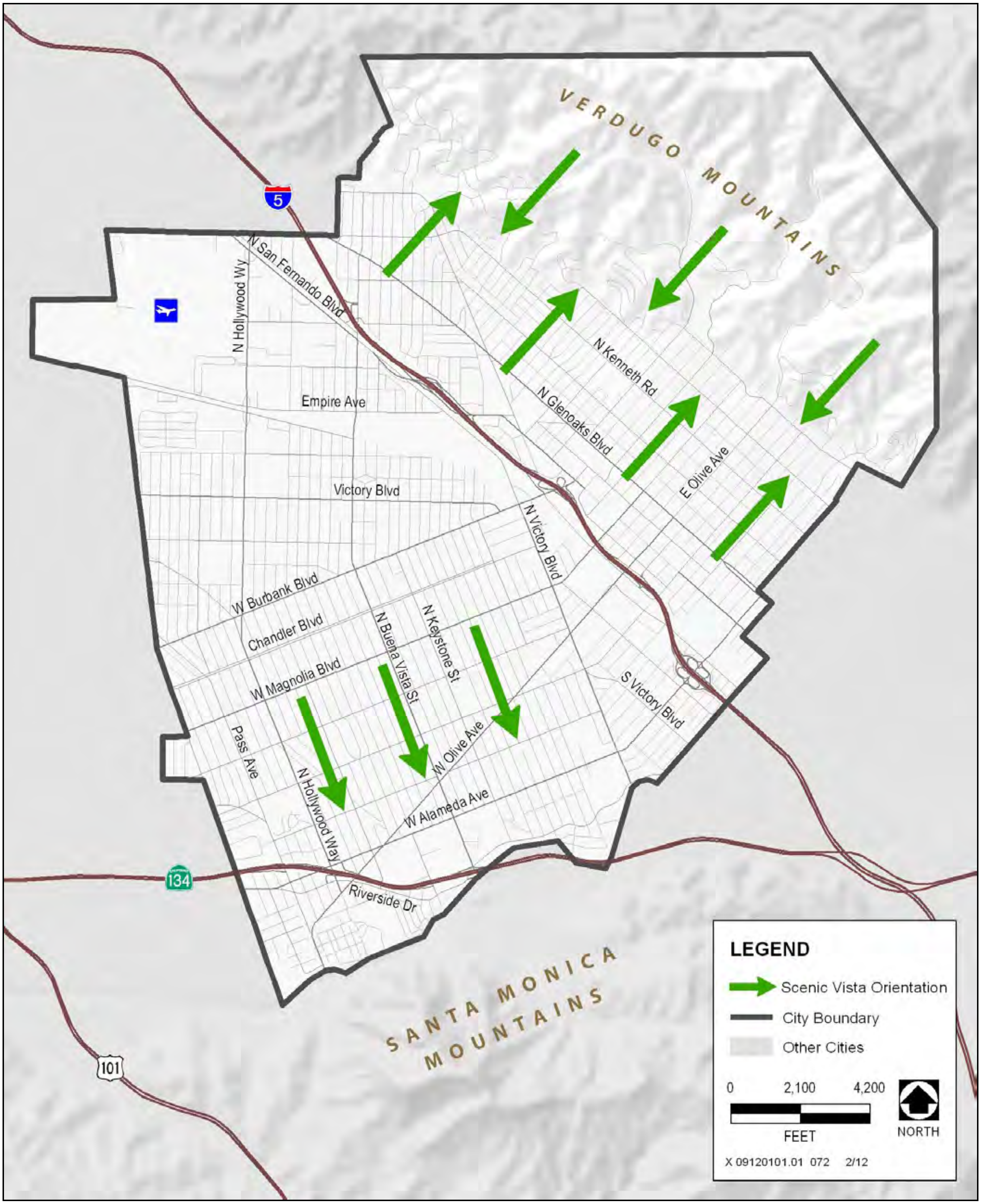
The term “scenic vistas” is difficult to define because it is subjective and depends on individual preferences rather than objective data. As in many cities, Burbank does not currently have an adopted definition for scenic vistas or a map designating local scenic views. In general, scenic vistas can be defined as viewpoints that provide expansive views of a highly valued landscape for the benefit of the general public. Scenic vistas within the Burbank planning area could include views of the Verdugo Mountains to the northeast and views of the eastern Santa Monica Mountains to the south. Orientation of the street network maximizes public access to these views, with streets east of Interstate 5 (I-5) oriented toward the Verdugo Mountains and streets south of West Burbank Boulevard oriented toward the Santa Monica Mountains (see Figure 2-1). Because the city lies on a generally flat plain within the San Fernando Valley, the topographic relief of the surrounding mountains provides natural way-finding features.

2.1.2 SCENIC RESOURCES

Scenic resources are natural or manmade features that are visually pleasing and contribute to the definition of a community or region. Scenic resources can include trees and landscaping, rock outcroppings, historic buildings, and public art. Scenic resources within the planning area include public parks and open space, such as Wildwood Canyon Park, Stough Park, Johnny Carson Park, and Brace Canyon Park. The architecture of historic structures, such as Burbank City Hall and the Portal of the Folded Wings Shrine to Aviation in Valhalla Memorial Park, are also scenic resources that represent aspects of the city’s history. Burbank’s residential, commercial, and industrial neighborhoods contain numerous examples of historic architectural styles, including Craftsman, Colonial, Mediterranean, Prairie, Googie, Art Deco, and Mission Revival. Historic commercial signs throughout the city also contribute as scenic resources, such as the Bob’s Big Boy and Safari Inn signs.

2.1.3 VISUAL CHARACTER

Visual character is descriptive and not evaluative, which means that the development traits described are neither good nor bad in and of themselves. Burbank is characterized as an urban collection of residential, commercial, and industrial neighborhoods set against the backdrop of mountainous natural open space areas. Burbank’s visual character can be organized and described according to several major development themes, including downtown Burbank, single-family neighborhoods, commercial corridors, the Media District, industrial areas, and the Verdugo Mountains, which are briefly described below and identified on Figure 2-1.



Source: City of Burbank 2010, AECOM 2010

Scenic Vista Orientation **Figure 2-1**

- **Downtown Burbank**—Downtown Burbank is characterized by multi-story office buildings and hotels, active street-level commercial and retail areas, and multifamily apartment complexes. Traffic lights, parking garages, and pedestrian-oriented design distinguish downtown Burbank as the urban core of the city. Most streets have a mature tree canopy that shades the sidewalks and visually screens the lower floors of buildings. Portions of downtown Burbank have decorative street lighting, as opposed to the traditional cobra-head lights found in other areas of the city.

- **Single-Family Neighborhoods**—Burbank's single-family neighborhoods are characterized by tree-lined streets with consistent front yard building setbacks. Most neighborhoods contain a variety of architectural styles, indicating periods of infill development and renovation. Many neighborhoods contain public parks or other open spaces.

- **Commercial Corridors**—Corridors such as Olive Avenue and Glenoaks Boulevard are lined with commercial uses and connect downtown Burbank to the neighboring cities of Los Angeles and Glendale. Buildings along these corridors are primarily one to two stories with varying street setbacks. Sections of these corridors include pedestrian-oriented buildings that abut the sidewalk, with parking provided on streets or to the rear of buildings. Other sections include auto-oriented uses, such as strip malls and motels, with parking lots in front of business entrances and numerous curb cuts along the sidewalk. The corridors typically have five-lane roads with a center turn lane and on-street parking. Some areas have street trees while other areas have little to no vegetation. Cobra-head streetlights are typical along these corridors.

- **Media District**—The Media District contains several mid- and high-rise office and medical buildings with varying architectural styles, as well as single-story or two-story residential, commercial, and industrial properties. Walls and/or fences encircle the large, windowless sound stages within the studio properties and limit views from the street and sidewalk. Large-scale media supergraphics and murals on the sound stage walls are visible from the public roadways and contribute to the unique character of this area. Some large office buildings in the Media District have well-landscaped entrance plazas. Others abut the sidewalk and provide no outdoor space. The interface between the Media District and adjacent single-family neighborhoods can be dramatic where single-story houses are juxtaposed to high-rise office towers.

- **Industrial Areas**—Burbank's industrial areas have low-rise businesses abutting the sidewalk, with limited landscaping and parking. Street trees are present in some areas, but are sparsely planted and provide minimal shading. Large business signs and overhead power lines are dominant visual features. Buildings are predominantly single-story structures with a variety of architectural styles and building façades, including exposed masonry block walls, corrugated iron siding, and synthetic stucco finishes.

- **Verdugo Mountains**—The Verdugo Mountains are largely undeveloped within Burbank and provide a natural character that contrasts with the urban development found on the valley floor. The mountains are visible from most north- and east-oriented streets. The city's street grid becomes less geometric and regular east of Sunset Canyon Drive, with several winding roadways that follow canyons into the mountains.

2.1.4 LIGHT AND GLARE

Burbank contains several existing sources of light and glare, such as streetlights along roadways and in parking lots, illuminated signs, lighted recreation facilities, landscape lighting, and light emitted from the interiors of residential and nonresidential buildings. Operations at the Bob Hope Airport are also a source of nighttime lighting. Buildings and structures with glass, metal, and polished exterior or roofing materials contribute to localized sources of glare. The hillside areas largely remain in their natural state and produce limited, if any, light and glare.

2.1.5 SHADE OR SHADOW

Prolonged periods of shade and shadowing can negatively affect the character of certain land uses. Shadow-sensitive uses generally include routinely usable outdoor spaces associated with residential, recreational, or institutional land uses; commercial uses, such as pedestrian-oriented outdoor spaces or restaurants with outdoor seating areas; nurseries; and existing solar collectors/panels.

Shadows are cast in a clockwise direction from west-northwest to east-northeast from approximately 7:00 a.m. to 4:00 p.m. depending on the time of the year. The spring equinox is March 20, summer solstice is June 21, autumn equinox is September 22, and winter solstice is December 21. The shortest shadows are cast during the summer solstice and grow increasingly longer until the winter solstice when they reach their maximum coverage lengths.

Mid- and high-rise buildings are the primary source of prolonged shadows within the planning area. Downtown Burbank and the Media District contain the majority of these buildings. *The Burbank Media District: Specific Plan* (MDSP) (City of Burbank 2010a) was adopted in 1991 to address the effects of shadowing on residential neighborhoods from high-rise office buildings constructed within the Media District. The MDSP establishes building intensity and height limits to protect residential uses from the aesthetic effects of high-rise buildings. Further description of the MDSP is included in Chapter 12, *Land Use and Planning*, including Figure 12-4 which shows the MDSP Land Use Map.

2.2 REGULATORY SETTING

2.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to visual resources apply to the planning area.

2.2.3 STATE PROGRAMS

CALTRANS SCENIC HIGHWAY PROGRAM

The California Department of Transportation (Caltrans) Scenic Highway Program protects and enhances the natural scenic beauty of California's highways and corridors through special conservation treatment. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Caltrans designates a scenic highway by evaluating how much of the natural landscape a traveler sees and the extent to which visual intrusions degrade the scenic corridor. No officially designated scenic highways are located within the planning area.

2.2.4 REGIONAL AND LOCAL PLANS AND ORDINANCES

CITY OF BURBANK ZONING ORDINANCE

The City of Burbank Zoning Ordinance (Title 10 of the Burbank Municipal Code) addresses the aesthetic considerations of development. The Zoning Ordinance sets development standards for parking, building heights, setbacks, density, lot coverage, open space requirements, and signs.

Article 11 of the Zoning Ordinance includes the Art in Public Places Ordinance. The Zoning Ordinance requires property developers to incorporate public art into their projects or pay an in-lieu fee of 1% of total project costs to the Art in Public Places Fund. Developers also have the option, when paying the in-lieu fee, to direct up to 50% of their 1% obligation to arts-related programs organized through the Burbank Arts Education Foundation.

MEDIA DISTRICT SPECIFIC PLAN

The MDSP was adopted in 1991 in response to the development of several high-rise office buildings in the 1980s and the potential effects that similar future development could have on surrounding residential neighborhoods. The MDSP is implemented through the Burbank Municipal Code, Title 10, Article 21: Media District Overlay Zone. The overlay zone regulates commercial-industrial land in the Media District for land use, density, height, setbacks, and specific aspects of parking, landscaping, landscaping for parking lots, design standards for parking lots, lighting, walls and fences, signs, and design standards (Burbank 2010b).

RANCHO MASTER PLAN

Ordinance No. 3343 created the Rancho Master Plan Area, which contained zoning classifications for the East and West Rancho neighborhoods. The zoning classifications regulate land use, density, height, setbacks, parking, landscaping, and design standards. The ordinance also created a Rancho Review Board to review all projects within the Rancho Master Plan Area that are subject to development review. Design standards apply within all zones, except residential single family horsekeeping, and address items such as roof style, building orientation, pedestrian entry, architectural design, and building materials, finishes, and colors.

BURBANK CENTER PLAN

The *Burbank Center Plan* (City of Burbank 1997) is an economic revitalization plan for downtown Burbank and surrounding areas. The plan is divided into three subareas and addresses transitioning underused industrial properties into mixed-use neighborhoods with an attractive pedestrian environment. The following policies are intended to improve the visual quality of downtown Burbank.

City Center Subarea

- Continue to foster an inviting pedestrian environment through appropriate streetscape elements, which may include decorative sidewalks and crosswalks, street furniture, landscaping, bike racks, news racks, street trees and tree well covers, and lighting
- Promote landscaped setbacks in front of Burbank Village buildings when possible
- Encourage innovative and creative facades and signage which are designed to attract pedestrians
- Provide public open space such as multi-use plazas and courtyards to encourage a pleasant and friendly pedestrian environment
- Link Civic Center structures and community facilities together and unify the City Center area through the use of:
    - Pedestrian paseos with decorative paving;
    - Decorative paving at major intersections;
    - Decorative street lighting;
    - Decorative sidewalks;
    - Pedestrian furniture;
    - A street tree planting plan, including decorative street tree well covers
- Encourage architectural design that enhances the image of this gateway corridor especially at the intersections of First Street and Olive Avenue, and Third Street and Olive Avenue

South San Fernando Subarea

- Promote an inviting pedestrian environment with a streetscape plan that includes landscape elements and street furniture
- Require the use of landscaped setbacks and pedestrian plazas within the development in conjunction with streetscape to promote an inviting pedestrian environment on San Fernando Boulevard and Alameda Avenue

- Require utility lines to be underground for large comprehensive developments

City Center West Subarea

- Require the use of landscaped setbacks in conjunction with streetscape elements to promote an inviting pedestrian environment and create a gateway into the City Center.

This page intentionally left blank.

3 AGRICULTURAL RESOURCES

3.1 ENVIRONMENTAL SETTING

Burbank is an urbanized city that is built out, with the exception of approximately 2,500 acres of open space, much of which is located in the Verdugo Mountains, at the eastern edge of the city. This open space is intended to provide natural recreational opportunities, flood control, and conservation uses. Agricultural uses, as defined by the Burbank Municipal Code, are not specifically located within Burbank, although the city does contain some zones that allow for the keeping of horses and related equestrian uses. There are 134 acres of residentially zoned land appropriate for keeping horses, primarily located in the southern portion of the city, adjacent to Griffith Park. According to the Farmland Mapping and Monitoring Program (FMMP), there is no Important Farmland located in Burbank. In addition, no land is under California Land Conservation Act of 1965 (Williamson Act) contracts.

3.2 REGULATORY SETTING

3.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to agricultural resources apply to the City of Burbank.

3.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

FARMLAND MAPPING AND MONITORING PROGRAM

The California Department of Conservation, Division of Land Resource Protection, administers the FMMP. The program produces agricultural resource inventories and maps that rate agricultural lands based on soil quality, irrigation status, and land use within California. These ratings are used to help prioritize farmland conservation efforts. The inventories and maps are updated every two years and were last updated in 2008. The FMMP uses the term "Important Farmland" to describe parcels that meet certain criteria. There is no Important Farmland in Burbank.

WILLIAMSON ACT

The Williamson Act is an agricultural conservation tool. Under the Williamson Act, local governments can enter into contracts with private property owners to protect land for agricultural and open space purposes. There are no Williamson Act contracts in Burbank.

3.2.3 REGIONAL AND LOCAL ORDINANCES

BURBANK ZONING ORDINANCE

Article 2 of the Burbank Zoning Ordinance defines agricultural use as "any use which is related to cultivating the ground or raising and harvesting crops, and includes the feeding, breeding and management of livestock as a commercial or industrial enterprise." The City of Burbank does not contain any land use designations or zones strictly intended for agricultural use. However, the city does contain the Single Family Residential-Horse (R-1-H) zone, which allows for single-family residential development with facilities for keeping horses. This is not considered an agricultural use.

4 AIR QUALITY

4.1 ENVIRONMENTAL SETTING

Burbank is located in Los Angeles County and lies at the eastern end of the San Fernando Valley, at the base of the Verdugo Mountains. The planning area is located within the South Coast Air Basin (Basin). The Basin contains California's largest metropolitan region, and pollutant concentrations in parts of the Basin are among the highest in the nation. The area includes the southern two-thirds of Los Angeles County, all of Orange County, and the western urbanized portions of Riverside and San Bernardino Counties. The Basin covers a total of 6,600 square miles, is home to more than 43% of California's population, and generates about 28% of the state's total criteria pollutant emissions.

The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with county transportation commissions and local governments and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

Ambient concentrations of air pollutants are determined by the types and quantities of emissions released by their sources and the atmosphere's ability to transport, transform, and dilute those emissions. Natural factors that affect transport, transformation, and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in a given area are determined by such natural factors as topography, meteorology, and climate, in addition to the types and quantities of the emissions that are released by sources.

4.1.1 TOPOGRAPHY, CLIMATE, AND METEOROLOGY

The distinctive climate of the Basin is determined by its terrain and geographic location. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

Winds in the planning area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by the daytime onshore sea breezes. At night, the wind generally slows and reverses direction, traveling toward the sea. Local canyons can also alter wind direction, with wind tending to flow parallel to the canyons. Nighttime cold air drainage from the mountains into the basin mixes with cool marine air, resulting in stable atmospheric conditions, discussed below.

The vertical dispersion of air pollutants in the Basin is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semipermanent high-pressure zone in which the Basin is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler, marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The Basinwide occurrence of inversions at 3,500 feet above mean sea level or less averages 191 days per year (SCAQMD 1993:A8-2).

The potential for atmospheric pollution in an area depends largely on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. The warm sunny weather in the Basin associated with a persistent high pressure system is conducive to the formation of ozone and other oxidative pollutants, commonly referred to as "smog." The problem is further aggravated by the surrounding mountains, frequent low inversion heights, and stagnant air conditions. All of these factors act together to trap pollutants in the air basin (ARB 2009b). On days without inversions, or on days of winds averaging over 15 miles per hour, smog potential is greatly reduced.

4.1.2 Criteria Air Pollutants

An ambient (outside) air quality standard is the definition of "clean air." More specifically, a standard establishes the concentration above which a pollutant is known to cause adverse health effects to sensitive groups, such as children and the elderly. The California Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone, particulate matter (PM), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive documents describing their health effects are available, they are commonly referred to as "criteria air pollutants" (CAPs). Both the California and federal governments have adopted health-based standards for CAPs. In general, the air quality standards are expressed as a measure of the amount of pollutant per unit of air. For example, the PM standards are expressed as micrograms of particulate matter per cubic meter of air (µg/m3), and the ozone standards are expressed in parts per million (ppm) (ARB 2009a:1-18).

Determining whether a region's air quality is healthful or unhealthful relies on comparing contaminant levels in ambient air samples to the California and National Ambient Air Quality Standards (CAAQS and NAAQS, respectively). Both ARB and EPA use monitoring data to determine an area's attainment status with respect to the CAAQS and NAAQS in order to identify areas with air quality problems and initiate improvement efforts. The three basic designation categories are "nonattainment," "attainment," and "unclassified." The "unclassified" designation is used in an area that cannot be classified on the basis of available information. The current CAAQS and NAAQS are shown in Table 4-1.

Table 4-1
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b, c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]
Ozone	1-hour	0.09 ppm ($180\ \mu g/m^3$)	**N (Extreme)**	–[h]	Same as Primary Standard	–[h]
	8-hour	0.070 ppm ($137\ \mu g/m^3$)	**N**	0.075 ppm ($147\ \mu g/m^3$)		**N (Severe)**
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	$20\ \mu g/m^3$	**N**	–[h]	Same as Primary Standard	**N (Serious)**
	24-hour	$50\ \mu g/m^3$		$150\ \mu g/m^3$		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	$12\ \mu g/m^3$	**N**	$15.0\ \mu g/m^3$	Same as Primary Standard	**N**[i]
	24-hour	–	–	$35\ \mu g/m^3$		
Carbon Monoxide (CO)	1-hour	20 ppm ($23\ mg/m^3$)	A	35 ppm ($40\ mg/m^3$)	–	A
	8-hour	9.0 ppm ($10\ mg/m^3$)		9 ppm ($10\ mg/m^3$)		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm ($57\ \mu g/m^3$)	**N**[j]	0.053 ppm ($100\ \mu g/m^3$)	Same as Primary Standard	U/A
	1-hour	0.18 ppm (339 µg/m3)	**N**[j]	0.100 ppm (191 µg/m3)		–
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	–	0.030 ppm ($80\ \mu g/m^3$)	–	U
	24-hour	0.04 ppm ($105\ \mu g/m^3$)	A	0.14 ppm ($365\ \mu g/m^3$)	–	
	3-hour	–	–	–	0.5 ppm ($1{,}300\ \mu g/m^3$)	
	1-hour	0.25 ppm ($655\ \mu g/m^3$)	A	–	–	–
Lead[k]	30-day Average	$1.5\ \mu g/m^3$	A	–	–	–
	Rolling 3-Month Average[l]	–	–	$0.15\ \mu g/m^3$	Same as Primary Standard	**N**
Sulfates	24-hour	$25\ \mu g/m^3$	A	**No National Standards**		
Hydrogen Sulfide	1-hour	0.03 ppm ($42\ \mu g/m^3$)	U			
Vinyl Chloride[k]	24-hour	0.01 ppm ($26\ \mu g/m^3$)	–			
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.	U			

Table 4-1
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b, c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]

Notes:

Non-attainment status indicated by **bold text and shading.**

[a] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

[b] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[c] Concentration expressed first in units in which the standard was promulgated (i.e., parts per million [ppm] or micrograms per cubic meter [$\mu g/m^3$]). Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

Attainment (A): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.

Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area.

Nonattainment/Transitional (NT): is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant.

Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

[h] The 1-hour ozone National Ambient Air Quality Standard (NAAQS) was revoked on June 15, 2005 and the annual PM_{10} NAAQS was revoked in 2006.

[i] EPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. EPA issued attainment status designations for the 35 $\mu g/m^3$standard on December 22, 2008. EPA has designated the South Coast Air Basin as nonattainment for the 35 $\mu g/m^3$ PM2.5 standard.

[j] In 2007, the Air Resources Board lowered the 1-hour NO_2 standard from 0.25 ppm to 0.18 ppm and established a new annual standard of 0.030 ppm. Based on data for 2006-2008, the South Coast Air Basin violates the state annual NO_2 standard.

[k] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.

[l] The National standard for lead was revised on October 15, 2008 to a rolling 3-month average of 0.15 $\mu g/m^3$. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect one year after an area is designated for the 2008 standard, except if the area was previously nonattainment under the 1978 standard. On December 31, 2010, Los Angeles County was designated as nonattainment for lead under the NAAQS. Therefore, the 3-month rolling average is now the applicable National lead standard. In addition, the 2012 Lead SIP must achieve attainment of the new lead standard as expeditiously as practicable, but no later than December 31, 2015.

Source: ARB 2010a, 2010d

Despite substantial progress over the last 30 years, millions of people live in counties with unhealthy air (i.e., nonattainment areas) for one or more of the six criteria pollutants (EPA 2010a). Sources and health effects associated with each of the CAPs are summarized in Table 4-2. Table 4-3 presents the standards and local monitoring data for ambient air quality in Burbank.

Table 4-2
Common Sources of Health Effects for Criteria Air Pollutants

Pollutants	Sources	Health Effects
Ozone	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	Aggravation of respiratory and cardiovascular diseases; reduced lung function; increased cough and chest discomfort
Fine Particulate Matter (PM_{10} and $PM_{2.5}$)	Stationary combustion of solid fuels; construction activities; industrial processes; atmospheric chemical reactions	Reduced lung function; aggravation of respiratory and cardiovascular diseases; increases in mortality rate; reduced lung function growth in children
Carbon Monoxide (CO)	Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust; natural events, such as decomposition of organic matter	Aggravation of some heart diseases; reduced tolerance for exercise; impairment of mental function; birth defects; death at high levels of exposure
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust; high temperature stationary combustion; atmospheric reactions	Aggravation of respiratory illness
Sulfur Dioxide (SO_2)	Combination of sulfur-containing fossil fuels; smelting of sulfur-bearing metal ore; industrial processes	Aggravation of respiratory diseases; reduced lung function
Lead	Contaminated soil, paint	Behavioral and hearing disabilities in children; nervous system impairment
Source: SCAQMD 2005:1-3–1-6, EPA 2010a		

OZONE

Burbank is located in both a federal and state non-attainment area for ozone. As identified in Tables 4-1 and 4-3, local air quality conditions exceed the federal 8-hour ozone standard and the state 1-hour and 8-hour ozone standards.

Overview

Ozone is a photochemical oxidant and the primary component of smog. It is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_X) in the presence of sunlight. ROGs are volatile organic compounds (VOCs) that are photochemically reactive, and is not directly emitted into the air. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels. A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO_X levels are present to sustain the ozone formation process. After the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional scale, ozone is considered a regional pollutant.

Table 4-3
Summary of Annual Ambient Air Quality Data (2004–2008): Burbank Monitoring Station

Pollutant	Averaging Time	Federal Primary Standards	California Air Quality Standards	Maximum Concentrations[1]					Number of Days Exceeding Federal Standard[2]					Number of Days Exceeding State Standard[2]				
				2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Ozone	**1 hour**	Revoked[3]	**0.09 ppm**	0.137	0.142	0.166	0.116	0.133	2	Revoked				27	13	25	13	20
	8 hour	**0.075 ppm**	**0.07 ppm**	0.109	0.108	0.129	0.097	0.11	35	10	22	13	17	52	23	34	19	34
PM_{10}	**24 hours**	**150 µg/m³**	**50 µg/m³**	73	90	69	107	61	0	0	0	0	0	6	5	10	5	5
	Annual	**Revoked[4]**	**20 µg/m³**	36.7	33.1	*	*	*	-	-	-	Revoked		1	1	*	*	*
$PM_{2.5}$	**24 hours**	**35 µg/m³**	none	60.1	63.1	50.7	56.5	68.9	11	9	6	9	2	-	-	-	-	-
	Annual	**15 µg/m³**	**12 µg/m³**	*	*	*	*	13.9	1	1	1	1	0	*	*	*	*	1
NO_2	**1 hour[5]**	0.10 ppm	**0.18 ppm**	0.122	0.089	0.103	0.087	0.105	1	0	1	0	1	0	0	0	0	0
	Annual	0.053 ppm	**0.030 ppm**	0.033	0.029	0.027	0.029	0.029	0	0	0	0	0	1	0	0	0	0

Notes:
"-" = data not available or applicable.
"*" = insufficient data to determine the value.
Non-attainment status indicated by **bold text and shading**
[1] Concentration units for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide are in parts per million (ppm). Concentration units for PM_{10} and $PM_{2.5}$ are in micrograms per cubic meter (µg/m³). State maximum values are reported.
[2] A value of 1 indicates that the standard has been exceeded.
[3] The federal 1-hour ozone standard was revoked in June 2005.
[4] The federal annual PM_{10} standard was revoked in December 2006.
[5] The federal 1-hour NO_X standard is exceeded if the 3-year average of the 98th percentile of the daily maximum 1-hour average exceeds 0.100 ppm (effective January 22, 2010).
Source: ARB 2010c

Ozone located in the upper atmosphere (stratosphere) shields the Earth from harmful ultraviolet radiation emitted by the sun. Ozone located in the lower atmosphere (troposphere) is a health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 2004:51–55).

The adverse health effects associated with exposure to ozone relate primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect both sensitive receptors, such as asthmatics and children, and healthy adults. Exposure to ambient levels of ozone ranging from 0.10 ppm to 0.40 ppm for 1–2 hours has been found to substantially alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to these adverse health effects, evidence exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increased response of the respiratory system to challenges and a decrease in the immune system's ability to defend against infection (Godish 2004:159–161).

Trends

Within the Basin, the number of days exceeding the state 8-hour ozone standard have been fairly constant in the past decade, in the range of 124–154 days per year from 2000-2010. The number of days above the national 8-hour standard initially decreased over the same time period (i.e., 126 days in 2000 to 108 days in 2007), but increased again to 119 days in 2008. This is partially explained because the national 8-hour standard was lowered to 0.075 ppm in 2008, and as a result, exceedance day numbers are higher than in previous years. The days above the national 8-hour standard during the last decade ranged from 102–133 days per year. It should be noted that the lowest number of exceeding days per year (102 days) within that period occurred in 2010 (ARB 2012a). The number of days above the state 1-hour standard has decreased slightly in the past decade, and ranged from 79-125 days per year over the same time period (ARB 2012a). Again, the lowest number of days above the state 1-hour standard (79 days) occurred in 2010 (ARB 2012a). Continued implementation of aggressive emission control measures is expected to reduce ozone formation throughout the Basin (ARB 2009b).

PARTICULATE MATTER

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. Fine particulate matter ($PM_{2.5}$) is a subgroup of PM_{10}, consisting of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less (ARB 2009b). Burbank is located in both a federal and state non-attainment area for both PM_{10} and $PM_{2.5}$, as identified in Tables 4-1 and 4-3. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources; construction operations; fires and natural windblown dust; and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG (EPA 2010a).

Overview

The adverse health effects associated with PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAHs), and other toxic substances adsorbed onto fine particulate matter (referred to as the "piggybacking effect") or with fine dust particles of silica or asbestos. Generally, effects may result from both short-term and long-term exposure to elevated concentrations of PM_{10} and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2010a). $PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and may contain substances that are particularly harmful to human health.

Trends

Direct emissions of PM_{10} have been increasing in the Basin since 1975. A decrease in emissions would have been observed, if not for growth in emissions from areawide sources, primarily fugitive dust from paved and unpaved roads, dust from construction and demolition operations, and other sources. The increase in activity of these areawide sources reflects the increased population and employment growth and vehicle miles traveled (VMT) in the Basin.

Although PM_{10} concentrations in the Basin have somewhat stabilized in the last decade, ambient concentrations still exceed the state annual and 24-hour PM_{10} standards (137 estimated days above the 24-hour state standard in 2010 versus 248 days in 2000) (ARB 2012b). For $PM_{2.5}$, it was estimated that the national 24-hour standard was exceeded eight days in 2010 versus 96 days in 2000 (ARB 2012c).While emission controls implemented for ozone are also expected to reduce PM_{10} concentrations, additional controls will be needed to reach attainment (ARB 2009b:4-10–4-13).

Concentrations of $PM_{2.5}$ have decreased in the Basin in the past decade. Measures adopted as part of the upcoming $PM_{2.5}$ State Implementation Plan (SIP) and programs to reduce ozone and PM from diesel-fueled engines (diesel PM) will help reduce public exposure to $PM_{2.5}$ in this region (ARB 2009b:4-10–4-13).

CARBON MONOXIDE

Burbank is located in an area that meets both federal and state CO standards, as identified in Tables 4-1 and 4-3.

Overview

CO is a colorless, odorless, and poisonous gas produced by incomplete combustion of carbon in fuels, primarily from mobile (transportation) sources, which comprised 80% of statewide CO emissions in 2008. The remaining 20% of CO is emitted primarily from wood-burning stoves, managed burning, and incineration (ARB 2009b).

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO include dizziness, headaches, fatigue, and at higher concentrations, death (EPA 2010b:2-17–2-18, NHDES 2007). CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2010b:2-17–2-18).

The highest CO concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to ozone, which is a regional pollutant, CO tends to cause localized problems. Achieving the CAAQS and NAAQS standards for CO are rarely a problem at the regional level, but can be exceeded when ideal conditions exist (e.g., large numbers of idling vehicles, poor air dispersion).

Trends

Carbon monoxide concentrations in the Basin have decreased by more than 72% in the peak 8-hour indicator since 1988. Since 2003, there have been no exceedance days for either the state or national standard, and the entire Basin is now designated as attainment for both CO standards. Ongoing reductions from motor vehicle control programs should continue this downward trend in ambient CO concentrations (ARB 2009b).

NITROGEN DIOXIDE

Burbank is located in a federal non-attainment area for NO_2, as identified in Tables 4-1 and 4-3.

Overview

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal-combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2 (EPA 2010a). Because NO_2 is formed and depleted by photochemical reactions associated with smog, NO_X, which represents both NO and NO_2, is often used as a surrogate for NO_2. Measuring only NO_2 concentrations in a particular area may not adequately describe local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty breathing, vomiting, headache, and eye irritation, during or shortly after exposure (OEHHA 2010). After approximately 4–12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment, with such symptoms as chronic bronchitis and decreased lung functions (OEHHA 2010).

Trends

Over the last 20 years, NO_2 emissions have decreased in the Basin. The peak 1-hour indicator for 2007 was over 67% lower than what it was during 1988. In 2000, the maximum 1-hour concentration registered in the Basin was 0.214 $\mu g/m^3$ with three days above the state standard. Ten years later in 2010, the maximum 1-hour concentration registered in the Basin was 0.118 $\mu g/m^3$ with no days above the state 1-hour standard (ARB 2012d). The Basin attained the state 1-hour NO_2 standard in 1994, bringing the entire state into attainment. The national annual average standard has not been exceeded since 1991. NO_2 is formed from NO_X emissions, which also contribute to ozone. As a result, the majority of future emission control measures will be implemented as part of the overall ozone control strategy. Many of these control measures will target transportation sources, which account for more than 75% of California's NO_X emissions. These control measures are expected to bring the Basin into attainment of the state annual average standard (ARB 2009b).

SULFUR DIOXIDE

Burbank is located in an area that meets both federal and state SO_2 standards, as identified in Tables 4-1 and 4-3.

Overview

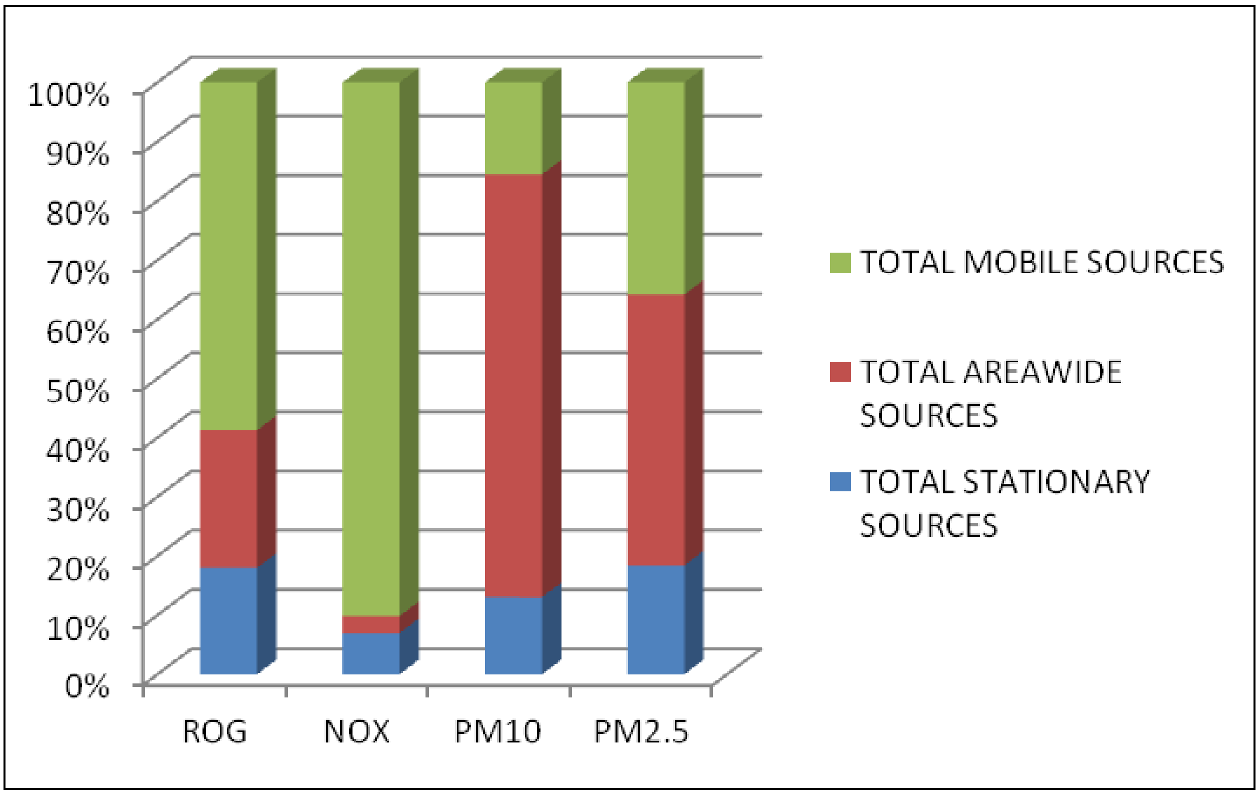
SO_2 is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO_2 exposure pertain to the upper respiratory tract. SO_2 is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO_2 at 5 ppm or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects (EPA 2010a). Asthmatics are more sensitive to the irritant effects of SO_2 than nonasthmatics, especially when exercising or when in cold, dry air. Some allergic or atopic individuals and people with Reactive Airways Disease Syndrome (RADS) (i.e., acute, irritant-induced asthma) may also be more sensitive to SO_2 irritation (OEHHA 2010).

Trends

The Basin is in attainment for SO_2. SO_2 emissions can be created through the burning of high sulfur-containing fuels by locomotives, large ships, and non-road equipment. Emission levels of SO_2 have decreased since 1975, due mainly to the switch from fuel oil to natural gas for electric generation and to reduced fuel-sulfur content. Increased SO_2 emissions in the Basin are projected to result from increased shipping activities at both the Port of Los Angeles and the Port of Long Beach, both major shipping hubs in the region (ARB 2009a).

INVENTORY AND SOURCES OF CRITERIA AIR POLLUTANT EMISSIONS

The SCAQMD estimates emissions of CAPs from various sources within the Basin. The estimates are based on permit information for stationary sources (e.g., manufacturing industries, dry-cleaning operations), plus more generalized estimates for area sources (e.g., space heating, landscaping, use of consumer products) and transportation sources (e.g., trains, planes, and on-road and off-road motor vehicles). Transportation sources comprise most of the ozone precursor emissions in Los Angeles County, while area sources are the largest contributor of PM emissions (ARB 2010a) (Figure 4-1).



Source: ARB 2010a

2008 Emissions Inventory for Los Angeles County **Figure 4-1**

Stationary Sources

Major stationary sources of air pollutant emissions within Burbank include fuel combustion from electric utilities and other commercial/industrial processes, waste disposal, surface coating and cleaning, electroplating, petroleum production, television and motion picture production and related services (film processing, set design, etc.), a hospital and other sources (ARB 2010b). SCAQMD issues permits to various types of stationary sources, which must demonstrate implementation of best available control technology (BACT).

The largest source of CAPs in Burbank is Burbank Water and Power (BWP), which operates the Magnolia Power Plant near the intersection of Magnolia Boulevard and Lake Street. All other stationary sources in the City are minor CAP sources by comparison (ARB 2010b).

Areawide Sources

Areawide sources of emissions in Burbank include solvent evaporation from consumer products and application of architectural coatings, residential fuel combustion, construction and demolition, paved road dust, fugitive dust, landscaping, and other miscellaneous sources.

Transportation Sources

On-road and other transportation sources are the largest contributors of ozone precursor emissions within Burbank. On-road sources consist of passenger vehicles, trucks, buses, and motorcycles, while off-road vehicles and other mobile sources consist of heavy-duty equipment, boats, aircraft, trains, and yard equipment. Major highways and freeways in and near Burbank include I-5, which handles approximately 182,000–230,000 vehicles per day (Caltrans 2008). SR 134 runs along the south end of Burbank, and handles approximately 205,000–215,000 vehicles per day (Caltrans 2008). Major roadways include Burbank Boulevard, Chandler Boulevard, Magnolia Boulevard, Verdugo Avenue, Olive Avenue, Victory Boulevard, Hollywood Way, Alameda Avenue, San Fernando Boulevard, and Glenoaks Boulevard.

In addition to the highways, freeways, and high-volume arterials, Burbank is home to the Bob Hope Airport, which is a transportation hub connecting air travelers to Amtrak trains, Metrolink trains, and Metropolitan Transit Authority and City of Burbank buses. Ten Amtrak trains and 29 Metrolink trains serve the Bob Hope Airport Station daily. CAP emissions as well as diesel PM (i.e., Toxic Air Contaminants [TACs]) are emitted from diesel-electric locomotives used for Amtrak and Metrolink trains.

Monitoring Station Data and Attainment Area Designations

Criteria air pollutant concentrations are measured at several monitoring stations in the Basin. The Burbank station, located at 228 W. Palm Avenue, is located within the planning area, and provides data for ozone, PM_{10}, and NO_2. In general, the ambient air quality measurements from this monitoring station are representative of air quality conditions throughout Burbank. Table 4-3 summarizes the air quality data from the most recent five years for the Burbank station.

4.1.3 TOXIC AIR CONTAMINANTS

TACs are air pollutants that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at low concentrations. According to *The California Almanac of Emissions and Air Quality* (ARB 2009a:1-9, 1-12), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM, a subset of PM_{10} emissions). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, ARB has made preliminary concentration estimates based on a PM exposure method. This method uses the ARB's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies on chemical speciation to estimate concentrations of diesel PM. Diesel PM poses the greatest health risk among TACs for which data are available (ARB 2009a:5-2–5-5). However, health risks associated with diesel PM are expected to drop by 2020 due to implementation of ARB's heavy duty vehicle regulations and the Diesel Risk Reduction Plan (ARB 2009a:5-42–5-44).

Diesel PM emissions are estimated to be 5,163 tons/year for Los Angeles County (ARB 2009a:C-12). In the Basin, the estimated health risk from diesel PM was 720 excess cancer cases per million people in 2000. In other words, exposure to diesel PM in the Basin would be expected to cause an additional 720 cancer cases per million people compared to people exposed to diesel PM in other parts of the state. Although this health risk is higher than the statewide average, it represents a 33% drop between 1990 and 2000 within the Basin (ARB 2009a:5-51–5-52).

Sources of diesel PM located throughout the planning area include freeways, arterial roadways, and railways. as well as minor sources such as off-road construction equipment, portable and backup diesel generators and pumps, as well as other heavy-duty and light-duty equipment. Other TAC sources in Burbank include fuel dispensing stations, Providence St. Joseph Medical Center, and various commercial and industrial facilities providing services such as surface coating and cleaning, petroleum production, printing and graphics, and television and motion picture related services (e.g., film processing, metal fabricating).

The chemicals that pose the largest health risks, other than diesel PM, are benzene and 1,3-butadiene (94% and 93% from mobile sources, respectively) (ARB 2009a:5-46–5-47; C-18). Because of improved emissions controls, cleaner fuels, and rules limiting emissions of TACs, overall health risks associated with benzene and 1,3-butadiene have decreased by 73% and 82%, respectively (ARB 2009a:C-18).

4.1.4 SENSITIVE LAND USES

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes. Facilities where the above-mentioned segments of the population live, gather, play or exercise (e.g., residences, hospital, schools) are defined as sensitive land uses or sensitive receptors. Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants. Recreational land uses are considered moderately sensitive to air pollution because exercise places a high demand on respiratory functions, which can be impaired by air pollution. Because there are numerous types of these receptors throughout the Basin, the SCAQMD has developed guidance and permitting programs to limit exposures to TACs by sensitive receptors.

In Burbank, the largest source of CAPs and TACs (in terms of quantities released) is the BWP Magnolia Power Plant, which is located about ½ mile northeast of a sensitive receptor, Walt Disney Elementary School.

4.1.5 ODORS

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances.

Several major sources of odor in Burbank include the Burbank City Public Works Department Yard, Burbank Landfill Site No. 3 (1600 Lockheed View Dr.) and the BWP Reclamation Plant (EPA 2010c). Examples of minor or intermittent sources of odors in the planning area include restaurants with charbroilers, construction sites (diesel exhaust and asphalt paving), and garbage dumpsters.

4.2 REGULATORY SETTING

4.2.1 CRITERIA AIR POLLUTANTS

FEDERAL REGULATIONS AND STANDARDS

At the federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by the U.S. Congress were in 1990.

The CAA required EPA to establish primary and secondary NAAQS, which are health-based standards set at levels designed to protect the public health and welfare (Table 4-1). The CAA also required each state to prepare an air quality control plan referred to as an SIP to achieve the NAAQS by a specified date. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine if they conform to the mandates of the CAAA amendments and determine whether implementation will achieve air quality goals. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in application of sanctions to transportation funding and stationary air pollution sources in the air basin.

STATE PLANS, REGULATIONS, AND STANDARDS

ARB coordinates and provides oversight of state and local air pollution control programs in California and implements the California Clean Air Act (CCAA). The CCAA, adopted in 1988, required ARB to establish CAAQS (Table 4-1). CAAQS are designed to protect the health and welfare of sensitive groups of people (e.g., children, the elderly, people with respiratory conditions). The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources and provides districts with the authority to regulate such indirect emission sources.

Other ARB responsibilities include overseeing compliance with California and federal laws by local air districts, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Regional and Local Plans, Regulations, and Standards

South Coast Air Quality Management District

The SCAQMD attains and maintains air quality conditions in the Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The SCAQMD prepares plans to attain ambient air quality standards, adopts and enforces rules and regulations concerning sources of air pollution, and issues permits for stationary sources of air pollution. The SCAQMD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the CAA, CAAA, and the CCAA. Air quality plans applicable to the proposed project are discussed below.

Air Quality Management Plan

The SCAQMD and Southern California Association of Governments (SCAG) prepare the air quality management plan (AQMP), which addresses federal and state CAA requirements. The AQMP describes goals, policies, and programs to improve air quality in the Basin. Two versions (2003 and 2007) of the AQMP are in different stages of approval. The 2003 AQMP was adopted by the SCAQMD in August 2003 and approved, with modifications, by ARB in October 2003 (SCAQMD 2006a). ARB submitted the SIP to EPA on January 9, 2004; however, this SIP has not been approved, and the 1997 AQMP with 1999 amendments remains the federally approved AQMP.

A draft version of the 2007 AQMP was released to the public, and public workshops were held in October, November, and December 2006 (SCAQMD 2006b). The 2007 AQMP was adopted by the SCAQMD Governing Board on June 1, 2007 (SCAQMD 2006c). The purpose of the 2007 AQMP is to set forth a comprehensive program that would lead the region into compliance with federal 8-hour ozone and $PM_{2.5}$ air quality standards. ARB adopted the State Strategy for the 2007 SIP, and the 2007 AQMP as part of the SIP on September 27, 2007. On November 28, 2007, ARB submitted a SIP revision to EPA for ozone, $PM_{2.5}$, CO, and NO_2 in the Basin; this revision is identified as the 2007 South Coast SIP. The 2007 AQMP/2007 South Coast SIP demonstrates attainment of the federal $PM_{2.5}$ standard in the Basin by 2014, and attainment of the federal 8-hour ozone standard by 2023. The SIP also includes a request of reclassification of the ozone attainment designation from “severe” to “extreme,” which would result in a downgrade in severity and would extend the attainment date for the region (ARB 2009a).

Lead State Implementation Plan

The 2012 Lead SIP for Los Angeles County (Lead SIP) outlines the control strategies for lead emission sources, describes lead air quality and inventory in southern Los Angeles County, and describes planning and pollution control activities to demonstrate attainment of the Lead NAAQS no later than December 31, 2015. An amendment to Rule 1420 would lower the ambient lead concentration limit from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules that may be applicable in the planning area include the following:

Rule 401—Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(1)(A) of this rule.

Rule 402—Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403—Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of human-caused fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-caused condition capable of generating fugitive dust.

Rule 1113—Architectural Coatings. No person shall apply or solicit the application of any architectural coating within SCAQMD, with VOC content in excess of the values specified in a table incorporated in the Rule.

Rule 1120—Asphalt Pavement Heaters. A person shall not operate an asphalt pavement surface heater or an asphalt heater-remixer for the purpose of maintaining, reconditioning, reconstructing or removing asphalt pavement unless certain criteria are met.

In addition to the rules listed above, SCAQMD has developed an air quality guidance document with suggested measures to reduce the amount of fugitive dust that is re-entrained into the atmosphere from unpaved areas, parking lots and construction sites (SCAQMD 2005:5-2–5-3).

4.2.2 TOXIC AIR CONTAMINANTS

TACs and hazardous air pollutants (HAPs) are not considered criteria air pollutants and, thus, are not specifically addressed by ambient air quality standards. Instead, EPA (federal) and ARB (state) regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (MACT or BACT) to limit emissions. These, in conjunction with additional rules set forth by SCAQMD, establish the regulatory framework for TACs.

FEDERAL REGULATIONS AND STANDARDS

Title III of the CAAA directed EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP for major sources of HAPs may differ from those for area sources. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of any HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources.

The CAAA also required EPA to promulgate vehicle or fuel standards containing reasonable requirements to control toxic vehicular emissions. These performance criteria limit mobile-source emissions of benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the CAAA required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

STATE, REGIONAL, AND LOCAL REGULATIONS, STANDARDS, AND GUIDELINES

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs.

The Air Toxics Hot Spots Information and Assessment Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

ARB has adopted control measures for diesel PM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). ARB has also implemented numerous measures to reduce toxics in fuels.

In addition, the *Air Quality and Land Use Handbook: A Community Health Perspective*, published by ARB, provides guidance on land use compatibility with sources of TACs (ARB 2005). The handbook is not a law or adopted policy. However, to protect sensitive populations, it does provide advice on the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities.

At the local level, air pollution control or management districts may adopt and enforce ARB control measures. SCAQMD limits emissions and public exposure to TACs through a number of rules, policies, and programs.

SCAQMD regulates TACs from new stationary sources through Regulation IX, Standards of Performance for New Stationary Sources, Regulation X, National Emissions Standards for HAPs, Regulation XIII, New Source Review, and Regulation XIV, Toxics and Other Non-Criteria Pollutants. Regulation XIV consists of 21 rules to limit TACs as well as other chemicals such as ozone depleting substances (ODSs).

Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The SCAQMD air quality guidance document described in the preceding section contains suggestions for policies and strategies to protect sensitive receptors from health risks related to air pollution (SCAQMD 2005:2-14–2-15).

4.2.3 ODORS

Some common types of facilities, as identified by SQAQMD, that have been known to produce odors include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, rendering plants, dairies, rail yards, and fiberglass molding operations. This list is not meant to be entirely inclusive, but rather to act as general guidance. Offensive odors rarely cause physical harm and no requirements for their control are included in federal or state air quality regulations. SCAQMD does not have rules or standards related to odor emissions other than Rule 402 (Nuisance) and Rule 410 (Odors from Transfer Stations and Material Recovery Facilities). Any actions related to odors are based on citizen complaints to local governments and the SCAQMD.

This page intentionally left blank.

5 GREENHOUSE GAS EMISSIONS

5.1 ENVIRONMENTAL SETTING

The Basin is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County. The distinctive climate of the Basin is determined by its terrain and geographic location. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

Burbank lies within the Basin, and is located in a climatic zone characterized as dry-summer subtropical or Mediterranean on the Köppen climate classification system (Csa). The Köppen system's classifications are primarily based on annual and monthly averages of temperature and precipitation.

5.1.1 SCIENTIFIC BASIS

GREENHOUSE GASES

Greenhouse gases (GHGs) are global pollutants, unlike CAPs and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one year to several thousand years). GHGs persist in the atmosphere for a long enough time to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, more carbon dioxide (CO_2) is currently emitted into the atmosphere than is sequestered. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through photosynthesis and dissolution, respectively. These are two of the most common processes of CO_2 sequestration. Of the total annual human-caused CO_2 emissions, approximately 54% is sequestered through ocean uptake, northern hemisphere forest re-growth, and other terrestrial sinks within a year, whereas the remaining 46% of human-caused CO_2 emissions is stored in the atmosphere (Seinfeld and Pandis 1998:1091).

Similarly, effects of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and TACs. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; but that quantity is enormous, and no single project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro-climate.

GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2. The concept of CO_2-equivalency (CO_2e) is used to account for the different potentials of GHGs to absorb infrared radiation. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

However, emissions of methane (CH_4) and N_2O are generally much lower than those of CO_2, and are associated with anaerobic microbial activity resulting from agricultural practices, flooded soils, and landfills. CH_4 and N_2O have approximately 23 and 296 times the GWP of CO_2, respectively.

THE GREENHOUSE EFFECT

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. The radiation absorbed by the earth is re-radiated, not as high-frequency solar radiation, but lower frequency infrared radiation.[1] Most solar radiation passes through GHGs; however, infrared radiation is selectively absorbed by GHGs. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Without the greenhouse effect, Earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, CH_4, N_2O, and high-GWP GHGs. High-GWP GHGs include ODSs, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, in addition to their replacements, hydrofluorocarbons (HFCs). Other high-GWP GHGs include perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Human-caused emissions of these GHGs leading to atmospheric levels in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect, and have led to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global air circulation patterns and climate (IPCC 2007:665). CO_2 emissions associated with fossil fuel combustion are the primary contributors to human-induced emissions (EPA 2010a). Following CO_2, CH_4 and N_2O emissions associated with human activities are the next largest contributors to GHG emissions (IPCC 2007:135; EPA 2010b:ES-4–ES-10).

CLIMATE CHANGE EFFECTS

Climate change could affect environmental conditions in California in a variety of ways. One effect of climate change is sea level rise. Sea levels along the California coast rose approximately seven inches during the last century (CEC 2006a:12), and are predicted to rise an additional 7–22 inches by 2100, depending on the future levels of GHG emissions (IPCC 2007:11). However, the Governor-appointed Delta Vision Blue Ribbon Task Force has recommended that the state plan for a scenario of 16 inches of

---

[1] The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency (longer wavelength) radiation.

sea level rise by 2050 and 55 inches by 2100 (California Natural Resources Agency 2008). Effects of sea level rise could include increased coastal flooding, saltwater intrusion (especially a concern in the low-lying Sacramento–San Joaquin Delta, where pumps delivering potable water to southern California could be threatened), and disruption of wetlands (CEC 2006a:12–13).

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available. Additional concerns associated with climate change are a reduction in the snowpack, leading to less overall water storage in the mountains (the largest "reservoir" in the state), and increased risk of wildfire caused by changes in rainfall patterns and plant communities (CEC 2006a:6–10).

SOURCES OF GREENHOUSE GAS EMISSIONS

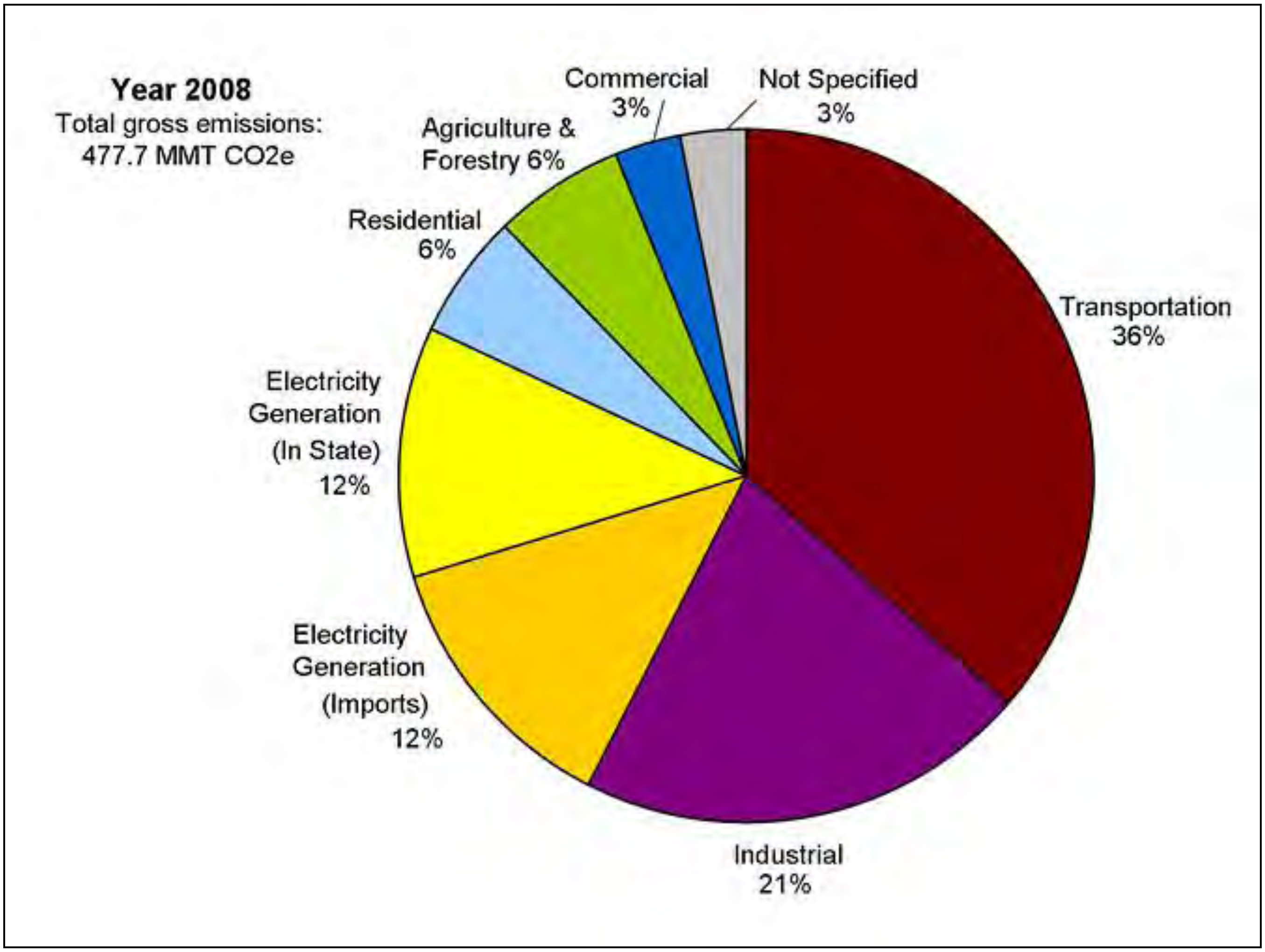
Land use decisions and general plans are not their own GHG emissions sectors. In other words, general plans can generate GHG emissions from several sectors (e.g., transportation, electricity, and waste), as described in more detail below. Therefore, land use decisions and future development projects pursuant to implementation of a general plan can affect the generation of GHG emissions from multiple sectors, resulting in direct or indirect GHG emissions. For example, electricity consumed in structures would indirectly cause GHGs to be emitted at a power plant. Residents, employees, shoppers and visitors drive vehicles that generate GHG emissions, which are part of the transportation sector.

As the second largest emitter of GHG emissions in the United States and twelfth to sixteenth largest in the world (depending on the emissions estimates used), California contributes a significant quantity of GHGs to the atmosphere (CEC 2006b:i). Emissions of CO_2 are byproducts of fossil-fuel combustion and are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (ARB 2008:11, Figure 1). In California, the transportation sector is the largest emitter of GHGs, accounting for approximately 36% of total emissions followed by electricity generation at 24% (from both in-State and imported electricity) (ARB 2008:11) (see Figure 5-1).

5.1.2 BURBANK GREENHOUSE GAS EMISSIONS INVENTORY

OVERVIEW

A communitywide GHG emissions inventory (inventory) for the planning area was prepared for the year 2010. The inventory addresses communitywide emissions (i.e., those emissions attributable to all sources in the planning area), which include emissions associated with government operations (i.e., those emissions directly attributable to City government operations). Examples of government operations that generate GHG emissions include energy used in municipal buildings, operation of fleet vehicles and equipment, municipal waste and wastewater facilities, and municipal landfills.



Statewide Greenhouse Gas Emissions by Sector (2008) **Figure 5-1**

The purpose of the 2010 GHG emissions inventory is to establish an emissions baseline for *Burbank2035*, and for the City's Greenhouse Gas Reduction Plan (GGRP), which will assist policy makers and planners to identify current emission sources, relative source contributions, and the overall magnitude of communitywide GHG emissions. This baseline is critical to the development of the GGRP, which will specify the most effective GHG reduction policies and emissions control strategies to achieve consistency with AB 32, the Global Warming Solutions Act of 2006.

The communitywide GHG emissions inventory is divided into the following sectors: residential, commercial, and industrial energy use (electricity and natural gas consumption); transportation (on-road sources and aviation); waste (solid waste and wastewater treatment); and water use (pumping-related emissions from water demand). Initial emissions screening suggested that high-GWP GHG emissions (i.e. refrigerants) were not significant sources; thus, they were not included in the inventory.

All GHG emissions are presented in units of metric tons of CO_2e emissions per year (MT CO_2e/yr), which allows emissions of other GHGs, such as CH_4, N_2O, and high-GWP GHGs, to be normalized to a single unit of measure. Communitywide GHG emissions were calculated using a "bottom-up" approach, which involves multiplication of an emission factor (EF) for a given process by a consumption rate for that process. Although there is currently no adopted protocol for preparing communitywide GHG emissions inventories, several reputable sources of information can be used to gather emissions information. Sources of GHG EFs used in preparing the communitywide inventory include the following Burbank-specific emissions and consumption data:

- Transportation data, based on the City of Burbank traffic model;
- BWP electricity use and purchased energy mix data;
- Sempra natural gas usage for the City of Burbank;
- Bob Hope Airport revenue passenger and landing/take-off (LTO) data obtained from the Burbank-Glendale-Pasadena Airport Authority;
- BWP's 2010 Urban Water Management Plan;
- Burbank Sanitary Sewer Management Plan; and
- Burbank solid waste characterization from the California Department of Resources Recycling and Recovery (Cal-Recycle).

Other sources of emissions and consumption data are as follows:

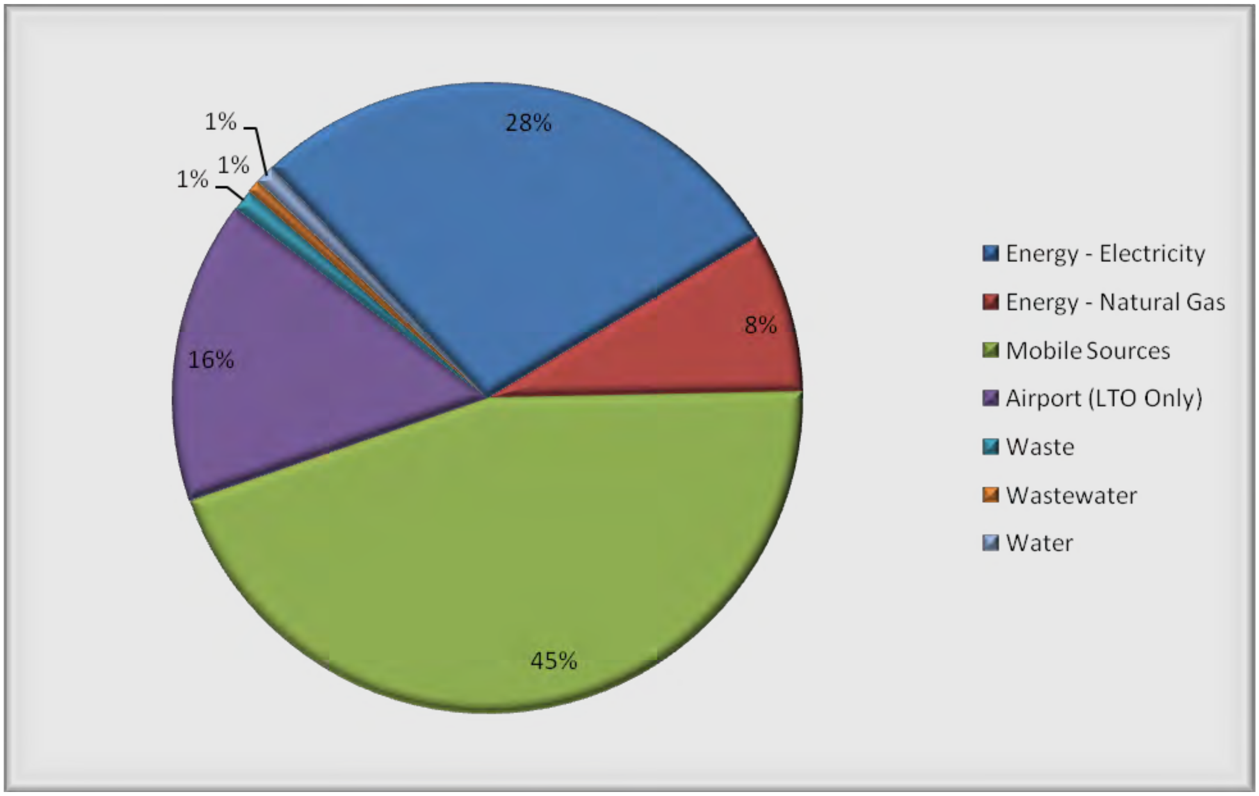
- ARB On-Road Mobile-Source Emission Factor Model (EMFAC 2007 [ARB 2006]) on-road mobile source EFs,
- California Climate Action Registry (CCAR) energy-consumption EFs,
- California Energy Commission (CEC) water-consumption demand factors,
- U.S. Energy Information Administration (USEIA) energy-consumption growth factors and aviation fuel EFs,
- EPA WAste Reduction Model (WARM) solid waste EFs, and
- Intergovernmental Panel on Climate Change (IPCC) aviation LTO EFs and wastewater EFs.

The emissions factors and activity/consumption rates used in the communitywide inventory were selected to be as Burbank-specific as possible, and are likely representative of GHG emissions sources and intensities from activities occurring within the community. Table 5-1 and Figure 5-2 summarize the magnitude and relative contribution of communitywide baseline emissions from each sector.

Table 5-1
Burbank 2010 Communitywide Greenhouse Gas Emissions

Community Sector	2010 Inventory Emissions MT CO_2e	Percent
Residential Electricity Use	137,581	7%
Commercial Electricity Use	160,612	8%
Industrial/Other Electricity Use[1]	266,526	13%
Subtotal Electricity Use	**564,719**	**28%**
Residential Natural Gas Use	88,690	4%
Nonresidential Natural Gas Use	74,147	4%
Other Natural Gas Use[1,2]	1,308	0%
Subtotal Natural Gas	**164,146**	**8%**
Airport (LTO only)	**309,668**	**16%**
Mobile (Transportation) Sources	**896,421**	**45%**
Waste	**24,021**	**1%**
Wastewater	**13,307**	**1%**
Water	**19,880**	**1%**
TOTAL	**1,992,162**	**100%**
Population (2010)	103,340	
Employment (2010)	94,932	
Per Capita (MT CO_2e/person)	19.3	
Per Service Population (MT CO_2e/SP)	10.1	

Notes: MT CO_2e = metric tons of carbon dioxide equivalency; LTO= landing and takeoff;
SP = service population (population + employment).
[1] Electricity and natural gas usage labeled as "other" is municipal usage plus miscellaneous usage as reported by Burbank Water and Power.
[2] To avoid double counting, natural gas consumption by Burbank Water and Power for *electricity production* is excluded in the natural gas GHG emissions reporting because it is covered by *electricity consumption* ("electricity" category).
Source: Data compiled by AECOM in 2012.



Source: Data compiled by AECOM in 2012.

Burbank 2010 Communitywide Greenhouse Gas Inventory by Sector **Figure 5-2**

Communitywide GHG emissions totaled approximately 1.99 million metric tons (MMT) of CO_2e in 2010. On-road transportation emissions, the largest source, composed 45% of the emissions, followed by 28% from electricity use across all subsectors, and 16% from aviation (LTO emissions from Bob Hope Airport. The largest sources of GHG emissions for the 2010 baseline, in descending order by sector/subsector, were as follows:

1. On-road mobile sources (~45%)
2. Aviation, LTO only (~16%)
3. Industrial/other electricity use (~13%)
4. Commercial electricity use (~8%)
5. Residential electricity use (~7%)
6. Residential natural gas use (~4%)
7. Nonresidential natural gas use (~4%)
8. Water use (~1%)
9. Wastewater treatment (~1%)
10. Solid waste (~1%)

METHODOLOGY

No agency-mandated protocol for preparing communitywide GHG emissions inventories currently exists; however, general guidance for local governments to prepare municipal inventories has been made available by the ARB (ARB 2010).

The field of practice and available tools and methods continue to evolve, and any local GHG inventory is ultimately specific to a particular area of interest. This affords the City considerable flexibility in establishing a defensible approach to estimating GHG emissions that reflects local conditions and priorities. The GHG data presented in this section represent the emissions baseline for the community that will be relied on during development of GHG-reduction policies and programs, which will influence the development of *Burbank2035* and the GGRP. Table 5-2 presents activity data and EFs used to complete the communitywide inventory.

Residential and Nonresidential Energy

Data on residential, commercial, and industrial/municipal/other electricity use were obtained from BWP. Natural gas use data were obtained from Sempra via the City. Electricity-related GHG emissions were calculated using a bottom-up approach utilizing electricity EFs from CCAR (adjusted for Burbank's electricity portfolio), along with 2010 electricity consumption from BWP. The City's natural gas consumption data were used with CCAR EFs to estimate baseline GHG emissions.

On-Road Mobile Sources

On-road mobile-source GHG emissions were calculated using a bottom-up method based on VMT and vehicle trip data obtained from the City of Burbank Travel Demand Model for 2010 conditions. Vehicle trips and associated VMT were categorized according to three types of trips: Internal–Internal (I-I) trips, which begin and end in Burbank; Internal–External (I-X) trips, which begin in Burbank and end outside Burbank; and External–Internal (X-I) trips, which begin outside Burbank and end inside Burbank.

The methodology used to calculate VMT associated with vehicular activity in the region assigns 100% responsibility for all I-I trips and 50% I-X and X-I trips to the city. This methodology is consistent with the recommendations of the Regional Targets Advisory Committee, which is the body charged with making recommendations to ARB on implementation of Senate Bill (SB) 375. On-road mobile-source GHG emissions were estimated using EFs from ARB's EMFAC2007 and employing VMT by speed bin.

The on-road mobile-source GHG emissions estimates account for VMT generated on local streets, ramps, and freeways, as well as regional highways, freeways, and ramps, and exclude trips that originate and terminate outside of Burbank (pass-through trips).

Table 5-2
Burbank 2010 Greenhouse Gas Emission Factors, Activity Levels, and Emissions

Community Sector	2010 Emission Inventory Parameters			
	EF	GWP [1]	Activity	Emissions ($MT\ CO_2e/yr$)
Electricity – Residential			277,000 MWh	137,581
CO_2 Emissions	1,095.00 (lb/MWh)	1		
CH_4 Emissions	0.007 (lb/MWh)	23		
N_2O Emissions	0.004 (lb/MWh)	296		
Electricity – Commercial	See Residential		323,000 MWh	160,612
Electricity – Industrial	See Residential		536,000 MWh	266,526
Natural Gas – Residential			16,669,699 therms	88,690
CO_2 Emissions	53.06 (kg/MMBtu)	1		
CH_4 Emissions	0.005 (kg/MMBtu)	23		
N_2O Emissions	0.0001 (kg/MMBtu)	296		
Natural Gas – Non-Residential	See Residential		13,936,235 therms	74,147
Natural Gas – Municipal	See Residential		245,866 therms	1,308
Transportation – On-Road			4,399,628 DVMT [2]	875,317
CO_2 Emissions [3]	548.1 g/mile	1		857,733
CH_4 Emissions [4]	0.037 g/mile	23		1,350
N_2O Emissions [4]	0.034 g/mile	296		16,234
Transportation – Vehicle Starts [5]	121.25 g CO_2/trip		476,859 trips/day	21,104
Wastewater	0.12 kg CH_4/kg BOD	23	BOD: 275 mg/L Throughput: 12.69MGD	13,307
Water				
Groundwater	594 kWh/af/yr	See Electricity EFs and GWPs	8,796 af	2,599
Water Distribution	4,138 kWh/af/yr	See Electricity EFs and GWPs	8,796 af	17,281
Waste	WARM Model	Various	141,239 tons disposed	24,021

Notes: EF= emission factor; GWP = global warming potential; MT CO_2e/yr = metric tons carbon dioxide equivalent year; MWh = megawatt-hour; CO_2 = carbon dioxide; lb/MWh = pounds per megawatt-hour; CH_4 = methane; N_2O = nitrous oxide; kg/MMBtu = kilograms per million British thermal unit; DVMT = daily vehicle miles traveled; g/mile = grams per mile; g/trip = grams per trip; kg CH_4/kg BOD = kilogram of methane per kilogram of biological oxygen demand; mg/L = milligrams per liter; MGD = million gallons per day; kWh/af/yr = kilowatt-hours per acre-feet per year.

[1] GWP values are 100-year warming potentials from IPCC's Third Assessment Report (IPCC 2001).

[2] Daily VMT data were obtained from the City of Burbank Travel Demand Model.

[3] On-Road CO_2 emission factor represents the average emission factor for all speed bins.

[4] On-Road CH_4 and N_2O emission factors represent the average emission factor for the communitywide fleet.

[5] Vehicle Starts CO_2 emission factor represents the average emission factor for all soak times.

Source: Data compiled by AECOM 2012.

Aviation (Bob Hope Airport)

Aviation emissions were estimated using LTO data and associated aircraft models/types from Bob Hope Airport, combined with emissions factors from IPCC (IPCC 2000:96–97). Although the aviation emissions sector is comprised of more than just LTO emissions, cruise emissions occur across various geographies and states and therefore it would be difficult for actions taken by the City to affect those emissions. However, the airport has some operational control over the number of planes that land and take off from the airport. For these reasons, only LTO emissions have been included in the inventory as operationally controllable aviation emissions.

In 2007, the Bob Hope Airport provided facilities for approximately 123,521 LTOs, which include aircrafts utilizing both jet fuel and aviation gasoline. However, it should be noted that jet fuel accounts for approximately 99.6% of total fuel used for LTOs (and 0.4% is aviation gasoline). A weighted average based on the amount of fuel used in an LTO cycle (i.e., kilograms/LTO) for various aircrafts and their respective frequencies visiting Bob Hope Airport was used to estimate total fuel use associated with LTOs. It is projected that in 2035, the Bob Hope Airport will service approximately 175,860 LTOs per year. Table 5-3 lists the types of aircraft that visit Bob Hope Airport.

Table 5-3 Bob Hope Airport Aircraft Types
Airbus A310
Airbus A320
Airbus A330 300 LR
Boeing 737
Boeing 757
McDonall Douglas MD82-88
Single Engine Turboprop
Single Engine Piston
Multi Engine Business Jet
Multi Engine Turboprop
Multi Engine Piston
Multi Engine Very Light Jet
Helicopter
Military Aircraft

High Global Warming Potential Greenhouse Gases

High-GWP GHGs are associated with industrial processes, refrigerants, semi-conductor manufacturing, and electrical transmission. ARB's Facility Search database and EPA's Envirofacts database were queried by Standard Industrial Classification code for point sources (e.g., commercial and industrial refrigeration, cold storage, freezing facilities) of high-GWP GHGs. Because facilities are not required to report high-GWP GHG use to state or federal agencies, most sources do not appear in the ARB and EPA databases. Under SCAQMD Rule 1415, facilities containing more than 50 pounds of CFC refrigerant are required to report annual use, but these data are not publicly available.

In the absence of industrial sources, the largest emitters of high-GWP GHGs are expected to be commercial and industrial building chillers and supermarkets. There is no way to quantify the amounts of high-GWP GHGs used in commercial or industrial buildings.

Solid Waste

GHG emissions from solid waste disposal were calculated using a bottom-up method that relied on empirical City 2007 waste generation data projected to baseline year 2010, 1999 Cal-Recycle waste characterization data, and EFs from EPA's WARM model (EPA 2009).

Wastewater Emissions

Domestic wastewater treatment emissions were calculated using a bottom-up calculation method for GHG emissions generated by the BWP Water Reclamation Plant. Wastewater is treated at the plant using secondary treatment processes, which result in CH_4 formation. EFs for potential CH_4 production published by IPCC for wastewater treatment and discharge were used (IPCC 2006:6.13), along with facility-specific information on average annual flow and influent biological oxygen demand obtained from BWP.

Water Consumption Emissions

GHG emissions associated with water use (i.e., conveyance and distribution) were calculated using a bottom-up method based on City water supply data from the 2010 Urban Water Management Plan, CEC electricity demand factors associated with water pumping (CEC 2005:11, Table 1-3), and CCAR GHG EFs (CCAR 2009:95, Table C.2).

5.1.4 CLIMATE CHANGE EFFECTS

Despite global actions to reduce GHG emissions, the earth is already committed to a certain level of climate change caused by GHG emissions that occurred over the last 150 years. Some quantity of climate change impacts can be considered foreseeable and part of the baseline. The City should consider adaptive planning to prepare for the foreseeable impacts of climate change on California.

According to the IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature is expected to increase by 3–7°F by the end of the century, depending on future GHG emission scenarios (IPCC 2007:12). Resource areas other than air quality and global average temperature could be indirectly affected by the accumulation of GHG emissions. For example, an increase in the global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state (including the planning area). According to CEC, the snowpack portion of the water supply could potentially decline by 30–90% by the end of the 21st century (CEC 2006a:6–7). Although current forecasts are uncertain, it is evident that this phenomenon could lead to significant challenges in securing an adequate water supply for a growing population.

Another outcome of global climate change is sea level rise. Sea level rise during the last century has been measured at approximately seven inches and is predicted to rise an additional 7–22 inches by 2100, depending on the future levels of GHG emissions (CEC 2006b:12). If this occurs, resultant effects could include coastal flooding and possible wetland disruption in southern California (CEC 2006b:12–13).

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available.

5.2 REGULATORY SETTING

This section includes a summary of climate change-related legislation applicable to California and the City of Burbank. This framework identifies portions of GHG emissions sectors that will be regulated by legislation, and portions that will be under the purview of local government entities, such as the City. This section also provides the basis for statewide GHG reduction targets identified in AB 32.

5.2.1 FEDERAL RULES, STANDARDS, AND COURT RULINGS

SUPREME COURT RULING

EPA is the federal agency responsible for implementing the federal CAA. The Supreme Court of the United States ruled on April 2, 2007, that CO_2 is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs.

EPA ACTIONS

In response to the mounting issue of climate change, EPA has taken the following two actions to regulate, monitor, and potentially reduce GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 MT or more of CO_2 per year. This publically available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHG emitters, along with vehicle and engine manufacturers, will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this rule.

Within Burbank, two facilities, the Magnolia Power Plant and the BWP generation facility, reported their GHG emissions for the verified 2009 Mandatory GHG Reporting. Although BWP reported the GHG emissions for their generation facility, their total GHG emissions in 2009 did not exceed the 25,000 MT CO_2e threshold (i.e., 22,607 MT CO_2e/yr); Magnolia Power Plant emissions did exceed the threshold at 592,475 MT CO_2e/yr. Both facilities have a "positive" overall report verification finding.

Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act

On December 7, 2009, EPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CCA (Endangerment Finding). The Endangerment Finding is based on Section 202(a) of the CAA, which states that the EPA Administrator should regulate and develop standards for "emission[s] of air pollution from any class of classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The rule addresses Section 202(a) in two distinct findings. The first addresses whether or not the concentrations of the six key GHGs (i.e., CO_2, CH_4, N_2O, HFCs, perfluorocarbons, and SF_6) in the atmosphere threaten the health and welfare of current and future generations. The second addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and thus to the threat of climate change.

The Administrator found that atmospheric concentrations of GHGs endanger public health and welfare within the meaning of Section 202(a) of the CAA. The Administrator also found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare.

5.2.2 State Laws and Plans

Because every nation emits GHGs and thus makes an incremental cumulative contribution to global climate change, cooperation on a global scale will be required to reduce the rate of GHG emissions to a level that can help to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions. Several statewide initiatives relevant to land use planning are discussed below; however, this does not represent a complete list of climate change-related legislation in California. Other relevant legislation not specifically described in this section addresses renewable energy generation, energy efficiency, emissions from motor vehicles, and carbon intensity of fuels, among other issues.

Executive Order S-3-05

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to 80% below the 1990 level by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Arnold Schwarzenegger signed AB 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

Climate Change Scoping Plan

In December 2008, ARB adopted its *Climate Change Scoping Plan*, which contains the main strategies the state will implement to achieve reduction of approximately 169 MMT of CO_2e, or approximately 30% from the state's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (representing a reduction of 42 MMT CO_2e, or almost 10%, from 2002–2004 average emissions). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory, to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (estimated reduction of 26.3 MMT CO_2e),
- a renewable portfolio standard for electricity production (estimated reduction of 21.3 MMT CO_2e), and
- the Low-Carbon Fuel Standard (estimated reduction of 15.0 MMT CO_2e).

ARB further acknowledges that decisions on how land is used will affect the GHG emissions resulting from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors.

ARB has not yet determined what amount of GHG reductions it recommends from local government operations; however, the Scoping Plan does state that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have, "primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population growth and the changing needs of their jurisdictions" (ARB 2008:27). Because of the large impact that local governments have on growth and operational activities, the Scoping Plan states that "… local governments are essential partners in achieving California's goals to reduce greenhouse gas emissions" (ARB 2008:26). For these reasons and to standardize GHG inventories and reports, ARB is also working with non-governmental organization partners to develop an additional protocol for communitywide emissions to supplement the Local Governments Operations Protocol.

With regard to land use planning, the Scoping Plan anticipates that a reduction of approximately 5.0 MMT CO_2e will be achieved in association with the implementation of SB 375, which is discussed below.

SENATE BILL 97 AND STATE CEQA GUIDELINES SECTION 15183.5

SB 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue that requires analysis under the California Environmental Quality Act (CEQA). This bill directed the Governor's Office of Planning and Research to prepare, develop, and transmit guidelines to the California Natural Resources Agency for the feasible mitigation of GHG emissions, or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The California Natural Resources Agency adopted the text of those guidelines on December 30, 2009, and they became effective March 18, 2010.

State CEQA Guidelines Section 15183.5, as amended pursuant to SB 97, allows jurisdictions to analyze and mitigate the significant effects of GHGs at a programmatic level by adopting a plan for the reduction of GHG emissions. Later, as individual projects are proposed, project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review in their cumulative impacts analysis. To meet the standards of a plan for the reduction of GHG emissions, a plan should achieve the following criteria established in State CEQA Guidelines Section 15183.5[b][1]:

(A) Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to GHG from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and

(F) Be adopted in a public process following environmental review.

The City of Burbank GGRP is designed to function as a plan for the reduction of GHG emissions as described in the State CEQA Guidelines.

SENATE BILL 375

SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocations. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocation in that MPO's regional transportation plan (RTP). ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years, but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects would not be eligible for funding programmed after January 1, 2012.

This bill also extends the minimum time period for the Regional Housing Needs Allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or County land use policies (including general plans) are not required to be consistent with the RTP (and associated SCS or APS). However, new provisions of CEQA would incentivize qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

5.2.3 REGIONAL AND LOCAL PLANS AND STANDARDS

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS SUSTAINABLE COMMUNITIES STRATEGY

Burbank is a member agency of the Southern California Association of Governments (SCAG). To fulfill its commitments as an MPO under SB 375, SCAG released a Draft SCS in December 2011 designed to reduce GHG emissions from passenger vehicles by 8% per capita by 2020 and 13% per capita by 2035 compared to 2005, consistent with regional targets set by the ARB. The Draft SCS focuses the majority of new regional housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for TOD. Many of Burbank's transportation corridors are SCS high quality transit areas.

The Draft SCS identifies several GHG emission reduction actions and strategies for the state, SCAG, and local jurisdictions. The SCS recommends that local jurisdictions: a) update zoning codes to accelerate adoption of SCS land use strategies; b) prioritize transportation investments to support compact infill development that includes a mix of land uses and housing options; c) develop infrastructure plans and educational programs that promote active transportation options; d) emphasize active transportation projects as part of complying with the Complete Streets Act (AB 1358), and e) increase the efficiency of existing transportation systems (SCAG 2011:150-153).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT CEQA GUIDELINES

SCAQMD is currently in the process of updating its Air Quality CEQA Guidelines, and has developed an Air Quality Guidance document for addressing air quality issues in general plans (SCAQMD 2005). With respect to GHG emissions, SCAQMD is developing significance thresholds for plan-level projects in terms of performance standards for overall GHG reduction targets, or for reductions per service population (SCAQMD 2009). SCAQMD has proposed a project-level significance threshold of 4.6 MT CO_2e per service population (SP) (land use emissions only), with residual emissions not to exceed 25,000 MT CO_2e/yr. SCAQMD has also proposed a plan-level significance threshold of 6.6 MT CO_2e per SP (all sectors).

Table 5-4 summarizes the currently proposed SCAQMD GHG significance thresholds (SCAQMD 2009:slide 9).

Table 5-4
SCAQMD Proposed Greenhouse Gas Significance Thresholds (MT CO2e/yr)

Category	Significance Threshold
Construction	30-yr amortization applied to operational ST
Operation—Stationary Sources	10,000
Operation—Project-level Land Uses	R = 3,500; C = 1,400; M = 3,000 Or, RCM = 3,000
Operation—Plan-level Performance Standards	
Compliance Option #1, % Reduction	28%
Compliance Option #3, GHGs/unit	Project Level: 4.6/SP/yr General Plans, etc., 6.6/SP/yr
Maximum Emission Limit	25,000

Notes: SCAQMD = South Coast Air Quality Management District; GHG = greenhouse gas; STs = significance thresholds; MT = metric tons; CO_2e = CO_2-equivalency; R = residential land use; C = commercial land use; M = mixed land use; RCM = all land uses
Source: SCAQMD 2009

BURBANK SUSTAINABILITY ACTION PLAN

The City of Burbank has prepared and adopted a Sustainability Action Plan (SAP) modeled after the United Nations Urban Environmental Accords (Accords). The Accords are a series of goals (called "action items") that can be adopted at the local level to achieve urban sustainability, promote healthy economies, advance social equity, and protect the world's ecosystem. The Accords are organized into seven urban themes with three associated action items for each theme. Cities are urged to implement as many of the 21 actions as they can before World Environment Day 2012 (seven years after the initial signing day).

The Burbank SAP has 22 actions organized into eight urban themes designed to collectively address urban sustainability concerns: Energy, Waste Reduction, Urban Design, Urban Nature, Transportation, Environmental Health, Water, and Social Justice (not included in the Accords). Many of the SAP action items have multiple associated sub-actions to assist in its implementation. For example, within the Energy Urban Theme, there is a Climate Change action, directing the City to reduce GHG emissions by 25% by 2030.

6 BIOLOGICAL RESOURCES

6.1 ENVIRONMENTAL SETTING

6.1.1 BIOLOGICAL RESOURCES—VEGETATION AND WILDLIFE

The planning area encompasses all lands within the Burbank city limits. Elevations range from 500 feet in the lower valley areas to approximately 2,900 feet on the highest ridgeline of the Verdugo Mountains. With the exception of the Verdugo Mountains, the city is built-out. The Verdugo Mountains are located in the northeast portion of the planning area and contain the majority of open space and biotic communities dominated by native plants and wildlife.

The Verdugo Mountains are characterized by steep terrain, sharp ridgelines, and deep v-shaped canyons that contain ephemeral drainages and vegetation dominated by native species. Residential neighborhoods are nestled on the slopes and in the foothills of the Verdugo Mountains. Vegetative cover on the open slopes is dominated by shrub species characteristic of chaparral communities. Scattered trees and grasses occur in more open areas. The deep canyons contain relatively dense woodlands, characterized by native oak trees, with grassland, shrub, and herbaceous species occurring in openings and on the surrounding slopes. Areas without vegetation are associated with barren soil and rock outcrops.

The habitat provided by these communities supports plant life, insects, birds, rodents and larger mammals such as deer, coyote, fox, and mountain lion. These communities also help control erosion, filter toxins out of the air, provide natural water filtration and groundwater recharge for local drinking water supplies, and affect local microclimates. They represent unusual or relatively undisturbed examples of the original plant and animal species indigenous to the region that, in many cases, are not found outside Southern California. Maintaining these resources is invaluable because new plant or animal species may still be found within a few miles of major urban centers, and the scientific and economic values of such biotic diversity are continually being established. Several state and federally listed plant and wildlife species are either known to occur or have the potential to occur in the planning area.

Characterizing the biotic communities in a particular location is the first step in biological resource management and planning. Some communities are classified as a vegetation "alliance," which is a group of plant species named after one or more dominant species, or a "mixed alliance," which typically lacks a clearly dominant species and instead includes several non-dominant species. Each alliance generally has similar species composition that is adapted to regional climate conditions (i.e., winter rain and summer drought), substrates, hydrology, moisture and nutrient requirements, and disturbance regimes such as fire. The vegetative communities occurring in the planning area include Annual Grasses and Forbs Alliance, Coast Live Oak Alliance, Coastal Mixed Hardwood Alliance, California Sagebrush

Alliance, Lower Montane Mixed Chaparral Alliance, Soft Scrub–Mixed Chaparral Alliance, Sumac Shrub Alliance, and four nonnative vegetative communities for grasses and trees (see Figure 6-1).

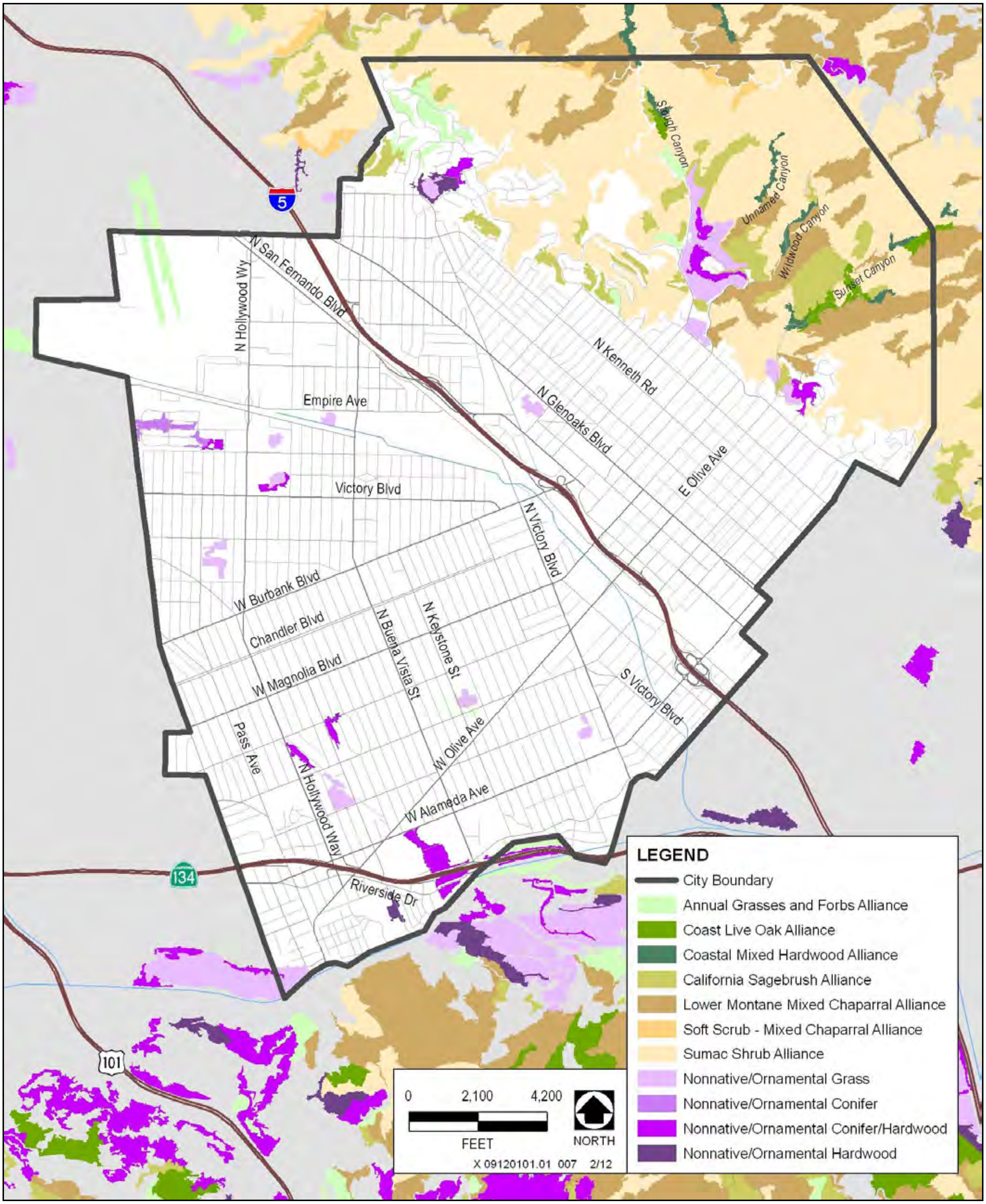
The location and extent of vegetative communities in the planning area was derived from the CalVEG classification system, which is a provisional system that meets the floristically based level of the National Vegetation Classification Standard hierarchy (USFS 2010). U.S. Department of Agriculture (USDA) Forest Service Region 5 employs and updates the CalVEG system at their Ecosystem Planning, Remote Sensing Lab, and maintains strict standards for classification and naming conventions that are consistent across California.

Occurrences of CalVEG vegetation communities within the planning area were determined by overlaying the CalVEG map onto a shaded relief map and by reviewing 2010 aerial imagery of the planning area. Review of the Department of Fish and Game's (DFG) California Natural Diversity Database (CNDDB) identified occurrences of the Southern Sycamore Alder Riparian Woodland, a sensitive community, within the planning area. The comparable community in CalVEG that aligns with the CNDDB is the California Sycamore Alliance; however, it is not mapped on Figure 6-1 because of the scale at which the CalVEG system's data are mapped. This sensitive natural community is documented in the same areas as the Coast Live Oak and the Coastal Mixed Hardwood Alliances present in the planning area and shown on Figure 6-1. A description of this community is included in the Sensitive Natural Communities Section below under California Sycamore Alliance. Acreages of each vegetative community and land use type are shown in Table 6-1.

Table 6-1
Land Cover Types and Vegetation Communities Mapped in Planning Area

Land Cover Type	Vegetation Communities	Acres
Grassland	Annual Grasslands and Forbs Alliance	102.5
Shrub and Chaparral	California Sagebrush Alliance	229.5
	Lower Montane Mixed Chaparral Alliance	340.7
	Soft Scrub–Mixed Chaparral Alliance	21.9
	Sumac Shrub Alliance	1,622.2
Woodland Hardwood	Coast Live Oak Alliance	30.8
	Coastal Mixed Hardwood Alliance	32.1
Nonnative Vegetation	Nonnative Ornamental Grass	145.0
	Nonnative Ornamental Conifer	14.8
	Nonnative Ornamental Conifer/Hardwood	132.2
	Nonnative Ornamental Hardwood	30.1

Source: USDA 2010



Source: USDA 2010

Vegetation and Land Use Types **Figure 6-1**

ANNUAL GRASSES AND FORBS ALLIANCE

Low- to mid-montane areas of southern California may develop extensive or restricted areas of dry grasslands in regions otherwise well-vegetated by shrub or woodland vegetation. Conditions that restrict the growth and maintenance of, and invasion by species of surrounding vegetation include the occurrence of pockets of fine-textured (clayey) soils, a frequent fire regime, and ground-disturbing activities such as grazing, crop agriculture, and mining. Many exotic grasses are characteristic of this vegetation type, including species of wild oats (*Avena* spp.), various bromes (*Bromus* spp.), foxtail fescue (*Vulpia myuros*), and Kentucky bluegrass (*Poa pratensis*). This alliance also includes some perennial grasses that grow on coarse, well-drained soils occurring within sunny openings of Jeffrey and Ponderosa pine (*Pinus jeffreyi*, *Pinus ponderosa*) savannas. In addition to the species mentioned above, the alliance may also include additional native plants such as sedges (*Carex* spp.), melic grasses (*Melica* spp.), and checker bloom (*Sidalcea malviflora*). Throughout southern California, this vegetation type has been mapped, typically on sites with elevations up to 4,600 feet in coastal areas and up to about 7,800 feet in the mountains.

Within the planning area, the Annual Grasses and Forbs Alliance occurs primarily in the Verdugo Mountains within or near Stough Canyon, and where open disturbed areas are used for erosion control near existing hillside residential development. This alliance also occurs within the Bob Hope Airport.

CALIFORNIA SAGEBRUSH ALLIANCE

The California Sagebrush Alliance occurs in coastal environments and coastal slopes throughout southern California. It also is found in more interior low-elevation locations below the Lower Montane Mixed Conifer Alliance and in local pockets of disturbed or dry sites, typically at elevations below about 3,000 feet. This alliance is composed of California sagebrush (*Artemisia californica*) along with a varying mixture of other shrubs, subshrubs, and perennials, including black or purple sage (*Salvia mellifera, S. leucophylla*), laurel sumac (*Malosma laurina*), lemonade sumac (*Rhus integrifolia*), California buckwheat (*Eriogonum fasciculatum*), coyote brush (*Baccharis pilularis*), California encelia (*Encelia californica*), minor amounts of chamise (*Adenostoma fasciculatum*), deerweed (*Lotus scoparius*), and grasses. These species produce a vegetative cover that rapidly invades disturbed areas, and the alliance intergrades with the Lower Montane Mixed Chaparral, California buckwheat, and sumac (*Rhus* spp.) shrub alliances. Annual grasses, forbs, and coast live oak (*Quercus agrifolia*) are found near this alliance in many areas.

Within the planning area, the California Sagebrush Alliance occurs primarily in the Verdugo Mountains, including some lower elevation areas adjacent to or surrounded by residential development. The largest areas characterized by this alliance, however, occur on open hillsides and steep slopes.

LOWER MONTANE MIXED CHAPARRAL ALLIANCE

The Lower Montane Mixed Chaparral Alliance occurs extensively on low to moderately high elevation slopes in southern California. The species composition of this alliance is highly variable across this diverse area and has no clearly dominant species. Instead it is characterized by a combination of wedgeleaf (*Ceanothus cuneatus*), cupleaf (*C. greggii* var. *perplexans*), hoaryleaf (*C. crassifolius*), or hairy ceanothus (*C. oliganthus*) along with many other non-dominant species such as chamise, scrub oak (*Q. berberidifolia*), bigberry (*Arctostaphylos glauca*), eastwood (*A. glandulosa*), or other Arctostaphylos species, toyon (*Heteromeles arbutifolia*), chaparral yucca (*Yucca whipplei*), silktassels (*Garrya* spp.), California buckwheat, chaparral whitethorn (*C. leucodermis*), sugar bush (*Rhus ovata*), shrub forms of interior and canyon live oak (*Q. wislizenii* var. *frutescens*, *Q. chrysolepis* var. *nana*), hollyleaf redberry (*Rhamnus ilicifolia*), and hollyleaf cherry (*Prunus ilicifolia*). In coastal areas, this alliance has been mapped at elevations from sea level to around 5,400 feet and up to about 8,000 feet in the mountains. Higher elevation sites typically have more prominent shrubby live oaks, which often resprout quickly after fires. The transformation from erect hardwoods to shrubs tends to raise this alliance into upper montane environments. Slope aspects and gradients are variable in this type.

Within the planning area, the Lower Montane Mixed Chaparral Alliance occurs exclusively in the Verdugo Mountains, adjacent to the other shrub and chaparral alliances and primarily on northwest facing slopes.

SOFT SCRUB–MIXED CHAPARRAL ALLIANCE

This alliance is characterized by a mixture of subshrubs, forbs, and woody shrubs, having a substantial woody shrub component. This alliance has been mapped in transitional areas and is often found near California Sagebrush and Lower Montane Mixed Chaparral Alliances. Ground disturbances, such as fire and urban development, often initiate the development of this relatively short-lived shrub alliance. In coastal areas, these sites are typically found on moderately steep slopes at elevations below 3,400 feet, while farther inland in the mountains, they occur on steep slopes below 5,800 feet. Indicator species characteristic to this community include California sagebrush, California buckwheat, white sage (*Salvia apiana*), deerweed, coyote brush, California encelia, bush monkeyflower (*Mimulus aurantiacus*), bush poppy (*Dendromecon rigida*), straggly keckiella (*Keckiella cordifolia*), yerba santa (*Eriodictyon* spp.), and goldenbush (*Ericameria* spp.). In addition, chamise, species of ceanothus, shrub species of interior and canyon live oak, and scrub oak may become minor components of this alliance.

Within the planning area, the Soft Scrub–Mixed Chaparral Alliance occurs exclusively in the Verdugo Mountains where it occupies areas near the highest ridges along the northern border of the planning area.

SUMAC SHRUB ALLIANCE

This alliance is dominated by species of sumac, primarily laurel sumac and lemonade sumac. Associated hardwoods include coast live oak and California walnut (*Juglans californica*). In coastal regions of southern California, it occurs abundantly in the Santa Monica Mountains and occasionally in other locations below about 4,000 feet on moderate to steep slopes. Farther inland in the mountains, the Sumac Shrub Alliance occurs less often on steep slopes below about 4,400 feet. At these locations, sugar bush is the dominant species, and skunkbush (*Rhus trilobata*) may be present but rarely becomes an important component. Other species and vegetation often found in this alliance are California sagebrush and annual grasses and forbs.

The Sumac Shrub Alliance occurs exclusively in the Verdugo Mountains and is the most abundant vegetation community in the planning area. It occurs on and within the majority of slopes and canyons, from the highest ridgelines to lower elevation areas adjacent to or within residential areas.

COAST LIVE OAK ALLIANCE

The Coast Live Oak Alliance is abundant in southern and central California in coastal valleys and lower slopes of the more inland mountain areas. As a dominant hardwood, this oak has been mapped throughout the Transverse, Peninsular, and South Coast ranges at elevations from near sea level along the coast to about 5,000 feet in the mountains. Coast live oak is considered the most fire-resistant California oak tree for its evergreen leaves, thick bark, and ability to sprout from the trunk and the roots, nourished by food reserves stored in an extensive root system. Coast Live Oak stands vary from open savanna-like grasslands in interior sites to dense forests, depending on site conditions such as climate, substrate, and slope angle. It also is a significant component of the Coastal Mixed Hardwood Alliance in combination with others, such as canyon live oak. In the southern portions of the San Gabriel Mountains, the Coast Live Oak Alliance may be present with species in the California Sagebrush and Lower Montane Mixed Chaparral Alliances, such as California sagebrush, sages (*Salvia* spp.), California buckwheat, chamise, laurel sumac, and other sumac species.

Within the planning area, the Coast Live Oak Alliance occurs exclusively in the Verdugo Mountains, within Sunset Canyon and Stough Canyon. Both canyons contain seasonal drainages that support stands of woodlands, with the densest stands in the undeveloped upper reaches. Dirt roads are present along some steep slopes and ridgelines but avoid the drainages in most areas. Sunset Canyon begins at the base of Country Club Drive, which follows the canyon upslope for approximately 1 mile. Scattered stands of this alliance occur for approximately 0.5 mile in the lower end of the canyon, within and around residential development. A more substantial and relatively undisturbed stand occurs in and along the upper end of the canyon, above the established roads and development. The lower reach of Stough Canyon has been developed into the De Bell Municipal Golf Course, but upslope of the golf course and at the end of Stough Canyon Road, the canyon is undeveloped. From the end of the road, a stand of coast live oak occurs and continues up the canyon for approximately 600 feet before transitioning into chaparral and mixed hardwood communities.

COASTAL MIXED HARDWOOD ALLIANCE

This alliance of mixed hardwoods has no single dominant species but includes an abundance of coast live oak. The Coastal Mixed Hardwood Alliance has been mapped widely but sporadically along the south coast, occurring in coastal and mountain zones at elevations generally less than 3,600 feet. These sites are very often adjacent to and include portions of black walnut (*Juglans californica*) individuals, in addition to minor proportions of other oaks. Lower elevation shrubs, such as California sagebrush, lemonade sumac, laurel sumac, and components of the Lower Montane Mixed Chaparral Alliance (e.g., toyon, chamise, various species of ceanothus), are also associated with this alliance.

Within the planning area, the Coastal Mixed Hardwood Alliance occurs exclusively in the Verdugo Mountains, within Sunset Canyon, Stough Canyon, Wildwood Canyon, and a fourth unnamed canyon above the De Bell Municipal Golf Course. This alliance intergrades with the Coast Live Oak Alliance in Sunset Canyon and Stough Canyon, occurring at several locations above and at one location below the stands of coast live oak. In Wildwood Canyon and the unnamed canyon to the northwest, this alliance occurs independently. In Wildwood Canyon, it occurs along Wildwood Canyon Road above the De Bell Municipal Golf Course. This area has limited development, but an established road extends up the canyon, through the alliance. The unnamed canyon adjacent to and northwest of Wildwood Canyon is completely undeveloped and does not contain any established roads. The lower portion of the canyon is an open gravelly wash, and the upper portion contains the mixed coastal hardwood species along the seasonal drainage.

CALIFORNIA SYCAMORE ALLIANCE

The CalVEG system map does not identify the presence of a California Sycamore Alliance within the planning area because of the scale at which the data are mapped. However, the CNDDB does identify the presence of Southern Sycamore Alder Riparian Woodland, which is comparable to the California Sycamore Alliance and present in the areas shown as the Coast Live Oak Alliance and the Coastal Mixed Hardwood Alliance on Figure 6-1.

The CNDDB includes documented occurrences of Southern Sycamore Alder Riparian Woodland in Sunset Canyon, Stough Canyon, and Wildwood Canyon, and in a fourth unnamed canyon to the northwest of Wildwood Canyon. Tree species associated with this community and likely present in these canyons include western sycamore (*Platanus racemosa*), white alder (*Alnus rhombifolia*), California bay laurel (*Umbellularia californica*), and bigleaf maple (*Acer macrophyllum*). A variety of riparian shrubs and herb species could also occur, such as California blackberry (*Rubus ursinus*), mugwort (*Artemisia douglasiana*), blue elderberry (*Sambucus mexicana*), poison oak (*Toxicodendron diversilobum*), elk clover (*Aralia californica*), scouringrush horsetail (*Equisetum hyemale*), and hoary nettle (*Urtica dioica* ssp. *holosericea*).

NONNATIVE VEGETATION

Nonnative vegetation primarily occurs in parks, cemeteries, golf courses, and developed areas. The areas supporting nonnative vegetation are located within the built-out portion of the planning area, including areas along the foothills of the Verdugo Mountains. These species include a variety of ornamental conifers (e.g., pine, cedar, fir species), hardwoods, and grasses or lawns. These areas generally provide reduced habitat values but can support common native and nonnative birds and small mammals.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources addressed below include special-status plant and wildlife species and sensitive habitat that are afforded special protection under CEQA, the California Fish and Game Code (including the California Endangered Species Act [CESA]), the federal Endangered Species Act (ESA), the Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and local or regional plans, policies, and ordinances.

SPECIAL-STATUS SPECIES

Special-status species are plants and wildlife legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations, and include:

- species listed or proposed for listing under the ESA and/or CESA as threatened or endangered;
- plant species listed as rare under the Native Plant Protection Act;
- species considered candidates for state or federal listing as threatened or endangered;
- wildlife species identified by DFG as special animals or California Species of Special Concern (SSC);
- wildlife species identified as fully protected under the California Fish and Game Code;
- species afforded protection under local or regional planning documents; and
- plant species considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California." These include plants on the following three CNPS lists:
  - List 1A—Plants presumed to be extinct in California;
  - List 1B—Plants that are rare, threatened, or endangered in California and elsewhere; and
  - List 2—Plants that are rare, threatened, or endangered in California but more common elsewhere.

The CNDDB (2010) was the primary source of information to identify previously reported occurrences of special-status species and sensitive communities within the planning area and within a two-mile buffer area surrounding the planning area. Assessing occurrences within the two-mile buffer captured occurrences in the surrounding undeveloped areas of the Verdugo and Santa Monica Mountains, which provide high quality habitat in the region and thus have the greatest potential to support sensitive biological resources.

The CNDDB is a statewide inventory managed and continually updated by DFG with the locations and condition of the state's rare and declining species and habitats. Although the CNDDB is the most current and reliable tool for tracking occurrences of previously documented special-status species, it contains only those records that have been submitted to DFG and is not always completely up-to-date. Thus, additional special-status species could be present in the planning area or surrounding areas that have not been discovered or reported, and additional occurrences that have already been reported may have not yet been entered into the database. A search of the CNPS Online Inventory of Rare and Endangered Plants (CNPS 2010) was also conducted to identify potentially occurring special-status plant species.

Additional online resources utilized to research the locations, range and distribution, and ecology of special-status plants included the Consortium of California Herbaria (2010), the Flora of North America (2010), and the USDA Plant Database (USDA 2010).

SPECIAL-STATUS PLANTS

Based on the results of CNDDB and CNPS database searches of sensitive natural resource occurrences within the planning area and the surrounding two-mile buffer, habitats present in the planning area have the potential to support 11 special-status plant species. Three of these species are federally listed as endangered and two are state-listed as endangered; additionally, all 11 species are tracked by CNPS, which lists 10 of them as CNPS List 1B species and one as a CNPS List 2 species. These species are listed below in Table 6-2, along with their status, habitat and blooming period, and potential to occur in the planning area.

The locations of known special-status plant and sensitive plant community occurrences are shown in Figure 6-2. Brief descriptions of species identified in Table 6-2 are provided below.

Braunton's Milk-Vetch

Braunton's milk-vetch is federally listed as endangered and a CNPS List 1B species. Endemic to California and a perennial native herb, it occurs in chaparral, valley and foothill grassland, coastal sage scrub, and closed-cone pine forest habitats, and its distribution is correlated with its restriction to soils derived from limestone substrate (Fotheringham and Keeley 1998:4–19). Most Braunton's milk-vetch populations in southern California have either been extirpated or consist of small fragmented populations. No CNDDB occurrences are documented within the planning area. Within the surrounding two-mile buffer, one population was documented in 1930 near Hollywood, but it is now believed to be

Table 6-2
Special-Status Plant Species With Potential to Occur Within and Surrounding the Planning Area

Species	Status[1]			Habitat and Blooming Period	Potential for Occurrence[2]
	USFWS	DFG	CNPS		
Plants					
Braunton's milk-vetch *Astragalus brauntonii*	E	--	1B	Chaparral, valley and foothill grassland, coastal sage scrub, closed-cone pine forest; 10–2,100 feet elevation Blooming period: January–August	***Not expected to Occur:*** Habitat in the planning area is marginally suitable, but the species has not been documented in the region since 1930.
Parish's brittlescale *Atriplex parishii*	--	--	1B	Alkali meadows, chenopod scrub, playas, vernal pools (alkaline); usually on drying alkali flats with fine soils; 80–6,250 feet elevation Blooming period: June–October	***Not expected to Occur:*** No suitable habitat is present within the planning area.
Nevin's barberry *Berberis nevinii*	E	E	1B	Chaparral, cismontane woodland, coastal scrub, riparian scrub (sandy or gravelly); often on steep, north-facing slopes or in low grade sandy washes; 900–2,700 feet elevation Blooming period: March–June	***Known to occur:*** Suitable habitat is present within the planning area, and the species is known to occur in Wildwood Canyon, in the foothills of the Verdugo Mountains.
Round-leaved filaree *California macrophylla*	--	--	1B	Cismontane woodland, valley and foothill grassland (clay); 50–3,950 feet elevation Blooming period: March–May	***Not expected to Occur:*** Habitat in the planning area is marginally suitable, but the species has not been documented in the region since 1906.
Slender mariposa lily *Calochortus clavatus* var. *Gracilis*	--	--	1B	Chaparral, coastal scrub, in shaded foothill canyons, often on grassy slopes within other habitats; 1,050–3,280 feet elevation Blooming period: March–June	***Could occur:*** Although this species is not documented in the planning area, suitable habitat is present on north-facing slopes in the Verdugo Mountains.
Plummer's mariposa lily *Calochortus plummerae*	--	--	1B	Chaparral, cismontane woodland, coastal sage scrub, yellow pine forest, valley and foothill grassland (rocky); usually on granitic or alluvial material, common after fire; 325–5,575 feet elevation Blooming period: May–July	***Known to occur:*** Suitable habitat is present within the planning area, and the species is known to occur in Sunset Canyon, in the foothills of the Verdugo Mountains, and in several nearby locations, including Griffith Park.
Slender-horned spineflower *Dodecahema leptoceras*	E	E	1B	Chaparral, cismontane woodland, coastal sage scrub, on alluvial fans, flood deposited terraces, washes; 650–2,500 feet elevation Blooming period: April–June	***Not expected to occur:*** Habitat in the planning area is marginally suitable, but the species has not been documented in the region since 1916.
Many-stemmed dudleya *Dudleya multicaulis*	--	--	1B	Chaparral, coastal sage scrub, often on heavy clay soils and grassy slopes; 50–2,600 feet elevation Blooming period: April–July	***Not expected to occur:*** Habitat in the planning area is marginally suitable, but the species has not been documented in the region since 1925.

Table 6-2
Special-Status Plant Species With Potential to Occur Within and Surrounding the Planning Area

Species	Status[1] USFWS	DFG	CNPS	Habitat and Blooming Period	Potential for Occurrence[2]
Mesa horkelia *Horkelia cuneata* ssp. *Puberula*	--	--	1B	Chaparral (maritime), cismontane woodland, coastal scrub (sandy or gravelly); 230–2,660 feet elevation Blooming period: February–September	***Not expected to occur:*** Habitat in the planning area is marginally suitable, but the species has not been documented in the region since 1948.
Davidson's bush mallow *Malacothamnus davidsonii*	--	--	1B	Chaparral, cismontane woodland; coastal scrub, riparian woodland; often in sandy washes; 600–2,805 feet elevation Blooming period: June–January	***Known to occur:*** Suitable habitat is present within the planning area, and the species is known to occur in Stough Canyon, in the Verdugo Mountains.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	--	--	2	Chaparral, cismontane woodland; coastal scrub, riparian woodland (sandy, gravelly); 0–6,890 feet elevation Blooming period: July–December	***Not expected to occur:*** Habitat in the planning area is marginally suitable, but the species has not been documented in the region since the early 1900s.

Notes:

[1] Legal Status Definitions

U.S. Fish and Wildlife Service (USFWS):
C = candidate
E = endangered (legally protected)

California Department of Fish and Game (DFG):
E = endangered
T = threatened (legally protected)

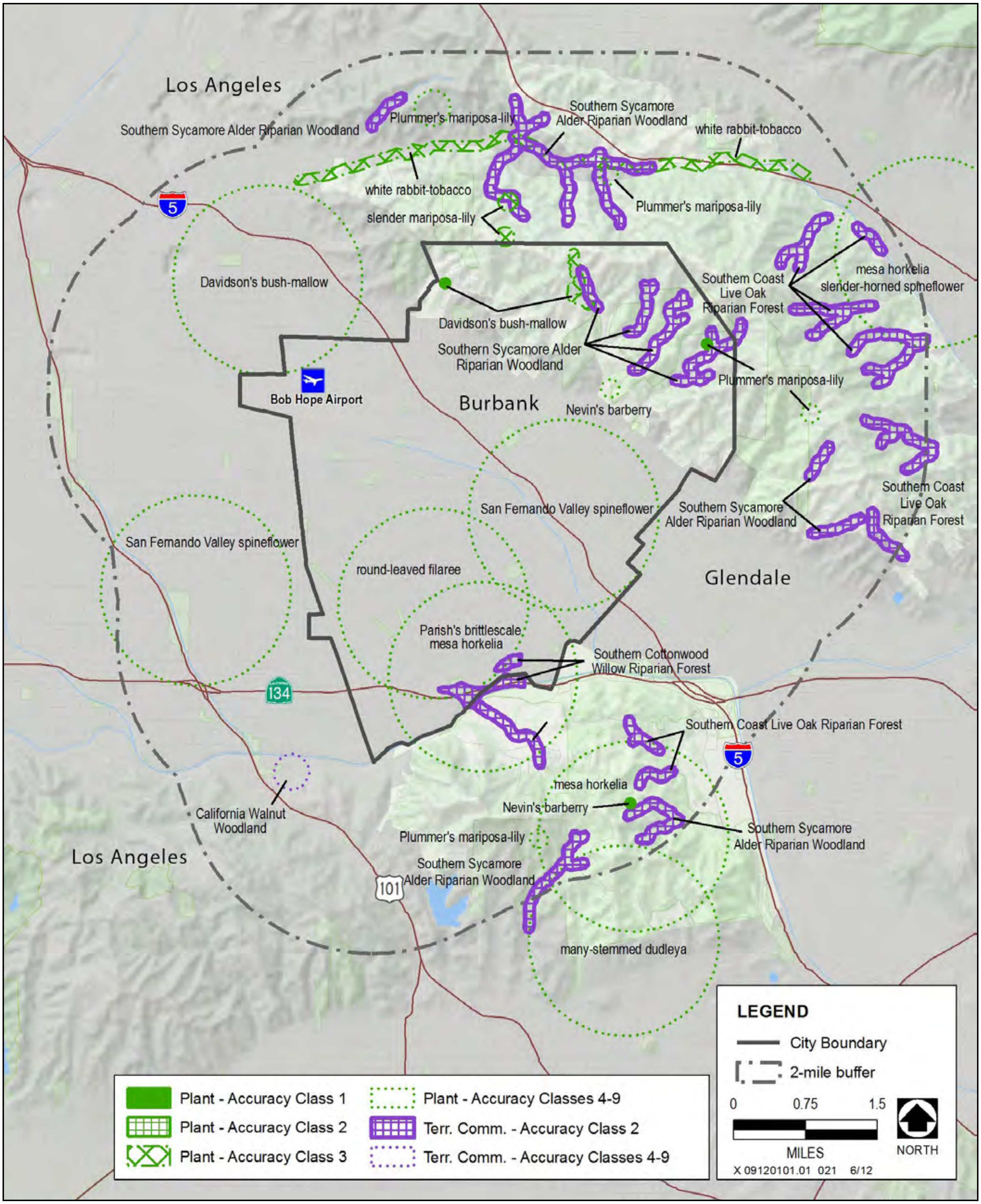
California Native Plant Society, (CNPS) Listing Categories:
1B = plants rare, threatened, or endangered in California and elsewhere
2 = plants rare, threatened, or endangered in California but more common elsewhere

-- = no status

[2] Potential Occurrence Definitions

Could occur—Species could potentially occur due to suitable habitat in the planning area and nearby documented occurrences.
Known to occur—Species has been documented in the planning area and suitable habitat is present.
Not expected to occur—None of the species' life history requirements are provided by habitat in the planning area, and/or the planning area is outside of the species' known distribution, and/or the species is not likely to occur because of marginal habitat quality or distance from known occurrences.

Sources: CNDDB 2010, CNPS 2010, Hickman 1993; data compiled by AECOM in 2010



Source: City of Burbank 2010, CNDDB 2010

Special-Status Plant and Sensitive Natural Community Occurrences **Figure 6-2**

extirpated as a result of urbanization. Two other populations documented in 1904 and 1930, also presumed to be extirpated, are documented outside the two-mile buffer in the surrounding region. The closest extant population is approximately 20 miles west of the planning area, in Topanga State Park. While there is marginally suitable habitat within the Verdugo Mountain portion of the planning area, this species is not expected to occur because of its specific requirements and lack of documented occurrences in the region.

Parish's Brittlescale

Parish's brittlescale is a CNPS List 1B species. An annual herb native to California and Baja California, it occurs in playas and vernal pools associated with shadscale scrub, alkali sink, and freshwater wetland habitats between the immediate coastline and the western edges of the Mojave Desert. Its distribution is correlated with saline and alkaline soils, such as those on dry lakebeds and ephemeral vernal pools, which have been reduced from their historic distributions by development and agriculture. A single undated occurrence is listed in the CNDDB in the vicinity of Griffith Park, which is immediately south of the planning area along the northern foot of the Santa Monica Mountains. The only other documented occurrence in the surrounding region is from a 1902 collection located approximately 15 miles southeast of the planning area, in an area of Hollywood now completely urbanized. No suitable habitat occurs within the planning area, and this species is not expected to occur.

Nevin's Barberry

Nevin's barberry is federally and state listed as endangered, and a CNPS List 1B species. A perennial shrub native and endemic to California, it occurs in chaparral, foothill woodland, and coastal sage scrub plant communities, often on steep north-facing slopes or in low grade sandy washes. This species is known from very few occurrences in southern California; however, the CNDDB documents one extant population within the planning area, at the base of Wildwood Canyon. Within the surrounding two-mile buffer, one other population is documented approximately two miles southeast of the planning area, in Griffith Park; however, notes in the CNDDB indicate that it was transplanted to this location. Five other presumably extant populations are documented outside the two-mile buffer in the surrounding region, indicating that this species could occur at other undiscovered locations within and around the planning area.

Round-Leaved Filaree

Round-leaved filaree is a CNPS List 1B species. An annual herb native to California, it occurs in valley grassland and foothill woodland plant communities on clay soil. A single CNDDB occurrence from 1906, which is now extirpated, is documented in the south-central section of Burbank that is now completely developed. The next closest documented occurrence, also presumed to be extirpated, is approximately eight miles southeast of the planning area near the completely urbanized area between Glendale and Pasadena. Based on the lack of suitable habitat and documented occurrences of this species, this species is not expected to occur in the planning area.

Slender Mariposa Lily

Slender mariposa lily is a CNPS List 1B species. A perennial herb (bulb) native and endemic to California and restricted to the San Gabriel Mountains, it occurs in shaded foothill canyons, usually on grassy slopes, with chaparral and coastal scrub plant communities. No CNDDB occurrences are documented within the planning area. Two extant populations were documented in 2001, approximately one-third of a mile north of the planning area, on the north-facing side of the Verdugo Mountains, and approximately halfway between Brace Canyon and La Tuna Canyon. Given the recent and nearby documented occurrence and suitable habitat in the upper canyons of the Verdugo Mountains, this species could occur within the planning area.

Plummer's Mariposa Lily

Plummer's mariposa lily is a CNPS List 1B species. A perennial herb (bulb) native and endemic to southern California, it is found along the coast and inland mountains, primarily in chaparral, coastal sage scrub, yellow pine forest, valley and foothill grassland, and cismontane woodland plant communities. The CNDDB documents one extant population at the northeast end of Country Club Drive in Sunset Canyon and five others within the surrounding two-mile buffer (four in the Verdugo Mountains and one in Griffith Park). Fifteen other extant populations are also documented in the surrounding region, indicating that this species could occur at other undiscovered locations within and around the planning area.

Slender-Horned Spineflower

Slender-horned spineflower is federally and state-listed as endangered, and a CNPS List 1B species. An annual herb native and endemic to southern California, it is known from the foothills of the San Gabriel Mountains, the San Bernardino Mountains, and the San Jacinto Mountains. It occurs in alluvial fans, flood-deposited terraces, and washes associated with chaparral, coastal sage scrub, and foothill woodland plant communities. The urbanization of the greater Los Angeles area has resulted in extirpation of a number of known populations; those that remain are fragmented and in decline (Young et al. 2000:6–9). No CNDDB occurrences are documented within the planning area. Within the surrounding two-mile buffer, one occurrence was documented in 1916, approximately five miles northeast of the planning area in Pasadena. However, that occurrence is presumed to be extirpated because the area is now completely urbanized. No other occurrences are documented in the surrounding region. Although marginally suitable habitat may be present in the Verdugo Mountains, this species is not expected to occur given the lack of suitable undisturbed habitat in the planning area and the lack of documented occurrences in the region.

Many-Stemmed Dudleya

Many-stemmed dudleya is a CNPS List 1B species. It is a perennial herb (succulent) native and endemic to southern California, where it is becoming increasingly uncommon. Many-stemmed dudleya is known from the Los Angeles coastal plain and adjacent hills, Transverse and Peninsular ranges, and southward to the San Onofre Mountains of northern San Diego County. The species occurs in chaparral, coastal sage scrub, and valley and foothill grassland plant communities, often on heavy clay soils and grassy slopes. No CNDDB occurrences are documented in the planning area. Within the surrounding two-mile buffer, one occurrence was documented in 1925, approximately 2.5 miles south of the planning area on the northern edge of an urbanized area of Hollywood and the southern edge of the Santa Monica Mountains. However, that occurrence is now presumed to be extirpated. No other occurrences are documented in the surrounding region. Although marginally suitable habitat may be present in the Verdugo Mountains, this species is not expected to occur given the lack of suitable undisturbed habitat in the planning area and the lack of documented occurrences in the region.

Mesa Horkelia

Mesa horkelia is a CNPS List 1B species. A perennial herb native and endemic to California, it occurs on sandy or gravelly soils associated with coastal scrub, chaparral, and cismontane woodland plant communities. The known range of this species is from San Luis Obispo to San Diego Counties, along the coast and inland to Riverside and San Bernardino Counties. Populations in Ventura, Riverside, San Bernardino, and San Diego have been extirpated. A single CNDDB occurrence from 1895, presumed to be extirpated, is documented within the southwest portion of the planning area, near Walt Disney Studios. Within the surrounding two-mile buffer, one population presumed to be extant was documented in 1918 and is located approximately two miles southwest of the planning area in Griffith Park. The next closest documented occurrence, also presumed to be extirpated, is located over two miles northeast of the planning area, in a completely urbanized area. Although marginally suitable habitat may be present in the Verdugo Mountains, this species is not expected to occur given the lack of suitable undisturbed habitat in the planning area and the lack of documented occurrences in the region.

Davidson’s Bush Mallow

Davidson’s bush mallow is a CNPS List 1B species. A perennial shrub native and endemic to California, it occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland plant communities, often in sandy washes. It is known from three areas: the mountains traversing the Los Angeles Basin, the Central Coast Ranges of southern Monterey County, and the southern San Francisco Bay Area in and around San Mateo County. The CNDDB documents one extant population in 2003 in Stough Canyon, approximately one-quarter mile up the canyon from the golf course. A second population documented in 1987 in Cabrini Canyon was reportedly extirpated by residential development that took place in 1999, and subsequent surveys have failed to locate other populations in Fisher Canyon or Craig Canyon, adjacent to Cabrini Canyon. A third population is mapped northwest of the planning area at Roscoe School and documented as being extant, but it is likely extirpated since the area is now completely developed. Eighteen other extant populations are also documented in the surrounding region, indicating that this species could occur at other undiscovered locations within and around the planning area.

White Rabbit-Tobacco

White rabbit-tobacco is a CNPS List 2 species. A perennial herb native to California, it occurs on sandy gravelly slopes, stream bottoms, and arroyos within cismontane woodland, chaparral, coastal scrub, and most commonly in riparian woodland plant communities. Outside of California, this species occurs in Arizona, New Mexico, Baja California, and Mexico. No CNDDB occurrences are documented within the planning area, but two reportedly extant populations documented in 1907 and 1932 are located within the surrounding two-mile buffer. The earlier occurrence is located approximately two miles south of the planning area near Hollywood and documented as being extant, but it is likely extirpated since the area is completely developed. The 1932 population is located approximately one mile to the north, along La Tuna Canyon Road. No other extant populations are documented in the surrounding region. Although marginally suitable habitat may be present in the Verdugo Mountains, this species is not expected to occur given the lack of suitable habitat in the planning area and the lack of documented occurrences in the region.

SPECIAL-STATUS WILDLIFE

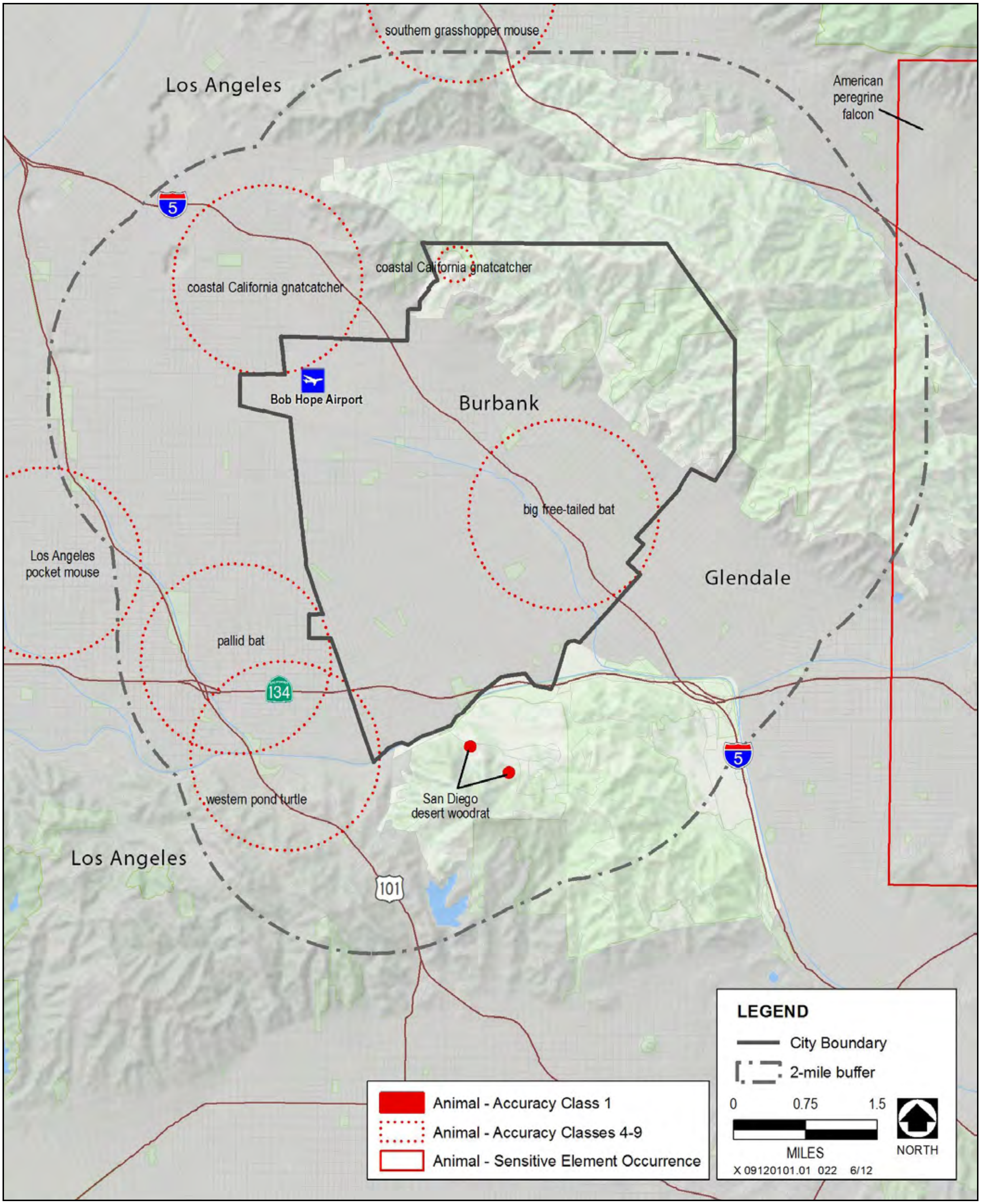
Based on the results of CNDDB database searches within the planning area and the surrounding two-mile buffer area, habitats in the planning area have potential to support nine special-status wildlife species. One of these species is federally listed as threatened and all are state-listed as endangered, fully protected, or as SSC. These species are listed below in Table 6-3, along with their status, habitat, and potential to occur in the planning area. The locations of known special-status wildlife occurrences are shown in Figure 6-3, Special-Status Wildlife Occurrences. Brief descriptions of these species are provided in Table 6-3.

Western Pond Turtle

Western pond turtle is a California SSC. This species is associated with permanent ponds, lakes, streams, irrigation ditches, and permanent pools on ephemeral streams. It requires basking sites, such as submerged logs, rocks, or muddy banks, and quickly retreats underwater when humans or predators approach. During spring, females move overland up to 325 feet to find suitable sites for laying eggs. Although other extant populations are known from Los Angeles County, the single occurrence documented in the planning area, known from the Los Angeles River at Lankershim Blvd, is from a 1917 museum collection record. The CNDDB indicates that the population is now extirpated. Potentially extant populations outside of the surrounding two-mile buffer are documented in the Sepulveda Basin Wildlife Area in Van Nuys and five miles east of San Fernando in the Tujunga Wash, but this species is not expected to occur within the planning area.

Coastal California Gnatcatcher

The coastal California gnatcatcher is federally listed as threatened and a California SSC. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet in elevation and on slopes of less than 40%, but gnatcatchers have been observed at elevations greater than 2,000 feet. This species



Source: City of Burbank 2010, CNDDB 2010

Special-Status Wildlife Occurrences **Figure 6-3**

Table 6-3 Special-Status Wildlife Species With Potential to Occur Within and Surrounding the Planning Area				
Species	**Listing Status[1]**		**Habitat**	**Potential for Occurrence[2]**
	Fed.	**State**		
Amphibians and Reptiles				
Western pond turtle *Actinemys marmorata*	--	SSC	Permanent or nearly permanent water in a wide variety of habitats with basking sites and suitable uplands for nesting	***Not expected to occur***: No suitable habitat is documented in and within 2 miles of the planning area.
Birds				
Coastal California gnatcatcher *Polioptila californica californica*	T	SSC	Low, dense, coastal sage scrub in Southern California, below 2,500 feet elevation, in arid washes, on mesas and slopes of coastal hills	***Known to occur***: Suitable habitat exists in the planning area; recently documented north of Brace Canyon Park.
Peregrine falcon *Falco peregrinus anatum*	--	E/FP	Nests on cliffs, ledges, or tall structures and typically near open wetlands, lakes, rivers, or other water bodies	***Not expected to occur***: No suitable nesting or foraging habitat is present within the planning area.
Mammals				
Pallid bat *Antrozoas pallidus*	--	SSC	Desert, grassland, shrubland, woodland and forest habitats; most common in open dry areas with rocky areas for roosting	***Not expected to occur***: Limited suitable roosting or foraging habitat is present within the planning area.
Western mastiff bat *Eumops perotis californicus*	--	SSC	Open, arid habitats such as coastal scrub, chaparral, grassland, and conifer and deciduous woodlands; roosts in crevices on cliffs, trees, and various other structures	***Not expected to occur***: Limited suitable roosting or foraging habitat is present within the planning area.
San Diego desert woodrat *Neotoma lepida intermedia*	--	SSC	Coastal scrub in Southern California with moderate to dense canopies; most abundant in rock outcrops and rocky cliffs and slopes	***Could occur***: Suitable habitat is present within the Verdugo Mountain portion of the planning area, and species is known to occur nearby.
Big free-tailed bat *Nyctinomops macrotis*	--	SSC	Roosts on high cliffs or rocky outcrops in low-lying, arid areas in southern California; may use mixed conifer forests, but open habitats associated with woodlands, shrubs, and grasslands are preferred	***Not expected to occur***: Limited suitable roosting or foraging habitat is present within the planning area.
Southern grasshopper mouse *Onychomys torridus Ramona*	--	SSC	Deserts, especially in scrub habitat with low to moderate cover and friable soils for digging	***Not expected to occur***: Limited suitable habitat is present within the Verdugo Mountain portion of the planning area.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	--	SSC	Lower elevation grasslands and coastal sage habitat in and around the Los Angeles Basin, in open areas with fine sandy soils	***Not expected to occur***: No suitable habitat is present within the planning area

Table 6-3 Special-Status Wildlife Species With Potential to Occur Within and Surrounding the Planning Area	
Notes:	
[1] Legal Status Definitions	California Department of Fish and Game:
U.S. Fish and Wildlife Service:	E = endangered (legally protected)
T = threatened (legally protected)	FP = fully protected (legally protected)
-- = no status.	SSC = species of special concern (no formal protection)
[2] Potential Occurrence Definitions ***Could occur*—**Species could potentially occur due to suitable habitat in the planning area and nearby documented occurrences. ***Known to occur*—**Species has been documented in the planning area and suitable habitat is present. ***Not expected to occur*—**None of the species' life history requirements are provided by habitat in the planning are, and/or the planning area is outside of the species' known distribution, and/or the species is not likely to occur because of marginal habitat quality or distance from known occurrences. Source: CNDDB 2010; data compiled by AECOM in 2010	

is threatened by the degradation, fragmentation, and loss of coastal sage scrub habitat and is also affected by brown-headed cowbird (*Molothrus ater*) nest parasitism. The CNDDB database documents two occurrences in the planning area and the surrounding two-mile buffer. A 1991 record documents a female responding to a taped recording and foraging in a wash in Verdugo Mountain Park, just off of Cabrini Drive and north of Brace Canyon Park. An older record (1901) documents a nest sighting in coastal sage scrub in the vicinity of Roscoe Elementary School. Potentially extant populations outside of the two-mile buffer include 1980, 1991, 2004, and 2008 sightings from the Baldwin Hills, Tujunga Wash, Hansen Dam Recreation Area, and the Granada Hills, respectively, indicating that this species could occur at other locations within the planning area.

American Peregrine Falcon

The American peregrine falcon is a California fully protected species. Its nesting and wintering habitats include ledges, cliffs, mounds, woodlands, and forests, typically near wetlands, lakes, rivers, or other water bodies. Many pairs nest on city buildings and bridges, and some nest in tree cavities of coastal redwoods. The breeding range for this species includes the Channel Islands, the coast of southern and central California, the north coastal and inland mountains, the Klamath and Cascade Ranges, and the Sierra Nevada. Peregrine falcons feed on birds caught in flight. No CNDDB occurrences are documented within the planning area, but an occurrence with an undisclosed location is documented at the eastern border, and mainly outside, of the two-mile buffer that surrounds the planning area. Although manmade structures and rock outcrops may be present within the planning area, no high-quality water sources exist on or adjacent to the property. Therefore, the American peregrine falcon is not expected to occur in or near the planning area.

Special-Status Bats

Three special-status bats are documented within either the planning area or the surrounding two-mile buffer, and could potentially occur within the planning area. This group includes the pallid bat, the western mastiff bat, and the big free-tailed bat; all three species are California SSC.

The pallid bat is a common year-round resident in low elevations in California. It occurs throughout the state, except in the high Sierra Nevada, from Shasta County to Kern County, and in the northwestern corner of the state, from Del Norte and western Siskiyou Counties to northern Mendocino County. Pallid bats occupy a wide variety of habitat, including desert, grassland, shrub, woodland, and forest habitats, from sea level up through mixed conifer forests. The species is most common in dry habitats with rocky areas for roosting and prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. The single CNDDB occurrence documented between Burbank and Los Angeles is from 1905; four other occurrences outside the two-mile buffer in Los Angeles County are from 1905 to 1971. Owing to the extensive urbanization and associated disturbance in the majority of the planning area and the lack of suitable roosting sites, the pallid bat is not expected to occur.

The western mastiff bat is well known in the southwestern United States and southern California, where it occupies arid and semi-arid lowlands. Its distribution is not completely known and new sightings in northern California, as far north as Butte County, are expanding its previously recorded range. The western mastiff bat primarily roosts in crevices in vertical cliffs, usually granite or consolidated sandstone, and in broken terrain with exposed rock faces; they may also be found occasionally in high buildings, trees, and tunnels. In southern California, these sites are associated with coastal sage, chaparral, oak woodland, and riparian habitats, which are all present within the Verdugo Mountain portion of the planning area. The CNDDB documents a single occurrence from 1991. The exact location of the occurrence is undisclosed but is generally mapped in an urbanized area of Hollywood approximately two miles south of the planning area. Nine other CNDDB occurrences, from 1918 to 1990, are documented outside of the two-mile buffer, within Los Angeles County. Owing to the extensive urbanization and associated disturbance in the majority of the planning area and the lack of suitable roosting sites, the western mastiff bat is not expected to occur.

Big free-tailed bats are rare in California, with limited collection records mainly from San Diego and Los Angeles Counties. A few collections are recorded in central and northern California from individual bats that reportedly wander outside of their normal range in the fall season. Big free-tailed bats are common in the southwestern United States in the summer and migrate to Mexico in the winter. The species prefers to roost in crevices, cracks, and caves on high cliffs or rocky outcrops in low-lying, arid areas; they may also be found occasionally in tree holes and manmade structures. The CNDDB documents a single occurrence from 1987. The exact location of the occurrence is undisclosed but is generally mapped within a three-mile radius of the planning area. Owing to the extensive urbanization and associated disturbance in the majority of the planning area and the lack of suitable roosting sites, the big free-tailed bat is not expected to occur.

San Diego Desert Woodrat

The San Diego desert woodrat is a California SSC that inhabits nearly all of southern California. Its range extends northward along the coast to Monterey County and along the Coast Range to San Francisco Bay. In southeastern California, it is found from southern Mono County, south throughout the

Mojave Desert and from north-central Tulare County, south through the Tehachapi and San Bernardino Mountains. It is abundant in Joshua tree and pinyon-juniper woodlands, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. No CNDDB occurrences are documented within the planning area, but two occurrences from 2006 are documented immediately south of the planning area, approximately 0.5 and 0.9 miles south of SR 134 and north of Cahuenga Peak in the Santa Monica Mountains. The occurrences were part of a five-day trapping program that yielded a total of six individuals. Coastal sage scrub and chaparral habitat similar to that where the woodrats were trapped is present in the Verdugo Mountain portion of the planning area, indicating that this species could occur.

Southern Grasshopper Mouse

The southern grasshopper mouse is a California SSC that occurs in arid habitats of the Mojave Desert and southern Central Valley of California. It prefers alkali desert scrub and desert scrub habitats, with friable soils for digging, but also occurs at somewhat lower densities in other desert habitats, including succulent shrub, wash, and riparian areas; it may also occur in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats. No CNDDB occurrences are documented within the planning area. The closest occurrence is from a 1904 CNDDB collection record that occurred approximately two miles north in the Tujunga Valley, which is on the north-facing or opposing side of the Verdugo Mountain Range. The next closest occurrence is another 1904 collection in Arroyo Seco, Pasadena, which is approximately six miles from the planning area. Based on the limited suitable habitat and lack of documented occurrences in and surrounding the planning area, this species is not expected to occur.

Los Angeles Pocket Mouse

The Los Angeles pocket mouse is a California SSC that occurs in lower elevation grassland, alluvial sage scrub, and coastal sage scrub in and around the Los Angeles Basin. In 1998, this species was likely extirpated from most or all of the San Fernando and San Bernardino Valleys, but could still be found at the base of the San Bernardino Mountains (e.g., Etiwanda Wash) east to Cabazon and south to Temecula, and in the surrounding foothills (Brylski 1998). At the same time, the conversion of habitat to agricultural, suburban, and urban uses in the area greatly reduced and fragmented the habitat, and the remaining populations were small and not expected to survive in the coming years (Brylski 1998). No CNDDB occurrences are documented within the planning area and only one occurrence from 1903 is documented within the two-mile buffer. This record is located approximately two miles west of the planning area, in an area of the San Fernando Valley that is now completely urbanized. While numerous old and new occurrences are listed in Riverside County, none are listed in Los Angeles County, and this species is not expected to occur in the planning area.

Sensitive Natural Communities

For the purposes of this report, sensitive natural communities are defined as habitats with particularly high ecological values or functions, of limited distribution, or otherwise of concern to federal, state, and/or local resource agencies. This includes those that are of special concern to DFG (e.g., those identified as having high priority for inventory by the CNDDB) or those that are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, or Section 404 of the CWA. Sensitive habitats are of special concern because they have high potential to support special-status plant and animal species and can provide other important ecological functions, such as enhancing flood and erosion control and maintaining water quality.

Two sensitive natural community occurrences are documented within the planning area: Southern Cottonwood Willow Riparian Forest and Southern Sycamore Alder Riparian Forest. Two others, Southern Coast Live Oak Riparian Forest and California Walnut Woodland, occur outside of the planning area within the two-mile surrounding buffer and are not discussed below. All occurrences are shown in Figure 6-2.

SOUTHERN COTTONWOOD WILLOW RIPARIAN FOREST

The Southern Cottonwood Willow Riparian Forest was mapped in 1935 on the Los Angeles River near the present site of the Ventura Freeway and Walt Disney and Burbank studios; however, it has since been extirpated by development and the channelization of the river. This sensitive natural community is no longer present within the planning area

SOUTHERN SYCAMORE ALDER RIPARIAN WOODLAND

Four extant populations of Southern Sycamore Alder Riparian Woodland were mapped in 1978 within the Verdugo Mountain portion of the planning area. This community is typically described as a tall, broad-leafed, winter-deciduous streamside woodland, dominated by western sycamore and often white alder. Other associated and less dominant species can include bigleaf maple, coast live oak, California bay laurel, blue elderberry, California blackberry, poison oak, mugwort, elk clover, scouringrush horsetail, and hoary nettle. These woodlands seldom form closed canopy forests and can appear as scattered trees growing along rocky stream beds subject to seasonal flooding.

This sensitive natural community occurs in Stough Canyon, upstream of Stough Park; in Wildwood Canyon and an unnamed Canyon to the northwest of Wildwood Canyon, both within Wildwood Canyon Park; and in Sunset Canyon, mainly in the upper end of the canyon above the established roads and development. The population in Stough Canyon has reportedly been much reduced and once extended up the eastern arm of the canyon. According to the 1978 surveys, these woodland communities are composed primarily of a closed canopy of coast live oak and western sycamore.

6.2 REGULATORY SETTING

Biological resources in California are protected and/or regulated by a variety of federal, state, and local laws and policies. Key regulatory and conservation planning issues applicable to the project are discussed below.

6.2.1 FEDERAL REGULATIONS AND LAWS

FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over projects that may result in take of a species listed as threatened or endangered under the ESA. Under the ESA (Title 16 of United States Code, Section 153 et seq. [16 USC 153 et seq.]), the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If implementation of a project is likely to result in take of a federally listed species, then the project applicant must either obtain an incidental-take permit under ESA Section 10(a) or complete a federal interagency consultation process under ESA Section 7 before the take occurs. An incidental-take permit typically requires various types of mitigation to compensate for or minimize the take.

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (16 USC 703–711) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the U.S. Secretary of the Interior. Most native bird species fall under the jurisdiction of this act.

SECTION 404 OF THE CLEAN WATER ACT (AS AMENDED IN 1977)

Section 404 of the CWA (33 USC 1252–1376) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States refers to navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fills of less than 0.5 acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE's nationwide permit program (NWP), provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP require a letter of permission or an individual permit.

SECTION 401 OF THE CLEAN WATER ACT

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency affirming that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board.

6.2.2 State Plans, Regulations, and Laws

California Endangered Species Act

The CESA (California Fish and Game Code Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance endangered or threatened species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of endangered or threatened species if reasonable and prudent alternatives are available that would avoid jeopardy. Definitions of endangered and threatened species in the CESA parallel those defined in the ESA, although the CESA definition of take does not include "harm" or "harass." Take authorizations from DFG are required for any unavoidable impact on state-listed species resulting from proposed projects.

Lake and Streambed Alteration

Pursuant to provisions included in Sections 1600–1603 of the California Fish and Game Code, DFG is empowered to issue streambed alteration agreements for projects that would "divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" (Fish and Game Code Section 1602[a]). Streams and rivers are defined by the presence of a channel bed, banks, and water that flows at least periodically or intermittently and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation and may include areas that do not meet USACE criteria for wetland soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils). DFG's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Porter-Cologne Water Quality Act

Under the Porter-Cologne Act, waters of the state fall under jurisdiction of the appropriate regional water quality control board (RWQCB). Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Waters of the state within the planning area fall under the jurisdiction of the Los Angeles RWQCB. The Los Angeles RWQCB developed the *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Los Angeles RWQCB 1995). Projects that discharge waste to wetlands or waters of the state must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

More recently, the applicable RWQCB has also generally taken jurisdiction over waters of the state that are not subject to USACE jurisdiction under the CWA, in cases where USACE has determined that certain features do not fall under its jurisdiction. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required.

PROTECTION OF BIRD NESTS AND RAPTORS

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, falcons), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

This page intentionally left blank.

7 CULTURAL RESOURCES

7.1 ENVIRONMENTAL SETTING

7.1.1 CULTURAL SETTING

As a framework for discussing the potential cultural resources expected during the cultural resources investigation for this project, the following discussion summarizes major prehistoric and historic developments in and around Burbank and the Los Angeles basin as a whole. For the purposes of this section, cultural setting refers to Burbank's local historic context, which represents those aspects of the history of the city, or portions thereof.

For an artifact, landmark, building, property, feature or other type of resource to be determined historically significant, it must represent a significant part of the history, architecture, archeology, engineering, or culture of the City of Burbank, and it must have the characteristics that make it a good representative of properties associated with that aspect of the past. Typically, the significant of a historic property is judged and explained when it is evaluated within its historic context. Historic contexts are those patterns, themes, or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within prehistory or history is made clear. Historic contexts are found at a variety of geographical levels or scales. The geographic scale selected may relate to a pattern of historical development, a political division, or a cultural area. Regardless of the scale, the historic context establishes the framework from which decisions about the significance of related properties can be made (DOI 1990:7-9).

PREHISTORIC OVERVIEW

The earliest evidence of occupation in the Los Angeles Basin dates to at least 9,000 years before present (B.P.) and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). In a departure from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. These settlements were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, such as seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typified by the presence of handstones (manos) and millingstones (metates); those Millingstone occupations dating later than 5,000 years B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Although many aspects of Millingstone culture persisted, by 3,500 years B.P. a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increased populations in the region necessitated resource intensification (Erlandson 1994). This was accomplished in part through the use of the circular shell fishhook on the coast and more abundant and diverse hunting equipment in the inland areas. Evidence for shifts in settlement patterns has been noted at a variety of locations and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trade networks became increasingly important, and travel routes were extended. Archaeological evidence suggests that, within the Los Angeles Basin, the margins of numerous rivers, marshes, and swamps served as ideal locations for prehistoric settlement during this period. These well-watered areas contained a rich collection of resources and are likely to have been among the more heavily traveled routes.

Burbank is located on land that was once occupied by the Gabrielino Indians, who had a large and well-established presence in the region during the Late Prehistoric period, spanning from approximately 1,500 years B.P. to the Mission era (Wallace 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino Indians. Occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange counties, the Gabrielino are reported to have been second only to their Chumash neighbors in population size, regional influence, and degree of sedentism (Bean and Smith 1978). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game, such as deer, were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid [1852] 1939). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939 [1852]).

The Gabrielino were virtually ignored between the time of Cabrillo's visit and the Spanish Period, which began in 1769 when Gaspar de Portola and a small Spanish contingent began their exploratory journey along the California coast from San Diego to Monterey. Passing through the Los Angeles area, they reached the San Gabriel Valley on August 2 and traveled west through a pass between two hills, where they encountered the Los Angeles River and camped on its east bank near the present-day North Broadway Bridge and the entrance to Elysian Park. Father Juan Crespi's diaries indicate that on that day they "entered a spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river. This plain where the river runs is very extensive and…is the most suitable site for a large settlement". He goes on to describe this "green, lush valley", its "very full flowing, wide river", the "riot of color" in the hills, and the abundance of native grapevines, wild roses, grizzly, antelope, quail, and steelhead trout. Crespi observed that the soil was rich and "capable of supporting every kind of grain and fruit which may be planted." The river was named *El Rio y Valle de Nuestra Señora la Reina de Los Angeles de la Porciúncula*.

Missions were established in the years that followed the Portola expedition, the fourth being the *Mission San Gabriel Arcangel* founded in 1771 in San Gabriel, approximately 7.5 miles east of Los Angeles. By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system. The Gabrielino inhabiting Los Angeles County were under the jurisdiction of either *Mission San Gabriel* or *Mission San Fernando*. Mission life offered the Indians security in a time when their traditional trade and political alliances were failing and epidemics and subsistence instabilities were increasing (Jackson 1999).

HISTORIC OVERVIEW

To provide for a better understanding of the origin and development of historic resources located within the city of Burbank, a context was developed. The following context was taken, with modifications, from the *City of Burbank Citywide Historic Context Report* by Galvin Preservation Associates (2009).

Spanish Period

The colonization of California began with the Spanish colonial empire's discovery of what was called New Spain. In addition to Mexico, this new territory included Texas, Arizona, New Mexico, and California.

Although California was one of the last of the Spanish territories to be occupied, as early as the mid-18th century, Spain established a settlement in southern California (San Diego). Over the next several decades, the Spanish established missions along the coast of this new territory to colonize the native population. Along with the missions, the associated Hispanic era pueblos and presidios laid the foundations for some of the largest cities in California. Other more central regions in California were settled and occupied when the coastal missions were secularized and former mission properties were granted, in the form of ranchos, to incoming non-Hispanic settlers (Perez 1982:1).

In 1798, the Spanish government granted to Corporal Jose Maria Verdugo a portion of the former Gabrielino land totaling 36,000 acres, which then became known as Rancho San Rafael. Verdugo had been active in the army until that time, but eventually decided to retire and become a rancher. He raised herds of cattle, horses, sheep, and mules on the Rancho; he also grew watermelons, corn, beans, pepper, and orchards. The Rancho encompassed what is today Glendale, Eagle Rock, and Highland Park (*Los Angeles Times* 1939:8).

Along with the rest of California, Rancho San Rafael became a Mexican territory in 1822. It was eventually passed down to Verdugo's children, Julio and Catalina, in 1831. Julio and Catalina Verdugo retained ownership of Rancho San Rafael even after California became United States territory in 1848 (and later the 31st state of the Union in 1850). The Rancho contained roughly a dozen dwellings by this time. In 1857, the Verdugos traded a portion (4,603 of the 36,000 acres) of Rancho San Rafael to Jonathan R. Scott in exchange for the 5,745-acre Rancho La Cañada, which bordered the north end of Rancho San Rafael (Mayers 1975:17).

Meanwhile, in 1843, a Mexican land grant consisting of 4,600 acres was granted to Commandante General José Castro. The land grant, Rancho La Providencia, bordered the southwestern boundary of Rancho San Rafael. By 1851, two gentlemen by the names of Alexander Bell and David W. Alexander purchased Rancho La Providencia. Bell and Alexander were both members of the first city council of Los Angeles (City of Burbank 1926:15–17).

Settlement and the Development of the Burbank Community

In 1866, Dr. David Burbank purchased the 4,600 acre Rancho Providencia from Bell and Alexander, and a 4,600 acre portion of Rancho San Rafael from Jonathan Scott (Galvin 2009:17). The 9,200 acres of land Burbank purchased was largely undeveloped at the time. Burbank was a dentist by trade and a native of New Hampshire. He arrived in Southern California via San Francisco in 1866 and established a dental office in Los Angeles. By the following year he was involved in sheep ranching and had constructed a residence on the former Rancho Providencia portion of his land holdings (located at what is today the Warner Bros. Studios in the southwest section of Burbank). By the end of the decade, Burbank had one of the largest and most successful sheep farms in southern California. As a result of his success, Burbank decided to retire from dentistry in 1872 and began to devote much of his time to investing in Los Angeles real estate. Despite his success as a sheep rancher, he continued to maintain a residence in Los Angeles (City of Burbank 1926:17).

An 1870 court case called “The Great Partition of 1870” questioned the land ownership of 36 individuals in Southern California, including David Burbank. Ultimately, Rancho La Providencia was not included in the case, but a portion of Rancho San Rafael not owned by Burbank and Rancho La Cañada were eventually dissolved during the court decisions. In the end, 31 parcels were divided among 28 investors; the Verdugos were only able to claim 3,300 acres of Rancho San Rafael. A year after the partitioning of both ranchos, Catalina Verdugo passed away and creditors assumed control of the land. During their ownership of Rancho San Rafael from 1798 to 1871, the Verdugos constructed a total of five adobes on their rancho, which have since been demolished. As a result of “The Great Partition,” the land purchased by Burbank from Jonathan Scott in 1866 was officially recognized and he was able to receive a clear title to his land (City of Burbank 1926:17).

Between 1872 and 1873, the Southern Pacific Railway constructed an extension of a rail line from downtown Los Angeles through the area owned by David Burbank. Burbank, an advocate of the railroad, sold a 100- x 14,000-foot stretch of right-of-way to Southern Pacific on February 28, 1873 for one dollar. The right-of-way extended through Burbank’s ranch property and terminated at what is now North Hollywood. The extension was completed on April 15, 1874. As a result of the new rail line, many parts of what is now the San Fernando Valley, including Glendale, were platted. The new line provided a vital commercial link to Los Angeles.

Soon after the line was established, a 1-year drought hit the area in the summer of 1874. Burbank’s thriving sheep and cattle farming industry was severely affected by the drought. As a result of this, dry (wheat) farming became the common industry in the area. By 1876, the San Fernando Valley was one the largest producers of wheat in Los Angeles County (Perry 1987:24). Despite the drought, the rail brought a number of settlers to the area during the late 1870s and early 1880s. The area, including most of what is now the San Fernando Valley, contained approximately five to six ranch homes with fourteen families living in the area. A northeast-oriented trail, which later became San Fernando Boulevard, was the only defined road that existed in the area. Slowly, the area began to grow as a community. On June 3, 1879, the Providencia School District was formed and David Burbank donated an acre of land for the construction of a redwood, single-gable school building at what is now Burbank Boulevard near Mariposa Street. The building has since been demolished. Although he operated a thriving ranch, which by 1880 contained 5,000 head of sheep, Burbank retired from sheep ranching a few years later, and rented out his land to dry farming tenants (Perry 1987:24).

In 1886, Burbank became a director of the Providencia Land, Water and Development Company (PLWDC). Headquartered in Los Angeles, other directors of the company consisted of John Downey Harvey, Thomas William T. Richards, J. McCudden, H. L. McNeil, W. H. Goucher, E. E. Hall, and George W. King. The sale of Burbank's landholdings was part of an overriding land boom that had started in 1886, and which ultimately led to the founding of numerous towns throughout Los Angeles County and Southern California. In February and March of 1887, the McClure Brothers surveyed and platted the 9,200-acre area that Burbank owned, and it is around this time that the area was formally named Burbank (Mayers 1975:25).

The platted portion of Burbank consisted of a commercial area surrounded by residential tracts. The original boundaries, as defined in the 1887 plat map, were what are now Burbank Boulevard/Walnut Avenue to the north, Grandview Avenue to the south, the edge of the Verdugo Mountains to the east, and Clybourn Avenue to the west. The center of the new town was located at Olive Avenue and Second Street (now known as San Fernando Boulevard). On March 31, 1887, the first of many advertisements put out by PLWDC for Burbank appeared in the *Los Angeles Times* and the *Los Angeles Tribune*. The town was officially founded on May 1, 1887, with special chartered rail coaches from Los Angeles shuttling interested investors to Burbank (Mayers 1975:25).

With the development of a new town, infrastructure became necessary. In April 1887, contractor W. B. Andrews, assisted by 120 Chinese laborers and 200 mules, laid out and graded the streets of the community (Perry 1987:26). The width of the streets ranged from 60 to 100 feet. Engineer and geologist Frederick C. Finkle installed an irrigation water system to Toluca Lake, which was located near what is now the southeast corner of Burbank. Two reservoirs were also installed by Finkle on the elevated edges of the town. The area at the time was irrigated by a natural lake, Lake Providencia, located within the former Rancho Providencia. In addition to street and water improvements, the town installed a 1.5-mile horse-drawn streetcar line along Olive Avenue (the main street of town), beginning at the Southern Pacific line and terminating at Olive Avenue and Eighth Street (now Kenneth Road). Because Olive Avenue was banked, eight horses were required to pull the streetcar uphill (Mayers 1975:28–29).

In April 1887, the newly formed town of Burbank saw a small spur of new development that included the construction of the first major commercial building (the Burbank Villa hotel), the addition of a new school building, and the establishment of the first manufacturing company (the Burbank Furniture Manufacturing Company). In addition, Southern Pacific built a depot to serve the growing community.

With the inner workings of the town set in place, PLWDC began to sell tracts of land in late 1887. The initial tracts of land consisted of large lots ranging from 20 to 40 acres. The buyers were primarily farmers who established vineyards and grew peaches, melons, alfalfa, and various other crops on the land (Perry 1987:26). By the end of 1887, total land sales reached $475,000. The town extended Olive Avenue to Lake Providencia by March 1888 and planted pepper trees along the 6-mile stretch of Olive Avenue, from the foot of the Verdugo Mountains to Lake Providencia.

The initial boom years for Burbank and Southern California were short-lived. By April of 1888, the real estate bubble burst. The real estate decline resulted in a dramatic decline in the price of lots and residences. Overall, the land valuation of Los Angeles County fell from $63,000,000 in 1887 to a pre-boom level of $20,000,000. Thus, a large number of boom towns located throughout the county, such as Burbank, either entered a period of inactivity in terms of development or disappeared entirely (Mayers 1975:36).

Several of the initial companies in Burbank struggled during this period. The Burbank Furniture Manufacturing Company, which had been in operation for less than a year, shut down and the local newspaper, *The Burbank Times,* closed operations. Also, the sudden end to the land boom financially ruined nearly all of the directors at PLWDC and the company officially disbanded in April 1888. In August, several former members of the PLWDC, including Garnsey, Richards, McNeil, Goucher, and Hall, formed a new company, the Burbank Building Association, which took the place of PLWDC. The Burbank Building Association continued to be heavily involved in real estate in Burbank well into the first decade of the twentieth century (*Los Angeles Times* 1888:8).

Despite the bust, by the end of 1888, 900 lots and 2,000 acres of farmland had been sold in the town of Burbank. The first brick commercial building, the Burbank Block, was completed during this period at the northwest corner of Olive Avenue and Second Street (now known as San Fernando Boulevard), just north of the Burbank Villa. Although land investment in Burbank came to an abrupt end following the boom period, the success of the farming and ranching industry sustained the life of the young town and softened the effects of the economic depression. By 1890, the population of the town had grown to 2,996, with 50 residents living near the center of town (Mayers 1975:36).

Postdecline Economic Recovery

On May 31, 1889, a steam railroad passenger line began service from a depot located four miles from downtown Los Angeles into Burbank. The Los Angeles and Pacific Railway Company operated the line which connected both cities, including the terminus city, Santa Monica. The Burbank Building Association donated a 4-acre lot near Verdugo Avenue and Flower Street for the construction of the first passenger depot. All the same, the economic recession and other unforeseen factors led to the demise of the railway by the end of 1889 (Perry 1987:29).

Throughout the 1890s, Burbank gradually recovered from the economic depression. During this period, the town made improvements to the existing water system with the laying of two miles of water pipes linked to two reservoirs with capacities of two and four million gallons. This was fed by a creek located in Tujunga Canyon at what is now the northeast corner of the San Fernando Valley. The water system was operated by the Miradero Water Company, which was owned by Leslie C. Brand. Brand had been active in land development in the neighboring town of Glendale (Mayers 1975:40).

Families and individuals purchased land in Burbank during the 1890s to establish various businesses and farms. Among some of the individuals that established businesses was Cassius "Cash" Edmunds, who purchased a lot in 1888 at the northeast corner of Orange Grove Avenue and 6th Street. The lot held two buildings, one utilized as a store (Perry 1987:30). Oliver J. Stough was one of the largest landowners who arrived in the area during this period. He purchased 2,000 acres in 1893 and established Stough Ranch. By the following decade, Stough owned 6,000 acres of land in Burbank, located roughly in what is now the northwestern portion of the city. Stough constructed a 14-room residence along 6th Street, between what is now Cornell Drive and Bethany Road. The Stough house was one of a few residences constructed on large parcels in Burbank during the 1890s.

Another early settler, Martin Pupka, played a prominent role in the developing community of Burbank upon his arrival in 1893. Initially farming 14 acres of land just south of town, he eventually sold his land and became active in real estate. He was one of the first members of the board of trustees, and was later a founder of the First National Bank of Burbank and the Burbank Savings Bank (Guinn 1915:208–209). Other early prominent settlers included Andrew Smith and Orville Myers, both owners of large acreages of land (Guinn 1915:147–149).

Economic recovery continued into the early twentieth century. The first significant new development occurred in August 1900, when the town's first telephone exchange was put into service. By 1905, the exchange was linked to phones in neighboring towns, which included Glendale, La Cañada, and La Crescenta (Perry 1987:33). Although there were only two telephones in operation in Burbank by 1905, the creation of a phone system set the stage for the town's growth during the early part of the twentieth century. Another significant development occurred in 1904, when settler J. L. Robinson established a lumber company. By 1910, the business had become the Burbank Lumber Company, which was later owned by Russell Mullin. The lumber yard served as a vital source of building material for the town into the following decade (Mayers 1975:44).

Even as commerce at the town core was developing, agriculture remained the dominant industry in Burbank during the first decade of the twentieth century. As in the previous decade, vineyards were still vital to the farming industry. By this time, there were a dozen wineries that remained fixtures in the city until the last winery, Brusso's Winery, closed in 1967. The sheep ranches, a fixture in Burbank since David Burbank purchased Rancho Providencia, gradually disappeared as the city grew (Perry 1987:33–34). By 1910, the town had a population of 12,225, with 700 to 800 people living within the town's core (Mayers 1975:53).

To meet the demands of the growing population, a two-story brick building, the Burbank Union High School, was constructed in 1910 at the northwest corner of Cypress Avenue and Second Street (now known as San Fernando Boulevard) (Strickland and Garcia 2000:17). With the town center's population exceeding the 500-person requirement for incorporation, Burbank became incorporated as a city on July 8, 1911, and a new city seal depicting a melon was adopted (Strickland and Garcia 2000:42). The new city covered 2.59 square miles and was roughly bounded by Sunset Canyon Drive to the north, Victory Boulevard to the south, Alameda Avenue to the east, and Walnut Avenue to the west. The center of the new city contained 160 buildings at the time of incorporation. An eight-member Board of Trustees (now the city council) was formed and Thomas Story became the first mayor of Burbank. The first city hall was established in the Burbank Block Building (Strickland and Garcia 2000:40; Perry 1987:37).

A year prior to incorporation, plans were being made to extend the Pacific Electric Railway line from neighboring Glendale, which had been served by Pacific Electric since 1904. The new extension to Burbank began operating on September 6, 1911. The line became the second and more accessible link to downtown Los Angeles for Burbank. Until this point, the new city was only connected to Los Angeles via the Southern Pacific and a single largely unpaved road. The introduction of electric passenger railway service to the area was a first step to transforming Burbank into a city.

Industrial and Commercial Development Boom

The period between 1911 and 1928 was a time of growth and development in the commercial and industrial areas of the newly incorporated city. New industries appeared and as a result, the City of Burbank started to develop its infrastructure to support the growing community. The City contracted with Leslie Brand, who at the time owned the Miradero Water Company (which also served neighboring Glendale), to receive electric power from his generating plant on Verdugo Avenue. The City oiled and packed the road beds of the main streets by late 1912 (*Los Angeles Times* 1912:10). Around this time, the City's Water Committee decided to create a new water system and purchase the Miradero Water Company from Brand (*Los Angeles Times* 1912:10). By October 1912, Burbank began to receive natural gas, which was supplied to the area via the Midway Gas Company. A street lighting committee also was formed. The City eventually passed a bond on March 26, 1913, allocating $50,000 to improve the existing water system and install new wells. An additional $20,000 was marked for construction of a new electric generating plant. Thus, the City created a municipally owned water and power district, Burbank Water and Power, which as of 2010 is still maintained by the City.

In April 1915, an additional 9.14 square miles of land was annexed to Burbank. The land consisted of what now makes up the southeastern portion of the city. The following year, a new combination city hall/fire station was constructed at a cost of over $13,000. The downtown area experienced a substantial transformation from the time of its incorporation though 1918; several buildings were constructed near the commercial corridor during this time. The development of downtown Burbank during the 1910s represented the first large-scale construction effort the town had seen since the 1880s land boom (Perry 1987:58).

Warner Bros. Studios and Lockheed

The 1920s were a time of industrial growth for Burbank. By 1924, Burbank had a sizable industrial center containing 61 factories that employed 1,278 workers. The industrial presence in the city and the abundance of undeveloped land were likely factors in the establishment of the Warner Bros. Studios and Lockheed during the late 1920s. These two industries eventually made Burbank synonymous with the motion picture (and later television) industry and the aircraft industry during the twentieth century.

Starting in the early 1910s, motion picture companies based on the east coast were relocating to Southern California to take advantage of the sunny climate. By the late 1910s, a large number of motion picture companies had established studios in various parts of Los Angeles County, and Burbank, with its vast amount of open land, quickly became one of the prime locations. The Historical Film Corporation of America, makers of Christian-themed films, became the first motion picture company to establish a studio in the city. On November 11, 1919, the studio purchased 25 acres of land in south Burbank. The company used existing homes, which were part of a farm, as design studios (*Los Angeles Times* 1919:14). The company eventually leased an additional 2,600 acres for use during film production. First National Pictures, a predecessor to Warner Bros., was founded in 1917 as the First National Exhibitor's Circuit (Mayers 1975:59). First National, in a move to establish the world's largest film studio, purchased 75 acres near the southwest end of Burbank; the land was a portion of what had been the David Burbank Ranch. Construction began on March 28, 1926, and was completed within 72 business days. David Burbank's 1867 residence, located on the studio lot, was retained, though it was destroyed by fire in 1954. The completed studio complex contained six paved streets and eight sound stages, and eventually employed 800 people (Mayers 1975:157). Within two years of its completion, the studio was under the control of Warner Bros.

In 1923, Malcolm and Allen Lockheed founded the Lockheed Company. Incorporated in 1926, the company was originally located in Hollywood before moving to Burbank. In that same year, the company developed the famed single-engine Lockheed Vega airplane, which went into production the following year. In 1928, Lockheed created an airstrip adjacent to the Southern Pacific railroad and west of Hollywood Way, for aircraft testing. During their first year in Burbank, Lockheed produced 50 airplanes and had a staff of 150 (Mayers 1975:79).

Residential Development

The establishment of industries resulted in a large increase in Burbank's population. The influx of people resulted in the conversion of local farmlands to residential tracts, including developments such as Benmar Hills (the former Stough Ranch) and Magnolia Park. Several square miles of land were annexed to the city by the 1920s. During this period, the largest area—4.23 square miles adjacent to the city's northern border—was annexed in 1926. This area, referred to as Sunset Canyon, is located within the Verdugo Mountains. It was first developed in the early 1920s and contained a country club and golf course, and several cabins. These annexations were the basis for residential and commercial development in Burbank during the 1920s (Los Angeles County Assessor 1920:76).

The Great Depression

Burbank experienced phenomenal growth during the 1920s. By the end of the decade, the population had grown five-fold, to just under 17,000, and the city had firmly established itself as an industrial suburban community. The Great Depression of the 1930s, however, had an immediate negative effect on land development in the city. Even so, despite the grim prospects, Burbank showed signs of optimism. In 1931, the city council adopted a new city seal that featured an airplane flying above the city grid, purposefully replacing the agricultural motif of the 1911 seal.

Another key development, at the start of the Great Depression, was the creation of an airport in 1930. In September 1928, the United Aircraft Transport Company was considering Burbank as a site for an airport. Within a few months, Boeing Air Transport, a subsidiary of United Aircraft, purchased 240 acres just west of the newly established Lockheed facilities, near the intersection of Hollywood Way and Vanowen Street. Construction began immediately and was completed by late 1929. The new Burbank Airport included two runways with an average length of 3,500 feet and a width of 300 feet, as well as a terminal building, several outbuildings, and a 72,000-square-foot hangar, the largest of its kind in the nation (*Los Angeles Times* 1929:2). The first airmail shipment was flown from the airport in November 1929. The first airmail office in the nation opened there two years later, on April 1. United Air Terminal was officially dedicated on Memorial Day, May 30, 1930 (Mayers 1975:83; *Los Angeles Times* 1939:1).

The Great Depression, which put a hold on residential development, did not have an immediate impact on the city's manufacturing plants. Certain industries thrived during the Depression. In fact, in a 1933 study of Burbank industries, the city was ranked tenth in the state for overall product valuation and seventh in overall wages paid (Mayers 1975:95). Lockheed Corporation became a subsidiary to Detroit Aircraft Corporation, based in Detroit, Michigan, when Allan Lockheed sold the company in 1929. In October of 1931, exactly two years after the start of the Great Depression, the Detroit Aircraft Corporation filed for bankruptcy. As a subsidiary, Lockheed had no control over its fate. By the following June, Lockheed's assets were purchased by an east coast banker and the company reincorporated later that year. The newly revived company took off soon after their development of the "Electra," a 10-passenger twin engine airplane in 1934. By the following year, the company employed 400 people and experienced an annual doubling of its work force from 1935 to when the company began building the Electra for the British Royal Air Force (RAF) in 1938. To build the Electra for the RAF, Lockheed created a subsidiary, the Vega Airplane Company, and built a plant on a 30-acre site adjacent to the United Air Terminal. By 1940, Lockheed was able to purchase the airport, renaming it Lockheed Air Terminal. The Moreland Motor Truck Company, a fixture in the city since 1917, went into receivership in January of 1935. However, by the end of the year, the company reorganized and the receivership was lifted. The company finally closed in 1941 (Perry 1987:56).

Motion pictures, especially musicals, worked to boost public morale during the Great Depression. The movie industry flourished in this environment. In 1934, Columbia Ranch studio was established on a 40-acre lot along Hollywood Way, between Verdugo Avenue and Oak Street. By 1936, Warner Bros.

acquired a total of 110 acres of farmland that adjoined the studio and doubled its original size with the construction of 50 buildings. Two years later, Disney Studios was established on 51 acres approximately 0.5 mile east of Warner Bros. Studio, along Alameda Avenue and Buena Vista Street (Mayers 1975:56).

Postdepression/World War II Era

Although building construction was only a fraction of what it had been during the 1920s, a resurgence in construction began in the mid to late 1930s. The resurgence likely resulted from the airport and the motion picture studios coming into the area during the early 1930s (Perry 1987:58). The construction of a public library and new post office (funded through Franklin D. Roosevelt's New Deal program), and the development of several properties, all took place during this period.

The Magnolia Park development was reactivated at that time, when Earl L. White constructed several single-family homes on undeveloped lots south of Magnolia Boulevard and west of Buena Vista Street. Additionally, a large number of multiple- and single-family residences were constructed in areas just south of Burbank Airport and the Lockheed plant. By 1939, Dr. James Citron opened the Magnolia Park Hospital. Partly as a result of increased building construction during the late 1930s, construction valuation in 1940 alone was over 14 million dollars. Lockheed was responsible for four million dollars of this total. The end of the decade also saw the completion of a segment of the Cahuenga Freeway (now the Hollywood Freeway) that connected Hollywood with the San Fernando Valley. The new freeway segment linked with Barham Boulevard, which was the south entrance to the city (Perry 1987:58).

The city population had increased from just under 17,000 at the beginning of the decade, to just over 34,000 by 1940. An even greater population increase occurred after the United States entered World War II, following the attack on Pearl Harbor on December 7, 1941 (Mayers 1975:109; Perry 1987:63).

By 1943, Lockheed's employment figure peaked at approximately 90,000 people (51,000 men, 35,000 women, and 4,000 high school boys). The large number of women employed at the plant was driven by a shortage of men, a consequence of the war. A housing shortage in the city was the direct result of the large number of people employed at Lockheed and its subsidiary, Vega. The housing shortage was exacerbated by the rationing of building materials during the war, which put residential construction in Burbank at a virtual standstill. Thus, a large number of people were forced to live in converted garages. To ease the effects of the housing shortage, the City lifted an ordinance on September 1942 that prohibited the renting of rooms in private residences (Perry 1987:63). Many homeowners were encouraged by the City to convert single-family homes into multi-family residences. A "Remodel-for-Victory" office was established in June 1943 to assist landowners with the home conversions. By 1944, rationing restrictions were lifted, and Earl White was able to construct 598 residences on 155 acres at Magnolia Park, filling in many of the vacant lots of the original Magnolia Park development. Also, Fritz B. Burns constructed several duplex apartment buildings as part of "Burbank Gardens" along Fairview Avenue, near Verdugo Avenue, in what had been Magnolia Park. Nevertheless, the housing shortage remained prevalent following the end of the war, in August 1945. By the following year, the population of Burbank was estimated at 62,348, a near two-fold increase over the 1940 total population (Mayers 1975:117; Perry 1987:63).

Postwar Development

The housing shortage became a priority for the City of Burbank as service men and women began arriving in late 1945. Construction began immediately on temporary housing, consisting of Quonset huts constructed on 100 acres of industrial-zoned land. Five thousand army barracks refurbished for residential use were also made available for the returning veterans (Mayers 1975:117). In addition, the U.S. Government chose Burbank as a site to build temporary housing, consisting of wooden barracks and trailer homes for Japanese Americans returning from internment camps (Galvin 2009:127). Construction of these barracks began by mid-October 1945 in Glenoaks Park (now known as McCambridge Park), located near the corner of Amherst Drive and Scott Road (Galvin 2009:127). Temporary housing areas for the evacuees were also constructed at two other locations, at Lomita Street and Magnolia Boulevard and at Winona Avenue and Hollywood Way, adjacent to the Lockheed Air Terminal (Galvin 2009:127). By mid-November 1945, approximately 430 Japanese-American evacuees were housed at the temporary housing sites. Some of the evacuees were former residents of Burbank (Mayers 1975:132–133; Galvin 2009:127).

The postwar years signaled the true end of agriculture in Burbank. Dominic Morro, who owned a 54-acre farm on N. Glenoaks Boulevard, in addition to 16 acres near the Walt Disney Studios, decided to subdivide his land in 1949. The Morro farm was one of the last farms of its size left in the city (Mayers 1975:117). The James J. Jeffries farm, which was originally 107 acres, had been subdivided over the years and only the house and barn remained when Jeffries died in 1953. The barn was sold and moved to Knott's Berry Farm soon after his death, and the house was destroyed by fire in 1959. The city's population increased from 62,348 in 1946 to 78,577 in 1950. At the start of the 1950s, the city also boasted 400 industries, which employed 31,195 people. The postwar period was essentially a continuation of the 1920s construction boom (Mayers 1975:117-147).

The film studios and Lockheed both experienced growth during the 1950s, although setbacks occurred with a series of fires at Warner Bros. Studios. Beginning in 1952, the growing popularity of television also posed a challenge to the studios, when National Broadcasting Corporation (NBC) established its television broadcasting headquarters at Alameda and Olive Avenues. By the late 1950s, the local film studios were constructing sound stages specifically intended for television production. Lockheed constructed a $20 million office building along Empire Avenue, and by 1956 the company had embarked on a $92 million expansion program. Beginning in 1951, the Lockheed Air Terminal experienced a large increase in passenger flow, with 740,000 people flying in and out of the airport; planes were replacing trains as the preferred means of travel. To meet the needs of the growing population and to keep up with the growth of industries, Burbank's infrastructure and other support systems had to be modernized. In anticipation of the demand for electricity, Burbank Water and Power constructed a power generating plant in 1950 at 164 Magnolia Boulevard, between Victory and San Fernando Boulevards (Mayers 1975:151).

The growing popularity of the automobile caused a drop in ridership in other transportation means, including the Pacific Electric Railway trolley line, which had been a fixture in Burbank since its 1911 incorporation (Galvin 2009:133), On June 20, 1955, the final trolley car left the Burbank depot for downtown Los Angeles, thus ending electric trolley service for the city and neighboring Glendale (Galvin 2009:133). In some ways, the loss of Pacific Electric was not devastating, but rather it signaled the start of a new era for Burbank. Just as trolley service left Burbank, construction of the Golden State Freeway (Interstate 5) commenced, traversing the center of the city. It replaced the existing State Highway 99 (San Fernando Boulevard) (Mayers 1975:154).

By the late 1960s, Burbank began to feel some of the negative effects of the postwar boom, as construction of residences outside of the city's core (downtown) decentralized the population. The downtown commercial district suffered as commercial strips were constructed along major thoroughfares that flanked the residential areas (City of Burbank Zone Map 1951). To increase business downtown, the City approved a plan in early 1966 for the development of a pedestrian mall along San Fernando Boulevard, between Angeleno Avenue and Magnolia Boulevard (*Los Angeles Times* 1966:10). Golden Mall involved the closing of that segment of San Fernando Boulevard to automobile traffic, and resulted in a street paved in concrete and accented with large planters, though the roads intersecting San Fernando Boulevard remained open to auto traffic. The mall was dedicated in November 1967, and 120 existing stores became part of the new mall (Mayers 1975:177). As a result of the pedestrian mall, downtown Burbank experienced a resurgence of business activity. However, the resurgence was short-lived and business dropped off during the 1970s, which led to longtime downtown establishments either leaving the city or going out of business. By 1989, the pedestrian mall was open again to automobile traffic (Perry 1987:73; City of Burbank 2010).

Burbank experienced a lull period in development soon after the creation of the Golden Mall. However, by the late 1970s, the city experienced a rebound, and on June 28, 1978, the airport was purchased from Lockheed through a tri-city authority and became known as the Burbank-Glendale-Pasadena Airport (now known as the Bob Hope Airport). Despite the sale of the airport, Lockheed continued to be a major industry in the city up until the closure of its Burbank plant in 1990. Today, Burbank remains a prominent media and entertainment center (City of Burbank 2010).

7.1.2 METHODS OF IDENTIFYING CULTURAL RESOURCES

The effort to identify cultural resources in the planning area consisted of a literature review, a record search and Native American consultation.

PREVIOUS STUDIES AND RECORDED SITES

In April 2010, AECOM requested and received a record search for the project, including all areas within the city limits, from the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System. The purpose of the SCCIC search was to identify previously recorded archaeological sites and historic resources and obtain information on previously conducted cultural resources surveys in the city.

The SCCIC search included examination of background historic resources such as:

- California State Historic Resources Inventory
- City of Los Angeles Historic-Cultural Monuments
- California Historic Landmarks (1996)
- National Register of Historic Places (1996 and 2000)
- California Points of Historical Interest (1992 and updates)
- California Register of Historical Resources
- Santa Monica (1902, 1921) 15’ USGS quadrangle maps
- City of Burbank local register of Designated Historic Resources

SCCIC-Identified Resources

Two archaeological sites (SCCIC tracking numbers P-19-002530 and P-19-003348) and 17 additional historic resources were identified within the city limits (Table 7-1); the additional cultural resources consisted of historic adobe complexes, multi-family residences, structures associated with the airport, commercial buildings, and the Little White Chapel Christian Church. The California Points of Historical Interest, the California Register of Historical Resources (CRHR), and the National Register of Historic Places (NRHP) all include listed or eligible properties within the city of Burbank (Table 7-2).

NATIVE AMERICAN CONSULTATION

The City sent a contact letter to the Native American Heritage Commission (NAHC) requesting a search of the Sacred Lands files and the contact information for Native American groups or individuals who might have information or concerns regarding cultural resources within the city. The NAHC responded in writing with contact information for the Fernandeño Tataviam Band of Mission Indians and the San Fernando Band of Mission Indians; there was a verbal follow-up response that identified the Gabrielino Indians as an additional contact. The City sent SB 18 consultation requests to all three groups; as of the date of this writing, the City has received a response only from the Fernandeño Tataviam Band of Mission Indians, asking to consult on the general plan. The City has contacted representatives of the Fernandeño Tataviam Band of Mission Indians and offered information and ongoing updates concerning the development of *Burbank2035*.

Table 7-1
Recorded Cultural Resources in the City of Burbank

SCCIC-Identified Site Number	Site Type	Description	Address	Condition	Date
P-19-002530	Archeological	Burbank Depot	201 N. Front St.	Destroyed	1929
P-19-003348	Archeological	Historic domestic and industrial debris	Various	Unknown	1890s to present
P-19-150413	Historic	Rancho Providencia adobe ranch house	N/A	Under Warner Bros. film lot	1868
P-19-150414	Historic	Triunfo's Adobe	N/A	Under Disney Studios	1868
P-19-186661	Historic	Residential triplex	3408 W. Alameda Ave.	Not eligible for listing on NRHP	1950
P-19-186662	Historic	Residential duplex	116 N. Avon St.	Not eligible for listing on NRHP	1948
P-19-186663	Historic	Commercial bldg.	3413 Olive Ave.	Not eligible for listing on NRHP	1948
P-19-186664	Historic	Residential triplex	3510 W. Alameda Ave.	Not eligible for listing on NRHP	1941
P-19-186665	Historic	Residential triplex	3516 W. Alameda Ave.	Not eligible for listing on NRHP	1941
P-19-186666	Historic	French Provincial residence	N/A	N/A	1932
P-19-186667	Historic	Residential duplex	112 N. Avon St.	Not eligible for listing on NRHP	1930
P-19-186688	Historic	UPRR wye and spur to the Swaner Hardwood plant	N/A	N/A	1902–1948
P-19-186689	Historic	UPRR concrete drainage channel	N/A	N/A	1927
P-19-186991	Historic	Starlight Theater	1249 Lockheed View Dr.	Not eligible for listing on NRHP	1950
P-19-187328	Historic	Bob Hope Airport Hangars 4 and 5	2627 N. Hollywood Way	Not eligible for listing on NRHP	1946
P-19-187329	Historic	Bob Hope Airport Hangars 6,7,7a,7b	2627 N. Hollywood Way	Not eligible for listing on NRHP	1942-1950
P-19-187330	Historic	Bob Hope Airport Hangar 22	2627 N. Hollywood Way	Not eligible for listing on NRHP	1955
P-19-188466	Historic	Little White Chapel Christian Church	1711 North Avon St.	Not eligible for listing on NRHP	1949
P-19-188507	Historic	Commercial bldg.	60 East Magnolia Blvd.	Not eligible for listing on NRHP	1946

Note: NRHP = National Register of Historic Places
Source: South Central Coastal Information Center 2010

Resource Name	Date	Listing	Site Number
Bob's Big Boy Restaurant and Sign 4211 Riverside Drive	1949	California Point of Historical Interest	CA-LAN-054
U.S. Post Office, Downtown Station 125 E. Olive Avenue	1937	National Register, California Register	
Burbank City Hall 275 E. Olive Avenue	1941	National Register, California Register	
Bellarmine Jefferson High School 465 E. Olive Avenue	1945	California Register	
Single-Family Residence ("Rock House") 902 E. Olive Avenue	1921	Local Register	
Single-Family Residence 834 E. Magnolia Avenue	1910	Local Register	
Single-Family Residence 923 E. Magnolia Avenue	1927	Local Register	

Table 7-2
Listed or Eligible for Listing Resources

Notes: National Register = National Register of Historic Places
California Register = California Register of Historical Resources
Local Register = City of Burbank Register of Historic Resources
Source: South Central Coastal Information Center 2010

7.1.3 PROPERTY TYPES

The Secretary of the Interior's Guidelines for Historic Preservation Planning (48 Federal Register 44716) defines a property type as a grouping of individual properties based on shared physical or associative characteristics. Broad categories of property types generally include buildings, structures, objects, sites, and districts. Within these categories, specific resource types can be defined based on common attributes or chronology. The following section utilizes information provided in *City of Burbank Citywide Historic Context Report* (Galvin 2009) to present a list of property types that are located within the city of Burbank.

SPANISH PERIOD (1798 – 1886)

The area known as Rancho San Rafael contained roughly a dozen dwellings around 1850 (Mayers 1975:15). Between the years 1866 and 1886, few buildings were constructed; those that existed consisted primarily of early ranch buildings designed in a manner similar to the non-extant adobe residences. Popular buildings during this time period included single-story residences with side-gable roofs and full-width front porches. The siding material was often board and batten, or horizontal drop siding. Windows, when featured, were typically single or double-hung, situated within tall narrow wood frames.

Transportation methods improved, with commonly utilized wagon roads being overtaken by the efficiency and speed of the railroad. By the end of the 1880s, as accessibility to materials increased, larger and often more elaborate buildings were being constructed.

Settlement and Development of Burbank (1886–1889)

Few buildings remain from this brief period. The buildings that were constructed consisted primarily of modest-size single-family homes and commercial edifices in the Queen Anne style. Bay windows, corner towers, and ornamentation were popular features. The basis of the town was formed during this time period, and along with its growth came the development of infrastructure.

Postdecline Economic Recovery (1890–1911)

The population growth following the decline period of the late 1890s resulted in the expansion of Burbank. Initially, the Queen Anne style remained popular; however, by the end of this period, other styles were becoming common

Industrial and Commercial Development Boom (1912–1928)

Burbank experienced a period of expansive growth after its incorporation in 1911. Before this time, the community was primarily a farming town, with the population centered near the downtown core. It began to expand outside of its downtown core as numerous manufacturing companies began establishing plants in the 1910s. The town’s growth also led to further development and infill of the downtown commercial core.

Residential Development (1912–1928)

The establishment of industries in Burbank during the early twentieth century contributed to a large increase in the city’s population. The resulting surge in home construction led to the expansion of residential developments outside of town. Modest, single-family dwellings were popular during this period in working/middle-class neighborhoods. Residential developments such as Benmar Hills contained some larger and more elaborate buildings.

The Great Depression (1929–1938)

Building construction in Burbank during this period was only a fraction of what occurred during the early 1920s. Residential and commercial construction was at a virtual standstill; the few buildings that were constructed during this time were primarily industrial in nature (i.e., Walt Disney and Columbia Studios). Residential buildings of this period consisted mostly of multi-family units. The movie industries present in the area helped to sustain the town during the economic recession.

POSTDEPRESSION/WORLD WAR II ERA (1939–1945)

A resurgence in construction occurred during the mid to late 1930s through World War II. Pre-war residential and commercial developments in the city were revived. The activity at the Lockheed facility during the war prompted additional residential construction. Demands on the aircraft industry at this time resulted in the construction of several aircraft-parts manufacturing plants.

POST-WAR DEVELOPMENT (1946–1965)

As service men and women began arriving home after the war, residential construction became a priority in Burbank. Temporary houses (Quonset huts) were erected, and military barracks were refurbished to serve as residential housing. The U.S. Government chose Burbank as the site to build temporary housing for Japanese Americans returning from internment camps. Residential subdivisions grew exponentially during this time. The Ranch Style and Minimal Traditional Style were common. In anticipation of the demand for electricity, two power plants were constructed in the early 1950s. The city's water system was also expanded during this time.

7.2 REGULATORY SETTING

In general, cultural resources in the State of California are protected by federal, state, and local laws, regulations, and policies. Below is a discussion of the various statutes that pertain to cultural resources in the City of Burbank's planning area.

7.2.1 FEDERAL LAWS

This section summarizes key federal and state regulations and policies that apply to historical, archaeological, and paleontological resources and human remains.

SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations (36 Code of Federal Regulations Part 800, as amended in 1999) requires federal agencies to consider the effects of their actions, or those they fund or permit, on properties that may be eligible for listing or are listed in the NRHP.

The NRHP is a register of districts, sites, buildings, structures, and objects of significance in American history, architecture, archaeology, engineering, and/or culture. The NRHP is administered by the National Park Service. Cultural resources can be significant on the national, state, or local level. Properties may be listed in the NRHP if they are ordinarily 50 years of age and possess integrity of location, design, setting, materials, workmanship, feeling, and association, and if they meet at least one of the following criteria:

(A) are associated with events that have made a significant contribution to the broad patterns of our history;

(B) are associated with the lives of persons significant in our past;

(C) embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess an artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) have yielded, or may be likely to yield, information important in prehistory or history.

Listing in the NRHP does not entail specific protection or assistance for a property, but it does guarantee recognition in planning for federal or federally assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. The NRHP is influential beyond its statutory role because it achieves uniform standards of documentation and evaluation. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

7.2.2 State Laws

California Environmental Quality Act

CEQA is included in the Cultural Resources section because CEQA specifically defines a "historical resource" and explicitly defines when an action would have a "substantial adverse change in the significance of an historical resource." (State CEQA Guidelines Section 15064.5[b]) CEQA includes provisions that specifically address the protection of cultural resources by requiring consideration of impacts of a project on unique archaeological resources and historical resources. A unique archaeological resource, as defined in Public Resources Code (PRC) Section 21083.2(g), is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

- contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

Section 15064.5(a) of the State CEQA Guidelines generally defines a historical resource as:

- a resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR;

- a resource included in a local register of historical resources or identified as significant in a historical resource survey; or
- any other object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant, provided that the lead agency's determination is supported by substantial evidence.

California Health and Safety Code Section 7050

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the contractor or the project proponent shall immediately halt potentially damaging excavation in the area of the burial and notify the County Coroner to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the property owner, contractor or project proponent, and the NAHC-designated Most Likely Descendent shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting on notification of a discovery of Native American human remains are identified in PRC Section 5097.9.

SENATE BILL 18

SB 18 requires that cities and counties contact, and consult with, California Native American tribes before adopting or amending general plans, specific plans, or when designating land as open space. The intent of SB 18 is to establish meaningful consultation between tribal governments and local governments at the earliest possible point in the planning process, to avoid potential conflicts and to allow tribes to manage and act as caretakers of cultural places. A Native American cultural place is defined in PRC Sections 5097.9 and 5097.995 as "any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine" (Section 5097.9), or as "a Native American historic, cultural or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources…including any historic or prehistoric ruins, any burial ground, or any archaeological or historic site" (Section 5097.995).

California Register of Historical Resources

The CRHR includes resources that are listed in or are formally determined eligible for listing on the NRHP, as well as some California State Landmarks and Points of Historical Interest (PRC Section 5024.1, 14 California Code of Regulations, Section 4850). Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (State CEQA Guidelines Section 15064.5[a][2]). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on the importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- 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
- has yielded, or may be likely to yield, information important in prehistory or history.

CALIFORNIA STATE HISTORICAL LANDMARKS

California officially began commemorating sites that convey statewide historic importance of the state in 1932. California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have been determined to have statewide historical significance and meet specific criteria. The resource must also be approved for designation by the county or local jurisdiction, be recommended by the State Historical Resources Commission, and be officially designated by California State Parks. CHLs are automatically listed in the CRHR.

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, technical, religious, experimental, or other value. No historical resource may be designated as both a CHL and a Point of Historical Interest. If a Point of Historical Interest is subsequently granted status as a CHL, the Point designation will be retired. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria. It must be:

- the first, last, only, or most significant of its type in the state or within the local geographic region (city or county);
- associated with an individual or group having a profound influence on the history of the local area;
- a prototype of, or an outstanding example of, a period, style, architectural movement, or construction; or
- one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

7.2.3 REGIONAL AND LOCAL PLANS, REGULATIONS, AND ORDINANCES

CERTIFIED LOCAL GOVERNMENT

In 1996, the City of Burbank was designated as a Certified Local Government (CLG). The CLG program was established under the NHPA for cities throughout the United States and provides a percentage of funding and grants to local governments participating in the program for use in the designation and protection of historic resources (San Buenaventura Research Associates 1999:7).

CITY OF BURBANK HISTORIC PRESERVATION PLAN

The City Council adopted the Historic Preservation Plan in 1999. The goal of the plan was to create guidelines and policies for historic preservation in the city, as well as to establish goals and direction for the City Heritage Commission concerning historic properties (San Buenaventura Research Associates 1999:1). Although a citywide historic resources survey was not conducted as part of the development of the Historic Preservation Plan, the Historic Preservation Plan does contain a short list of properties that were identified as potentially eligible for designation as a Historic Resource.

HISTORIC RESOURCE MANAGEMENT ORDINANCE

In 1994, the City Council adopted the Historic Preservation Ordinance and established the Heritage Commission. In 2011, the Ordinance was comprehensively updated and re-named the Historic Resource Management Ordinance. The Ordinance provides guidance for designating Historic Resources within the city and also discusses the process to alter or remove Historic Resources. Resources listed on the NRHP or the CRHR are automatically designated as Historic Resources and are considered listed on the local register. The Ordinance also outlines the role and responsibility of the Heritage Commission in the preservation process (San Buenaventura Research Associates 1999:6).

In 2012, the City Council adopted a Zone Text Amendment which would enable property owners to apply for Historic District Designation to protect and preserve the character and historic significance of their neighborhoods. Designation a neighborhood as a Historic District is a multi-step discretionary approval process. The approval process requires that the Heritage Commission preliminarily determine that the proposed district is eligible for designation, and that 25% of property owners in the proposed district support preparation of a Historic Resources Survey of each property within the proposed district. Following completion of the Historic Resources Survey, the Heritage Commission would review the survey to determine if the district is eligible for designation. If the Heritage Commission determines that the proposed district is eligible, a petition demonstrating support of 50% +1 of property owners is required for final consideration of the request to form a historic district.

MILLS ACT

The City's Mills Act Program was established in 2010. A Mills Act Contract is an agreement between the City of Burbank and the owner of a qualified historic building/property based on California

Government Code, Article 12, Sections 50280-50290 (Mills Act). This State law, established in 1976, provides for a property tax reduction for owners of qualifying historic properties who agree to comply with certain preservation restrictions and use the property tax savings to help offset the costs to restore, rehabilitate and maintain their historic resource according to the Secretary of the Interior's Standards and the California Historical Building Code. All applications must be reviewed and approved by the City Council for approval. Once executed, the contract is recorded on the property and leads to reassessment of the property the following year.

This page intentionally left blank.

8 ENERGY

8.1 ENVIRONMENTAL SETTING

8.1.1 EXISTING ENERGY USE

As of 2007, California ranked second in total energy consumption of natural gas, petroleum, and retail electricity sales, following only Texas in each category (EIA 2007). Despite being a large consumer of energy, in particular transportation energy, per-capita consumption rate for all these energy sources combined is one of the lowest in the country, and ranks 49th. This is largely because of California's proactive energy efficiency programs and mild weather, which reduces energy demands for heating and cooling (EIA 2010).

The transportation sector makes up the single largest consumer of energy in California, accounting for 41% of the state's total energy demand, and nearly all of this energy is provided by petroleum. Several factors make the state's energy demand for transportation high. For example, Californians have a large number of registered vehicles (the highest in the nation), long average commute times, and a high average rate of VMT. In addition, California has major transportation fuel consumers (i.e., major airports and military installations) (CEC 2007:22).

The high levels of VMT in California are often attributed to the distribution of land uses and development patterns. In Los Angeles County, energy consumption patterns show that county residents consume proportionally more energy for transportation purposes than the rest of the state. This is largely caused by common freeway congestion, long commuting patterns from affordable housing areas to employment centers, low-density development patterns, and automobile dependency (Los Angeles County 2008:146).

In addition, water treatment and distribution are interrelated to the amount of energy produced and used. Large amounts of water are needed to produce energy at power plants, and significant energy is used to treat and transport water to consumers.

8.1.2 EXISTING ENERGY SOURCES

Overall, energy is generated over large areas from many different sources, so tracking the specific source of energy used in any one place can be difficult. Energy that is not generated at a facility by an energy provider can be purchased from other producers and transmitted to the energy user through energy transmission networks. Energy sources used in Burbank include hydroelectric, transformation, geothermal, solar, wind, coal, natural gas, and nuclear. With the exception of the mini transformation power plant at the Burbank Landfill, all of BWP's local electricity generation facilities use natural gas, while remote facilities use a range of coal, nuclear, hydroelectric, and wind-based resources (Baldwin, pers. comm., 2010).

The generating capacity of a unit of energy is expressed in megawatts (MW). One MW provides enough energy to power 1,000 average California homes per day. Net generation refers to the gross amount of energy produced by a unit minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours. The following sections describe the existing sources of energy for Burbank: electricity and natural gas.

ELECTRICITY

Over the past 10 years, electricity generation in California has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, generation of electricity is usually not tied to the location of the fuel source and can be delivered great distances via the electrical grid.

BWP supplies electricity to Burbank. Additional information on BWP's electricity sources and infrastructure is provided below under "Burbank Water and Power."

NATURAL GAS

Natural gas is a hydrocarbon fuel found in reservoirs beneath the earth's surface and is composed primarily of CH_4. It is used for space and water heating, process heating (e.g., smelting, metal melting, creating polymers), and electricity generation, and as transportation fuel. Southern California Gas Company (SoCalGas) supplies natural gas in Burbank. Use of natural gas is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels like oil and coal. In California and throughout the western United Sates, many new electrical generation plants that are fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. As of 2008, 46.5% of the electricity consumed in California was generated using natural gas (CEC 2010). However, it is anticipated that the world's supplies of natural gas are only expected to last about another 50 years, at which time another fuel type will be required. In Burbank, natural gas is used both as an energy source and to generate electricity.

ALTERNATIVE AND RENEWABLE ENERGY SOURCES

Wind Energy

Wind energy systems convert the kinetic energy in the wind into mechanical or electrical energy that can be used for practical purposes. Wind electric turbines generate electricity for homes and businesses and for sale to utilities. Wind electricity can be generated on a small residential scale with small turbines (typically a few kilowatts (kW) or less in capacity, but some as large as 30 kW), or on a utility scale via large wind farms.

Wind energy plays an integral role in California's electricity portfolio. According to the CEC, in 2000, turbines in wind farms in California generated about 1.27% of the state's total electricity resource; enough to light a city the size of San Francisco. Additionally, hundreds of people are using smaller wind turbines to produce electricity for their homes and businesses; however, this amount of energy is not easily quantified.

Solar Energy

Solar power can be harnessed for several applications, including heating and electricity generation. When used to produce energy, the most common method is to use photovoltaic cells, which convert sunlight directly into electricity. Large-scale use of solar energy represents a major potential energy resource because of Burbank's favorable climate. In general, large-scale solar power plants are very land intensive compared to conventional power plants, requiring acres of reflectors, pipelines, and transmission lines. No large-scale solar power plants exist in Burbank, although small-scale solar generation facilities are used on individual buildings.

The State of California has emphasized developing solar-produced energy by developing the California Solar Initiative in 2006. The California Solar Initiative provides incentives to help increase the amount of solar energy generated in California. One such incentive is to encourage solar energy to be used in new homes. The incentive program is known as the New Solar Homes Partnership (NSHP). Overall, the California Solar Initiative has a goal to provide 1,750 MW of solar-generated energy by 2016 (Go Solar California 2010).

Geothermal Energy

Geothermal power uses heat from below the earth's surface to produce electricity or heat buildings and water systems. Geothermal power produces little to no air pollution and is extremely reliable during the lifetime of the power plant. Geothermal applications cover a range of uses, from small-scale geothermal heat pumps used in homes, to large-scale power plants that provide electricity.

Currently, California's capacity to generate geothermal energy is approximately 1,870 MW from resources using dominantly dry steam and liquid. In California, 46 geothermal power plants are widely dispersed from north to south. Most development of these plants has occurred in The Geysers (Lake and Sonoma counties), the Salton Sea (Imperial County), and Coso Hot Springs (Inyo County) Known Geothermal Resource Areas (CEC 2005a:1). Geothermal direct use projects generally have less intensive environmental effects than electrical generating projects. There are no known geothermal resource areas in Burbank (CEC 2005b).

Transformation

Transformation projects (also known as resource recovery projects or "waste-to-energy" development) convert agricultural and municipal wastes, respectively, to fuel or electricity. The primary reason for most transformation projects is to dispose of wastes, and the energy produced is a useful byproduct to offset disposal costs. Systems to recover landfill gas and methane fermentation projects both produce methane gas, which can be burned in a gas turbine to generate electricity. Methane gas can be recovered from landfills and sewage treatment plants and converted to electricity.

Direct combustion projects, where agricultural refuse or municipal solid waste is burned to generate electricity, have greater environmental impacts and are usually more controversial than methane-producing projects. Transformation technologies are still relatively new to California. Transformation plants have been proposed statewide as a solution to the state's diminishing landfill capacity. Proposals throughout the state have sparked public opposition over issues regarding odor, toxic wastes, air pollutant emissions, noise, and traffic.

In 2001, BWP opened a mini power plant at the Burbank Landfill that used 10 microturbines to generate 300 kW of renewable energy (enough to power 250 homes) using gases from the landfill. Since that time, BWP has installed another microturbine capable of generating an additional 250 kW, for a total of 550 kW of energy from transformation energy sources. Between these 11 microturbines, enough energy is generated to supply approximately 500 homes with energy (BWP 2010a).

8.1.3 ENERGY SERVICE PROVIDERS

BURBANK WATER AND POWER

Electricity Generation Facilities

BWP generates approximately 40% to 50% of the City's electricity demand at its own facilities, and it purchases the remaining 50% to 60% either from long-term firm resources or on the open spot market (a market for instantly purchasing surplus energy from producers). The City owns two power plants, the Olive Power Plant and the Lake One Power Plant. The Olive Power Plant has two operating units, capable of generating up to 99 MW of electricity, combined. The Lake One Power Plant can generate up to 46 MW of electricity. BWP also owns a 31% share of the Magnolia Power Plant, a Southern California Public Power Authority (SCPPA) project, which has a base capacity of 242 MW, but can boost generation up to 310 MW if needed (BWP 2010b:24). Other participants in the Magnolia Power Plant are the cities of Anaheim, Cerritos, Colton, Glendale, and Pasadena (SCPPA 2008). BWP's share of electricity generated ranges between 75MW and 96 MW of electricity. The Magnolia Power Plant is located on three acres in Burbank and is operated by BWP staff (SCPPA 2008). In addition to these facilities, BWP operates a mini power plant at the Burbank Landfill that transforms landfill gases into 550 kW of electricity (BWP 2010a).

BWP also has partial ownership and firm contracts for energy from sources outside the city. BWP has a 16% ownership interest in the Hoover Uprating Project at Hoover Dam, which provides 15 MW of electricity; a 4.4% ownership interest in the Palo Verde Project, a 3,810 MW nuclear plant near Phoenix, Arizona that provides 9.7 MW to BWP; and a 3.371% ownership interest in the Intermountain Power Project, a 1,800 MW generating plant in Utah that provides 60 MW to BWP. BWP has a contract to allow for an additional 14 MW (or 0.797%) of electricity if not used by other energy purchasers participating in the project (BWP 2010b:24-25).

BWP's overall annual electricity supply is shown below in Table 8-1. In total, 1,222,400 MWhs were supplied to BWP by its various energy sources, including the contracts described above.

Table 8-1
Burbank Water and Power Annual Electric Supply

Resource	MWh	% of BWP Supply
Intermountain Power Project (coal)	541,600	44.3
Hoover Uprating (hydro)	19,600	1.6
Palo Verde Nuclear	78,400	6.4
Magnolia Power Project (natural gas)	473,600	38.7
Firm and Non-Firm Contracts	38,900	3.2
On-Site Generation (natural gas)	16,500	1.3
Renewable Sources	53,800	4.4
Total	1,222,400	100

Note: BWP = Burbank Water and Power; MWh = megawatt-hours.
Source: BWP Annual Report, 2009-2010, Schedule 1, page 29 (BWP 2010b)

Electricity Transmission and Distribution Facilities

The electricity generated outside of the city is provided to Burbank by an extensive transmission and distribution system. This electricity is purchased and then delivered to the city via connections to the Los Angeles Department of Water and Power (LADWP) and Glendale power systems. In particular, electricity being delivered through these systems is delivered through Receiving Station E or Western Receiving Station. In total, eight 69-kilovolt (kV) tie stations provide connections from outside systems to BWP's system, including six connecting to Receiving Station E and two to Western Receiving Station. In addition to these facilities, the city contains 5 switching stations, 12 distributing stations, and 11 industrial/commercial customer stations located within Burbank. From these facilities, electricity is distributed to BWP customers. BWP has not identified any major needs for new or updated electricity infrastructure through 2025. The City's capital improvement plan identifies needed improvements to BWP infrastructure.

Existing Electricity Demand

In the 2009-2010 fiscal year, BWP had 51,818 electricity customers, including 44,833 residential customers, 6,786 commercial/other customers, and 199 industrial customers of various user types (BWP 2010b:29). During that same period, there was a peak demand of 285 MW (BWP 2010b:29). Total annual consumption during that period is shown in Table 8-2, below.

Table 8-2 Annual Consumption by User Type (2009-2010)		
Land Use/User Type	**mWh (in thousands)**	**% of Total Consumption**
Residential	277	24.4
Commercial/Other[1]	323	28.4
Industrial	536	47.2
Total	**1,136**	**100**

Notes: mWh = megawatt-hours
[1] Other includes schools, streetlighting, and miscellaneous uses
Source: BWP Annual Report, 2009-2010 (BWP 2010b) as compiled by AECOM 2012

As shown in Table 8-2, industrial users account for nearly half (47.2%) of all the electricity consumed by BWP customers. This is followed by commercial and other users' (e.g., schools, streetlighting, municipal pumping, and traffic lights) energy use, with 28.4% of the total demand, and by residential users, with 24.4% of the total demand.

SOUTHERN CALIFORNIA GAS COMPANY

In Burbank, natural gas is provided by SoCalGas, which is owned by Sempra Energy. Sempra Energy also owns San Diego Gas and Electric (SDG&E). The SoCalGas territory covers approximately 20,000 square miles from San Luis Obispo and Visalia in the north to the Mexican border, with the exception of San Diego County. Natural gas services are provided to residential, commercial, industrial, utility electric generation companies, such as BWP, and wholesale customers. SoCalGas has 5.7 million meters and covers 20.5 million people (Sempra Energy 2008:3).

In 2008, SoCalGas had 344 billion cubic feet in natural gas sales, including 240 billion cubic feet for residential customers and 104 billion cubic feet for commercial and industrial customers (Sempra Energy 2008:15). Table 8-3 shows municipal, non-residential, and residential natural gas consumption in Burbank for the three year period ending 2009.

Table 8-3 Annual Natural Gas Consumption by User Type (2007-2009)			
	2007 (Therm)	**2008 (Therm)**	**2009 (Therm)**
Municipal Usage	103,874,258	112,486,717	112,186,214
Non-Residential Usage	11,463,909	11,397,564	10,909,020
Residential Usage			
Single- Family	14,269,878	14,153,485	13,836,140
Multi-Family	2,515,940	2,402,437	2,303,508

Note: This includes the Magnolia Power Plant and the City of Burbank has a 31% share of the Plant.
Source: Tou, pers. comm., 2010

8.2 REGULATORY SETTING

8.2.1 FEDERAL POLICIES AND LAWS

U.S. CONGRESS

Beginning in the late 1990s, Congress introduced a tax subsidy on the production of renewable wind-generated electricity. The availability, the expiration, and the potential extension of the Production Tax Credit (PTC) caused the boom and bust production of energy that typifies wind development in the United States. The PTC's limitations have determined the role of the wind energy industry in the United States and contributed to the dominance of electric utility subsidies.

Congress also periodically directs federal agencies to use increasing amounts of renewable energy or otherwise aid private companies in developing wind energy. One example is the Department of Energy's Wind Powering America initiative which, among other tasks, has created Wind Working Groups in each state with a wind resource.

National Energy Act

The National Energy Act of 1978 was a legislative response by the U.S. Congress to the 1973 energy crisis. It includes the following statutes:

- Public Utility Regulatory Policies Act (Public Law 95-617)
- Energy Tax Act (Public Law 95-318)
- National Energy Conservation Policy Act (NECPA) (Public Law 95-619)
- Power Plant and Industrial Fuel Use Act (Public Law 95-620)
- Natural Gas Policy Act (Public Law 95-621).

Some of the more notable legislative acts are discussed below.

Public Utility Regulatory Policies Act

The Public Utility Regulatory Policies Act was passed by Congress in 1978 as part of the National Energy Act to promote greater use of renewable energy. This law created a market for nonutility electric power producers to permit independent power producers to connect to their lines and to pay for the electricity that was delivered. Although a federal law, implementation was left to the states and a variety of regulatory regimes developed; virtually nothing was done in many states.

Energy Tax Act

The Energy Tax Act (Public Law 95-318) was also passed by Congress in 1978 as part of the National Energy Act. It was a response to the 1973 oil crisis and promoted fuel efficiency and renewable energy through taxes and tax credits.

National Energy Conservation Policy Act

The National Energy Conservation Policy Act (NECPA) of 1978 (Public Law 95-619) is a U.S. statute signed into law as part of the National Energy Act. NECPA requires utilities to provide residential consumers with energy conservation audits and other services to encourage slower growth of electricity demand. NECPA was amended in 1985 by the Energy Policy and Conservation Act Amendments of 1985 (Public Law 99-58).

U.S. Department of Energy

The United States Department of Energy is responsible for energy policy and nuclear safety. Its purview includes the nation's nuclear weapons program, nuclear reactor production for the United States Navy, energy conservation, energy-related research, radioactive waste disposal, and domestic energy production. Many of these activities are funded through the Department of Energy's system of national laboratories.

Federal Energy Management Program

The Department of Energy's Federal Energy Management Program works to reduce the cost and environmental impact of the federal government by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at federal sites.

Energy Policy Act

The Energy Policy Act of 1992, recent executive orders, and presidential directives require federal agencies to meet a number of energy and water management goals, among other requirements. For example, federal agencies must reduce their energy use by 35% by 2010 in comparison to 1985 levels. Federal agencies rely on effective coordination and sound guidance to help meet this requirement. The Federal Energy Management Program reports agencies' progress annually, manages interagency working groups, and offers policy guidance and direction

The Energy Policy Act of 2005 (House Resolution [HR] 6), was signed into law by President Bush on August 8, 2005. The Energy Policy Act established a number of federal agency goals for federal facilities and fleets and amended portions of the NECPA. The Act set federal energy management requirements for metering and reporting, energy-efficient product procurement, energy savings performance contracts, building performance standards, renewable energy requirements, and alternative fuel use (DOE 2010).

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) regulates and oversees energy industries in the economic, environmental, and safety interests of the American public. FERC is the U.S. federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, and oil pipeline rates. FERC also reviews and authorizes liquefied natural gas terminals, interstate natural gas pipelines and nonfederal hydropower projects. Electricity is run by the states; however, FERC has jurisdiction over certain matters (FERC 2009).

8.2.2 STATE PLANS, POLICIES, AND LAWS

CALIFORNIA ENERGY COMMISSION

Established in 1974 by the Warren-Alquist Act (Public Resources Code Section 25000 et.seq.), CEC is the state's primary energy policy and planning agency. The CEC has five major responsibilities:

1. forecasting future energy needs and keeping historical energy data,
2. licensing thermal power plants 50 megawatts or larger,
3. promoting energy efficiency through appliance and building standards,
4. developing energy technologies and supporting renewable energy, and
5. planning for and directing the state response to an energy emergency.

SB 1037, signed into law in September 2005, mandates that all publicly owned utilities (POUs), including BWP, report to the CEC on cost-effective and feasible energy efficiency programs. Assembly Bill 2021 was chaptered in 2006 and built upon SB 1037, further requiring POUs to develop energy efficiency targets on a triennial basis. The CEC is authorized to set targets for all municipal utilities. POUs do not report to the California Public Utilities Commission, which oversees investor-owned utilities.

CALIFORNIA PUBLIC UTILITIES COMMISSION

The California Public Utilities Commission has authority to set electric rates, regulate natural gas utility service, protect consumers, promote energy efficiency, and ensure electric system reliability. The California electricity market, regulated by the California Public Utilities Commission, serves 10.48 million customers with 32,347 miles of transmission lines and 239,112 miles of distribution lines for a total economic value of $17.8 billion.

California Public Utilities Commission General Order 131-D (adopted by Decision 94-06-014 and modified by Decision 95-08-038) contains the rules for the planning and construction of new transmission facilities, distribution facilities, and substations. This decision requires utility companies to obtain permits to construct certain power line facilities or substations if the voltage would exceed 50 kV or if the substation would require the acquisition of land or an increase in voltage rating above 50 kV. Utilities do not need to comply with this decision for distribution lines and substations with voltage less than 50 kV; however, they must obtain any nondiscretionary local permits required for the construction and operation of these projects. Compliance with CEQA is required for construction of facilities. The California Public Utilities Commission also has jurisdiction over the siting of natural gas transmission lines.

CALIFORNIA POWER AUTHORITY

The California Power Authority provides taxable municipal bond financing for the construction of new generation projects to meet the state's energy needs and to maintain healthy electricity reserves. The California Power Authority is authorized to issue up to $5 billion in revenue bond financing for renewable, peaking, and base load generation projects, as well as conservation and energy efficiency measures.

RENEWABLE PORTFOLIO STANDARD

California's Renewable Portfolio Standard (RPS), established in 2002 by SB 1078 (Sher, Chapter 516, Statutes of 2002), originally required retail electricity providers to procure at least 1% of their electricity supplies from renewable resources to achieve a 20% renewable mix by no later than 2017. Since then, the CEC, the California Public Utilities Commission, and the California Power Authority approved the first Energy Action Plan (EAP) in 2003, which accelerated the 20% target date to 2010. A second EAP was adopted in 2005, which provided updates in energy policy. SB 107 (Smitian and Perata, Chapter 464, Statutes of 2006) adopted the revised 2010 target date into law. A third EAP update was adopted in 2008, which "examines the state's ongoing actions in the context of global climate change" (CEC 2009). Executive Order S-14-08 expands the state's Renewable Energy Standard to 33% renewable power by 2020.

8.2.3 REGIONAL AND LOCAL PLANS

BURBANK WATER AND POWER RENEWABLE PORTFOLIO STANDARD

BWP adopted a renewable portfolio standard on June 5, 2007 with the goal of increasing procurement of electricity from eligible renewable resources to achieve a portfolio level of 33% by 2020 (BWP 2007).

2006 INTEGRATED RESOURCE PLAN ELECTRIC SYSTEM

BWP prepared an updated Integrated Resource Plan (IRP) to provide safe, reliable, and low-cost energy services to its customers. The IRP addresses BWP's responses to future changes in loads, its approach to maintaining competitive power rates, and its efforts to support energy conservation and increase the portion of renewable energy in its energy portfolio (BWP 2006).

9 GEOLOGY AND SOILS

9.1 ENVIRONMENTAL SETTING

9.1.1 TOPOGRAPHY

Burbank occupies a broad inland valley rising to the foothills of the Verdugo Mountains. The Verdugo Mountains are part of the Transverse Ranges of southern California and form the eastern boundary of the San Fernando Valley and southern part of the Crescenta Valley. Elevations in Burbank range from 500 feet to over 1,000 feet in the foothills of the Verdugo Mountains.

9.1.2 GEOLOGY

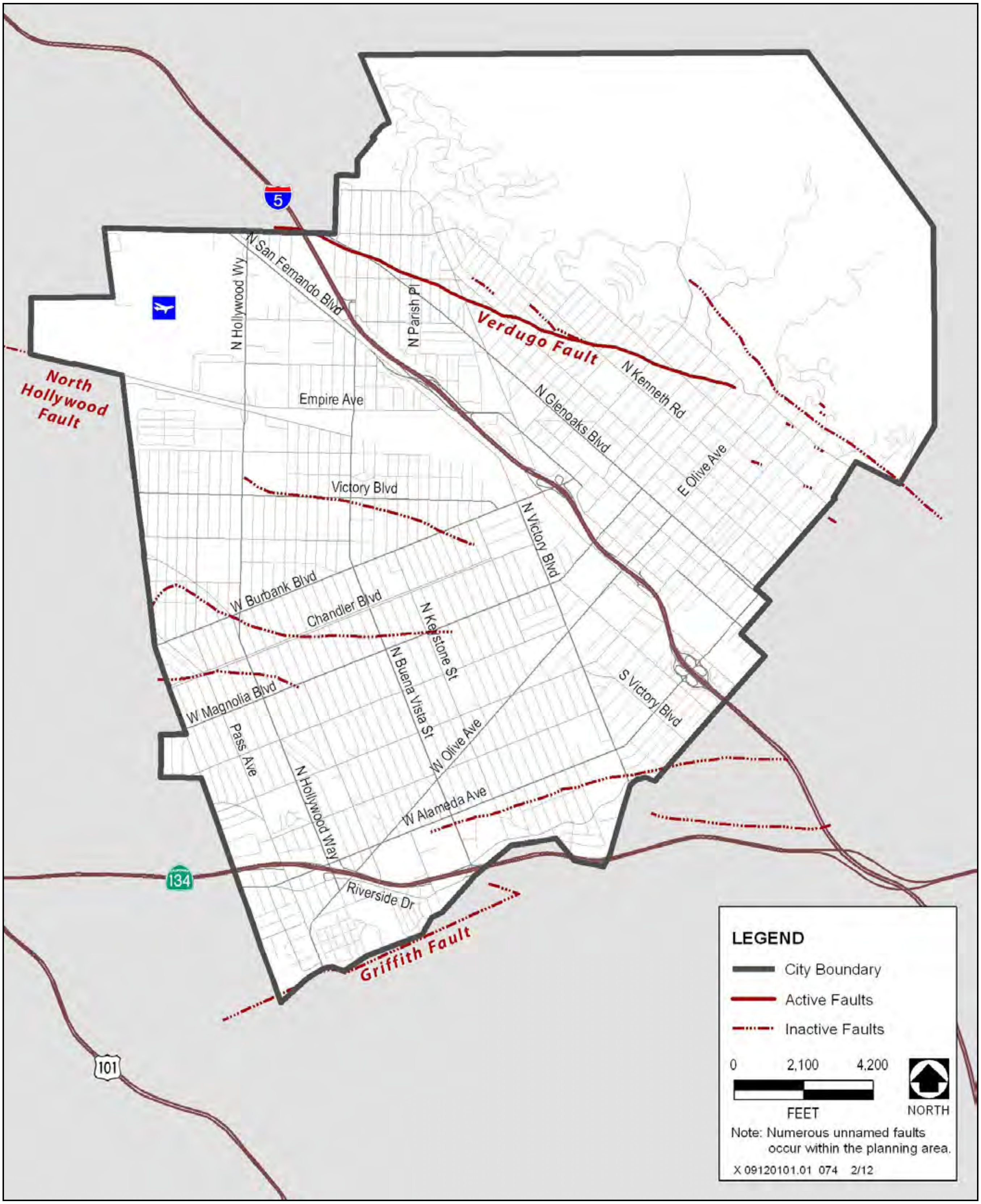
Geologic structure and layers within the planning area differ greatly depending on location. The Verdugo Mountains comprise metamorphic and igneous basement rocks of lower cretaceous to pre-Cambrian age. A thin soil mantle that varies in depth throughout the mountains generally overlies these basement rocks. The valley floor generally consists of a deep layer of unconsolidated alluvium of recent (Quaternary) age, which comprises clays, silts, sands, and gravels that include both floodplain and streambed deposits.

9.1.3 SEISMICITY AND FAULTING

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is fault ground rupture, also called surface faulting. Common secondary seismic hazards include ground shaking, liquefaction, and subsidence. Each of these potential hazards is discussed below. Burbank, like the rest of southern California, is located in a seismically active region because of its proximity to numerous major fault zones. Figure 9-1 shows the planning area relative to mapped active and potentially active faults in southern California.

SEISMIC GROUND SHAKING

Ground shaking (i.e., motion that occurs as a result of energy released during faulting) could potentially result in the damage or collapse of buildings and other structures, depending on the magnitude of the earthquake, the location of the epicenter, and the character and duration of the ground motion. The characteristics of the underlying soil and rock and, where structures exist, the building materials used and the workmanship of the structures are important details when considering the potential environmental impacts of a proposed project.



Source: Data provided by City of Burbank in 2010 and adapted by AECOM in 2010

Faults Diagram **Figure 9-1**

Earthquake magnitude is generally measured on a logarithmic scale known as the Richter scale. This scale describes a seismic event in terms of the amount of energy released by fault movement. Because the Richter scale expresses earthquake magnitude (M) in scientific terms, it is not readily understood by the general public. On the other hand, the Modified Mercalli intensity scale describes the magnitude of an earthquake in terms of actual physical effects. Table 9-1 compares the Modified Mercalli intensity scale to the Richter scale.

Table 9-1
Earthquake Magnitude and Intensity Comparison

Descriptor	Richter Magnitude		Modified Mercalli Index Intensity—Description
Not Felt	<3.0	I.	Not felt except by a very few under especially favorable circumstances (I Rossi-Forel scale).
	3.0–3.9	II.	Felt only by a few persons at rest, especially on upper floors of high-rise buildings. Delicately suspended objects may swing.
		III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibration like passing of truck. Duration estimated.
Light	4.0–4.9	IV.	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like a heavy truck striking a building. Standing automobiles rocked noticeably.
Moderate		V.	Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
Strong	5.0–5.9	VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved, few instances of fallen plaster and damaged chimneys. Damage slight.
Very Strong		VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.
Severe	6.0–6.9	VIII.	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.
Violent		IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
Extreme	7.0–7.9	X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.
		XI.	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
	8.0 and higher	XII.	Damage total. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown into air.

Source: USGS 2010

FAULT GROUND RUPTURE

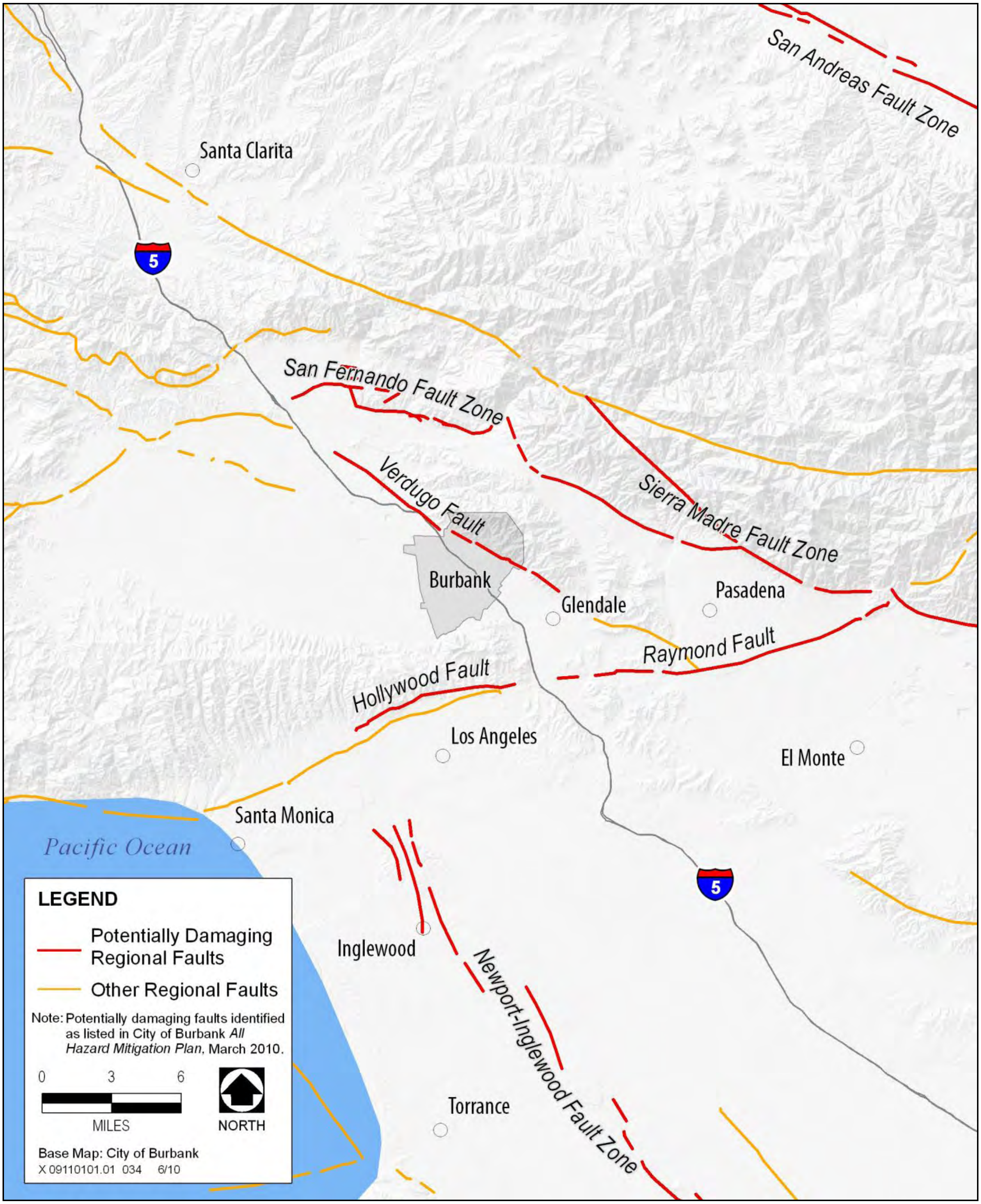
Surface rupture is an actual cracking or breaking of the ground along a fault during an earthquake. Structures built over an active fault can be torn apart if the ground ruptures. Surface ground rupture along faults is generally limited to a linear zone a few yards wide. The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was created to prohibit the location of structures designed for human occupancy across the traces of active faults (lines of surface rupture), thereby reducing the loss of life and property from an earthquake. Burbank is not located within an Alquist-Priolo Earthquake Fault Zone (CGS 1999). While the Verdugo Fault Zone is considered a surface rupture hazard by the California Geological Survey (CGS) and the U.S. Geological Survey (USGS), this fault has not been recognized as an active fault under the Alquist-Priolo Act (ESCI EnviroServices 2007:2–17).

An earthquake on the San Andreas Fault has the greatest probability of occurring within the next 100 years. Studies of this fault indicate that the effect of an M 7.5 earthquake on most cities in the Los Angeles Basin would not be catastrophic; however, major damage would occur in isolated areas depending on many factors. While the San Andreas Fault is one of the most widely known faults in the region, other faults closer to the city are capable of generating an earthquake with greater potential effects (ESCI EnviroServices 2007:2–17). The major known faults in the region with potential to cause damage in the planning area are discussed below (ESCI EnviroServices 2007:2–17; City of Burbank 1997:37–39) and are shown on Figure 9-2.

Verdugo Fault. The Verdugo Fault traverses the planning area in alluvium just south of the Verdugo Mountains. The fault has been mapped on the surface in northeastern Glendale and at various locations in Burbank. A low probability exists (6.2%) that this fault would deliver an M 6.7 “maximum credible earthquake,” which is the largest earthquake that can reasonably be expected in the next 100 years. The intensity of the maximum credible earthquake within the next 100 years would result in destroying most masonry and frame structures located on or next to the fault. Underground pipelines would be damaged, large landslides could occur, well-built bridges would be destroyed. Much of Downtown Burbank could be destroyed if a quake of this magnitude should occur on this fault (City of Burbank 2010:182).

San Fernando Fault. This fault is located northwest of the planning area. It caused the 1971 San Fernando Earthquake. A moderate probability exists (39%) that this fault would deliver an M 6.5 earthquake within the next 100 years. This fault is classified as active and damage from an earthquake along this fault is expected to be moderate and probably less than the 1971 earthquake, because the quality of construction has improved since then (City of Burbank 2010:181).

Sierra Madre Fault. This fault extends along the base of the San Gabriel Mountains between Sunland and La Cañada-Flintridge. A very low probability (2.5%) exists that this fault would deliver a maximum credible earthquake of M 6.4 within the next 100 years. The principal hazard to the planning area would be ground shaking (City of Burbank 2010:181).



Source: Data provided by City of Burbank in 2010 and adapted by AECOM in 2010

Major Regional Faults **Figure 9-2**

Hollywood Fault. This fault is a reverse fault and therefore would result in a maximum credible earthquake that would have higher than anticipated accelerations and intensities. An earthquake on this fault would affect the southern part of the planning area. The fault could generate an M 6.4 earthquake within the next 100 years; however, the probability is low (6.2%). Midrise and high-rise buildings in the Media District would be exposed to the effects of site amplification (i.e., an increase in the seismic signal amplitude within some frequencies resulting from propagation through, for example, crust, topography, earth materials at the site, and bedrock and alluvium contact). The seismic intensities drop gradually across the City to the northwest (City of Burbank 2010:182). This is a separate fault from the North Hollywood Fault shown on Figure 9-1.

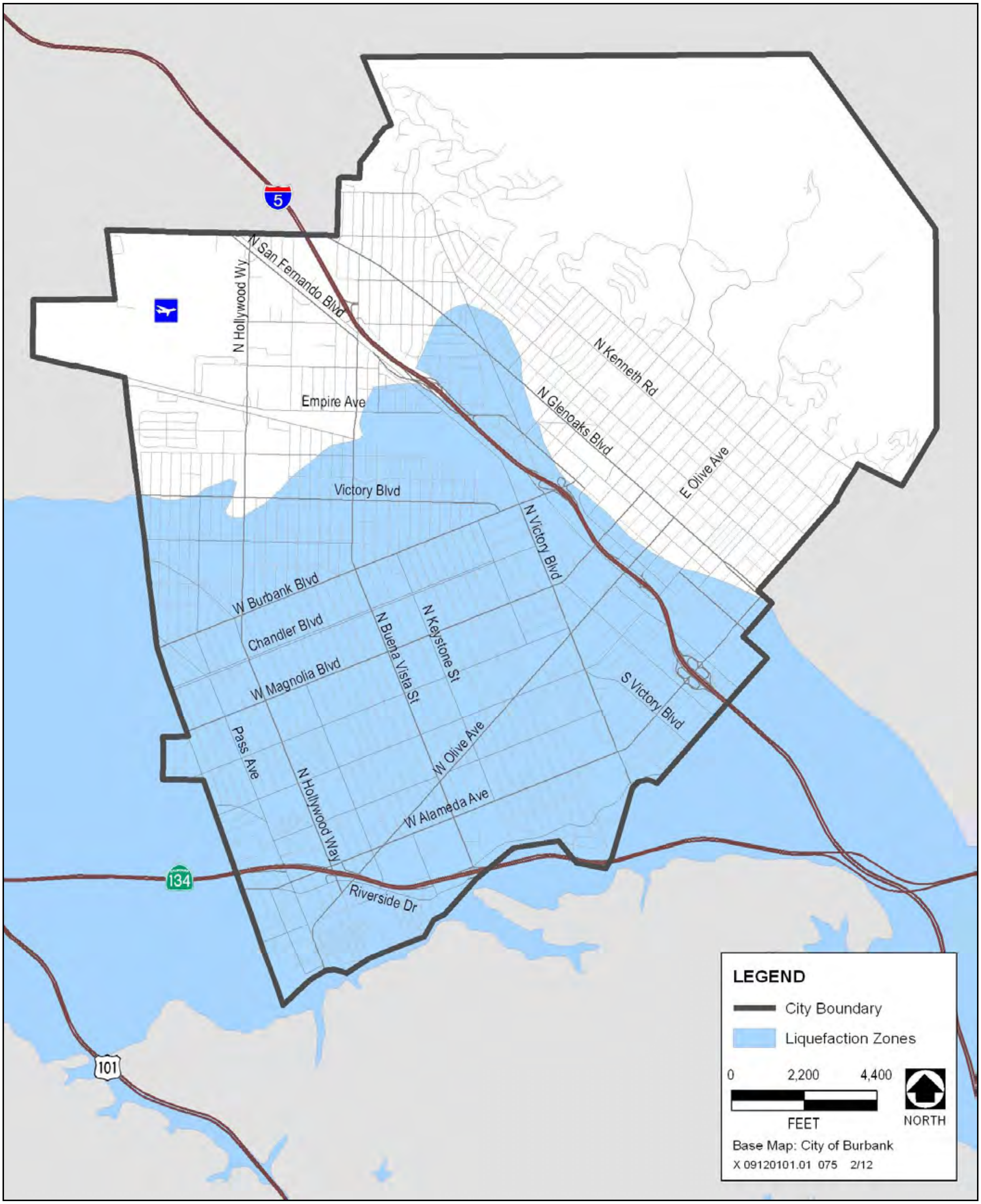
Newport-Inglewood Fault. This fault is considered the second most active fault in California, and is located approximately 12.5 miles southwest of the Burbank Civic Center. Surface trace is discontinuous in the Los Angeles Basin, but the fault zone can easily be noted by the existence of a chain of low hills extending from Culver City to Signal Hill. South of Signal Hill, the fault roughly parallels the coastline until just south of Newport Bay, where it heads offshore and becomes the Newport-Inglewood-Rose Canyon Fault zone. The fault could produce earthquakes in the range of M 6.3 to 7.5 (City of Burbank 2010:181).

Raymond Fault. This fault is located six miles from the Burbank Civic Center. A low probability exists (3.1%) that this fault would deliver a maximum credible earthquake of M 7.5 within the next 100 years (City of Burbank 2010:182).

LIQUEFACTION

Liquefaction is one of the most destructive secondary effects of seismic shaking. Liquefaction results from the loss of soil strength caused by a sudden increase in pore water pressure during shaking. Liquefaction occurs primarily in saturated and loose, fine-to-medium-grained soils, in areas where the groundwater table is 50 feet or less below the surface. Liquefaction occurs most often where groundwater is within 30 feet of the surface, but it may occur in areas where the groundwater is up to 50 feet beneath the surface. High pore pressures that build up in sediments during repeated seismic vibrations cause the soil to behave as a liquid. The excess pore pressures are often pushed upward through fissures and soil cracks, which causes water-soil slurry to bubble onto the ground surface.

The CGS Seismic Hazard Zones maps delineate areas within the planning area and adjacent areas that are susceptible to liquefaction (see Figure 9-3). In general, all of the planning area located west of I-5 is underlain by recently deposited sediments that may include potentially liquefiable layers. If groundwater levels in this area rise to within 50 feet of the ground surface, the sediments would have a moderate to high susceptibility to liquefaction. The highest water levels recorded in the San Fernando Valley were measured in 1944 after unusually high rainfall rates in 1941, 1943 and 1944, resulting in a water table level within 50 feet of the ground surface in the area of Burbank, west of I-5. In the last 50 years, however, regional groundwater table levels have dropped in response to the increased volume of water



Source: CGS 1999, City of Burbank 2010, CASIL 1990

Liquefaction Zones **Figure 9-3**

extracted from wells. A 1993 map of groundwater contours for the upper Los Angeles River area shows that in most of Burbank the water table is more than 100 feet deep (City of Burbank 1997:56). The only exception is along the southwestern portion of the city, near SR 134, where the groundwater was measured at about 50 to 60 feet below the ground surface. Therefore, as long as groundwater continues to be extracted in the upper Los Angeles River area and the area does not experience a series of unusually high rainfall years, groundwater levels in Burbank can be expected to remain at or deeper than 50 feet, with a resultant low to very low risk from liquefaction for most of the planning area (City of Burbank 1997:56).

The presence of laterally extensive layers of loose, fine-to-medium-grained soils in a seismically active area, combined with the potential for the soil to be saturated, creates a large potentially liquefiable area in the planning area. Although groundwater levels are generally declining in the planning area, the recognized liquefaction-prone areas of the planning area and beyond are identified for planning purposes.

EARTHQUAKE-INDUCED LANDSLIDES

A landslide is the downhill movement of masses of earth material under the force of gravity. Factors contributing to landslide potential are steep slopes, unstable terrain, and proximity to earthquake faults. This process typically involves the surface soil and an upper portion of the underlying bedrock. Movement may be very rapid, or so slow that a change of position can be noted only over a period of weeks or years. The size of a landslide can range from several square feet to several square miles.

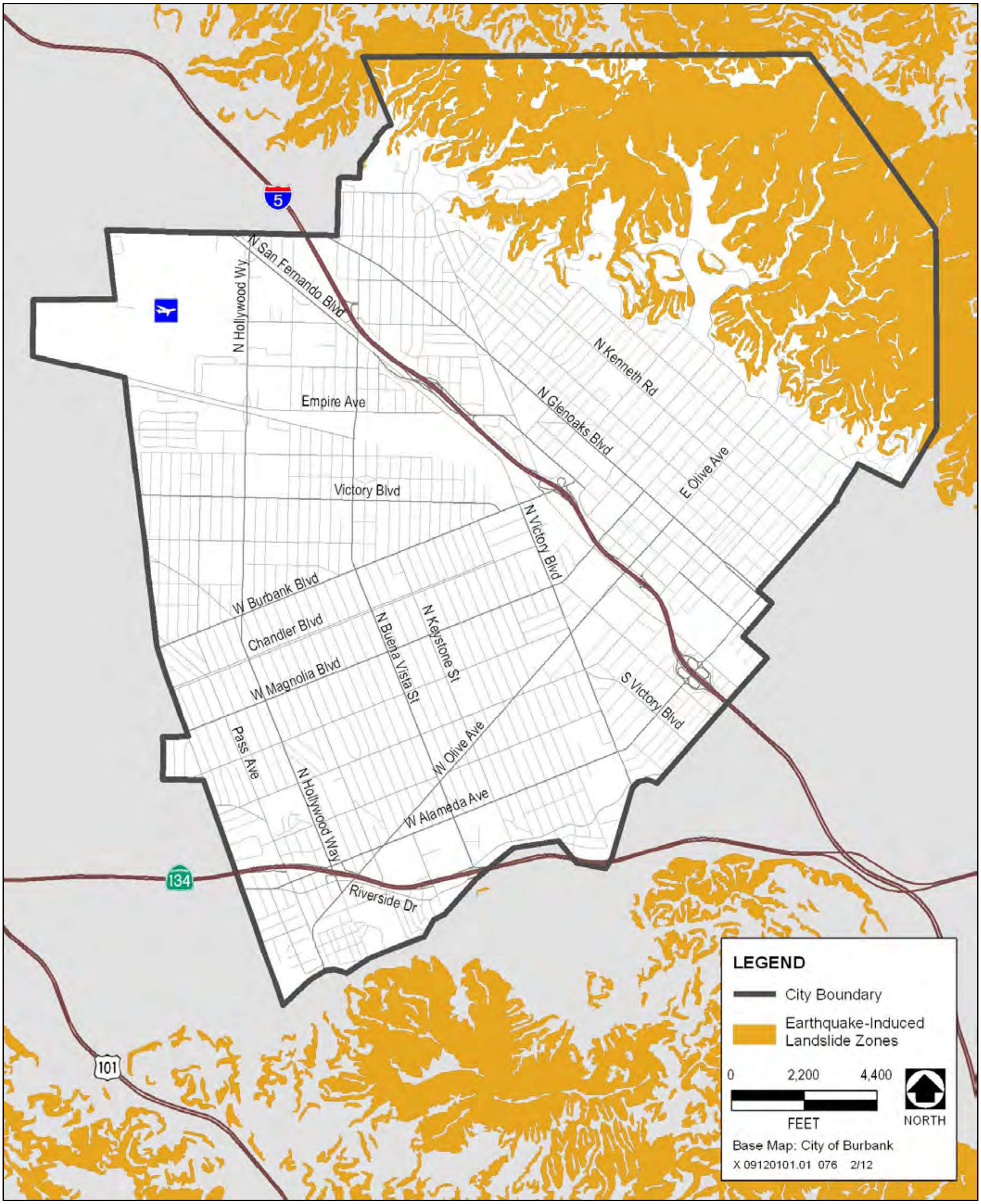
Flows consist of rivers of rock, earth, and other debris saturated with water. Landslides develop when water rapidly accumulates in the ground during heavy rainfall, changing the earth into a flowing river of mud or "slurry." Landslides can strike with little or no warning at avalanche speeds. The potential for mudslides exists in the hillside portions of the planning area during heavy rains, especially in areas recently affected by fire.

Within the Burbank city limits, hazards from landslides and mudslides are limited to properties at the base of undeveloped or unimproved slopes in the Verdugo Mountains, north of Sunset Canyon Drive. Figure 9-4 illustrates areas at risk of earthquake-induced landsliding.

9.1.4 SOILS

SOILS EROSION

Erosion is a normal and inevitable geologic process whereby earth materials are loosened, worn away, decomposed, or dissolved and are removed from one place and transported to another location. Precipitation, running water, waves, and wind are all agents of erosion. Ordinarily, erosion proceeds so slowly as to be imperceptible, but when the natural equilibrium of the environment is changed, the rate of erosion can be greatly accelerated, which can create both aesthetic and engineering problems. Within



Source: CGS 1999, City of Burbank 2010, CASIL 1990

Landslide Zones **Figure 9-4**

the planning area, opportunities for accelerated erosion include the steepening of slopes, removing groundcover, and other human-induced activities associated with construction and landscaping. For example, hillside construction often requires land grading activities that can result in steeper slopes, which are more prone to soil erosion. Land preparation for construction can also remove ground cover exposing soils to wind erosion. Accelerated erosion within an urban area can cause damage by undermining structures; blocking storm sewers; and depositing silt, sand, or mud in roads and tunnels. Eroded materials are eventually deposited into coastal waters where the carried silt remains suspended for some time, constituting a pollutant and altering the normal balance of plant and animal life.

EXPANSIVE AND COLLAPSIBLE SOILS

Expansive soils consist largely of clays, which greatly increase in volume when saturated with water and shrink when dried. Because of this effect, building foundations may rise during the rainy season and fall during the dry season. If this expansive movement varies underneath different parts of a single building, foundations may crack, structural portions of the building may be distorted, and doors and windows may become warped so that they no longer function properly. The potential for soil to undergo shrink and swell is greatly enhanced by the presence of a fluctuating, shallow groundwater table. Changes in the volume of expansive soils can result in the consolidation of soft clays after the lowering of the water table or the placement of fill.

The volume of collapsible soils reduces when the pore spaces in the soil become saturated, causing loss of grain-to-grain contact and possibly dissolving interstitial cement holding the grains apart. Collapsible soils can cause uniform or differential damage to foundations and walls built on this soil type.

Currently, no citywide soil report or data exists; therefore, expansive and collapsible soils will be analyzed on a project-by-project basis.

9.2 REGULATORY SETTING

9.2.1 FEDERAL LAWS

EARTHQUAKE HAZARDS REDUCTION ACT

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and USGS.

9.2.2 STATE REGULATIONS AND LAWS

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Act (Public Resources Code Sections 2621–2630) was passed in 1972 to mitigate the hazard of surface faulting to structures designed for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. To aid agencies responsible for approving projects, the Alquist-Priolo Act requires the CGS to establish regulatory zones known as Earthquake Fault Zones around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning efforts. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

SEISMIC HAZARDS MAPPING ACT

The 1990 Seismic Hazards Mapping Act (SHMA) (Public Resources Code Sections 2690–2699.6) addresses hazards such as strong ground shaking, earthquake-induced landslides, and, in some areas, zones of amplified shaking. The act established a mapping program for areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake and geologic hazards. CGS is the primary state agency charged with implementing the SHMA and provides local jurisdictions with the seismic hazard zone maps that identify areas susceptible to liquefaction, earthquake-induced landslides, and amplified shaking. Site-specific hazard investigations are required by the SHMA when a development project is located within one of the Seismic Hazard Mapping Zones defined as a zone of required investigation. The law also specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

NATURAL HAZARDS DISCLOSURE ACT

The Natural Hazards Disclosure Act (effective June 1, 1998), requires "that sellers of real property and their agents provide prospective buyers with a 'Natural Hazard Disclosure Statement' when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone." The SHMA specifies two ways in which this disclosure can be made:

1. The Local Option Real Estate Transfer Disclosure Statement as provided in Section 1102.6a of the California Civil Code.

2. The Natural Hazard Disclosure Statement as provided in Section 1103.2 of the California Civil Code.

The Local Option Real Estate Disclosure Statement can be substituted for the Natural Hazards Disclosure Statement if it contains substantially the same information and substantially the same warning as the Natural Hazards Disclosure Statement. Both the Alquist-Priolo Act and the SHMA require that real estate agents, or sellers of real estate acting without an agent, disclose to prospective buyers that the property is located in an Alquist-Priolo Earthquake Fault Zone or Seismic Hazard Mapping Zone.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The California Building Standards Commission (BSC) is responsible for coordinating, managing, adopting, and approving building codes in California. The 2010 California Green Building Standards Code (CBC) became effective on January 1, 2011, and updated all the subsequent codes under the California Code of Regulations (CCR) Title 24 (24 CCR). The City of Burbank has adopted the 2010 CBC. The State requires local governments to adopt Title 24 on a triennial basis. The State also provides minimum standards for building design through the 2010 CBC (24 CCR). Where no other building codes apply, Chapters 16, 17, 18, 20, and 21 of the 2010 CBC regulates excavation, foundations, and retaining walls.

The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. The previous 2007 CBC replaced the previous “seismic zones” (assigned a number from 1 to 4, where 4 requires the most earthquake-resistant design) with new Seismic Design Categories A through F (where F requires the most earthquake-resistant design) for structures designed for a project site. With the shift from seismic zones to seismic design, the CBC philosophy has shifted from “life safety design” to “collapse prevention,” meaning that structures are designed for prevention of collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site. Chapter 16 of the CBC specifies how each seismic design category is to be determined through site-specific soil characteristics and proximity to potential seismic hazards.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls by requiring preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. Chapter 18 also regulates analysis of expansive soils and the determination of depth to the groundwater table. For Seismic Design Category C, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading. For Seismic Design Categories D, E, and F, Chapter 18 requires these same analyses plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. Chapter 18 also requires addressing the mitigation measures to be considered in structural design. Mitigation measures may include ground stabilization, selection of appropriate foundation types and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. Peak ground acceleration must be determined from a site-specific study, the contents of which are specified in CBC Chapter 18.

Finally, Appendix Chapter J of the 2010 CBC regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

This page intentionally left blank.

10 HAZARDS AND HAZARDOUS MATERIALS

10.1 ENVIRONMENTAL SETTING

Hazardous waste is generated by many uses and potential sources. In Burbank, hazardous materials were used historically in the construction of existing older buildings. Hazardous wastes on properties in the planning area are associated with the historical uses of those properties. Hazards and hazardous materials in the planning area are also generated by manufacturing and service industries, commercial uses, media studio activities, hospitals, schools, households, accidents associated with operation of the Bob Hope Airport, transportation activities (railroad accidents and highway accidents), industrial operations, and cleanup of hazardous waste sites. Hazardous materials are also transported within and through Burbank on roadways, freeways (i.e., I-5, SR 134, railways, the Bob Hope Airport, and pipelines.

The term “hazardous materials” refers to both hazardous substances and hazardous wastes. A “hazardous material” is defined by federal regulations as “a substance or material that…is capable of posing an unreasonable risk to health, safety, and property when transported in commerce” (49 Code of Federal Regulations 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> Hazardous material means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous wastes are defined in California Health and Safety Code Section 25141(b) as wastes that:

> …because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

10.1.1 HAZARDOUS SITES

Government Code Section 65962.5 requires the California Department of Toxic Substances Control (DTSC) to compile and regularly update a list of hazardous waste sites (see “Government Code Section 65962.5 [Cortese List],” under “Regulatory Setting” below for more information). Under the Cortese List, other state and local government agencies are required to provide additional information on hazardous material releases.

The SWRCB maintains the GeoTracker database, which allows interested parties to obtain information related to permitted underground storage tanks (USTs), leaking underground storage tanks (LUSTs), Department of Defense sites, landfills, and Spills-Leaks-Investigations-Cleanups (SLIC) sites. GeoTracker provides information in graphic form to easily identify the location of a site and also maintains information about specific sites, including the current status of the site, chemicals of concern on the site, potential media affected, regulatory activities, and any data submitted to the oversight agency (e.g., Los Angeles RWQCB, DTSC), such as contaminant concentrations in monitoring wells. According to the GeoTracker database, seven LUST sites in the planning area are under site assessment, one site is under remediation, and one site has been remediated to the satisfaction of the respective oversight agency (GeoTracker 2010). See Table 10-1 for a list of LUST sites in Burbank. In addition, 108 open cleanup program sites exist and are shown on Table 10-2. Five of those sites are listed as open, 84 are under assessment, 15 are under remediation, and four are listed as re-open cases (GeoTracker 2010). Two properties in the planning area are included on DTSC's Hazardous Waste and Substances Site List (Cortese List), compiled pursuant to Government Code Section 65962.5 (EnviroStor 2010). Four sites in the city are identified in the Superfund database (Superfund 2010). The former Dynamic Plating Inc. site appears on both the Cortese and Superfund lists, as shown on Table 10-3.

Table 10-1
Leaking Underground Storage Tanks in Burbank

Site Name	Cleanup Status	Address	Chemicals of Concern
United #14	Open - Remediation	2500 W. Magnolia Blvd.	Gasoline
Rapid Gas #43	Open - Site Assessment	250 S. Glenoaks Blvd.	Diesel
Burbank Public Service Dept.	Open - Site Assessment	164 W. Magnolia Blvd.	Diesel
Menasco Aerosystem Division	Open - Site Assessment	100 E. Cedar Ave.	Solvents
Magnolia Car Wash	Open - Site Assessment	910 W. Magnolia Blvd.	Gasoline
Lockheed Plant B-1	Open - Site Assessment	17505 Victory Pl.	Gasoline
Shell #204-1026-0101	Open - Site Assessment	181 W. Alameda Ave.	Gasoline
United Oil #10	Open - Verification Monitoring	280 W. Alameda Ave.	Gasoline

Source: GeoTracker 2010

Table 10-2
Open Cleanup Sites in Burbank

Site Name	Cleanup Status	Address
Downtown Burbank Station (Metrolink/Amtrak)	Open	5 W. Olive Ave.
Former Menasco Aerospace	Open	100 Cedar St.
Crane Co	Open	3000 Winona Ave.
City Of Burbank Public Service Dept	Open	164 W Magnolia Blvd.
Former Twiss Heating & Treating	Open	2503 N. Ontario Blvd.
Home Depot - Itt Aerospace Controls-Div.	Open - Remediation	1200 S. Flower St.

Table 10-2
Open Cleanup Sites in Burbank

Site Name	Cleanup Status	Address
Lockheed Plant B6	Open - Remediation	2801 N. Hollywood Way
Lockheed Plant A1-South	Open - Remediation	2311 N. Hollywood Way
Lockheed Plant B1	Open - Remediation	1705 Victory Pl.
Kahr Bearing-Sargent/Fletcher	Open - Remediation	3010 N. San Fernando Blvd.
Weber Aircraft	Open - Remediation	2820 Ontario St.
Lockheed Plant C1	Open - Remediation	10720 Sherman Way
Lockheed Plant A-1 North	Open - Remediation	2555 N. Hollywood Way
Lockheed A-1 East, Bldg 90	Open - Remediation	3110 W. Thornton Ave.
Saturn Fasteners	Open - Remediation	425 S. Varney St.
Burbank Steel Treating, Inc.	Open - Remediation	415 S. Varney St.
Ierc Int'l Elec. Research Corp	Open - Remediation	135 W. Magnolia Blvd.
Burbank Steam Plant	Open - Remediation	164 W. Magnolia Blvd.
Crane Company	Open - Remediation	3000 Winona Ave.
Pacific Airmotive Corporation	Open - Remediation	2940 N. Hollywood Way
Stainless Steel Products Inc.	Open - Reopen Case	2980 N. San Fernando Blvd.
Commercial Inspection Services	Open - Reopen Case	156 W. Providencia Ave.
L & M Editorial	Open - Reopen Case	222 W. Palm Ave.
Walt Disney Studios	Open - Reopen Case	500 S. Buena Vista St.
Premier Cleaners (Former)	Open - Site Assessment	2708 N. Hollywood Way
A H Plating, Inc.	Open - Site Assessment	1837 Victory Pl.
Lee Filters	Open - Site Assessment	2237 Hollywood Way
Ace Camera Clinic	Open - Site Assessment	3506 W. Magnolia Blvd.
Acsco Products, Incorporated	Open - Site Assessment	313 N. Lake St.
Jay Dee Aircraft Supply	Open - Site Assessment	2917 Thornton Ave.
Jay-Dee Aircraft Supply Co.Inc	Open - Site Assessment	2921 Thornton Ave.
Amer. Fine Arts Foundry	Open - Site Assessment	2520 N. Ontario St.
Sound Trax Studios	Open - Site Assessment	2815 W. Burbank Blvd.
California Coast Color	Open - Site Assessment	1121 Isabel St.
Carter Plating	Open - Site Assessment	1842 N. Keystone St.
Connell Processing Inc.	Open - Site Assessment	3080 N. Avon St.
Connell Processing Inc.	Open - Site Assessment	3094 N. Avon St.
Process Control Labs	Open - Site Assessment	2520 N. Ontario St. #D
The Patrick Tatopoulos Designs	Open - Site Assessment	1951 Ontario St.
Bonded Services	Open - Site Assessment	3205 Burton Ave.
Grafics West/Don Auld & Sons	Open - Site Assessment	4304 W. Victory Blvd.
Janco Corporation	Open - Site Assessment	3111 Winona Ave.
L & M Black Oxide Co. Inc.	Open - Site Assessment	1019 Victory Pl.
Mastercraft Metal	Open - Site Assessment	1010 Victory Pl.

Table 10-2
Open Cleanup Sites in Burbank

Site Name	Cleanup Status	Address
Auto Matters	Open - Site Assessment	2812 N. San Fernando Blvd.
Sierracin-Harrison	Open - Site Assessment	3020 Empire Ave.
Capitol Hardware	Open - Site Assessment	2526 N. Ontario St.
Steve's Plating Corp.	Open - Site Assessment	3111 N. San Fernando Blvd.
Valley Enamelling Corp.	Open - Site Assessment	2509 Ontario St.
Abby Rents	Open - Site Assessment	2333 N. Valley St.
Cal-Air Processing	Open - Site Assessment	3014 N. Hollywood Way
Digilith	Open - Site Assessment	2720 W. Burbank Blvd.
Budget Rent-A-Car	Open - Site Assessment	2220 N. Hollywood Way
E.I.Dupont De Nemours & Co.Inc	Open - Site Assessment	3300 Pacific Ave.
Chesystems	Open - Site Assessment	2150 N. Lincoln St.
The Hertz Corp.	Open - Site Assessment	4521 Empire Ave.
Media Aviation	Open - Site Assessment	3000 N. Clybourn Ave.
Premier Dry Cleaning	Open - Site Assessment	3238 N. San Fernando Blvd.
Bfic Auto Ctr & Wholesale; Burbank Fuel Injection	Open - Site Assessment	1617 W. Magnolia Blvd.
Acme Autowork	Open - Site Assessment	738 N. Victory Blvd.
Lockheed A-1 East	Open - Site Assessment	3401 W. Empire Ave.
Former Lockheed Plant B-5	Open - Site Assessment	4207 Empire Ave.
Martino's Bakery, Inc.	Open - Site Assessment	901 W. Alameda Ave.
All Metals Processing Co. Inc.	Open - Site Assessment	264 W. Spazier Ave.
Shine Jewelry Mfg.	Open - Site Assessment	116 E. Alameda Ave.
J & M Anodizing Inc.	Open - Site Assessment	525 S. Flower St.
City Of Burbank Environmental	Open - Site Assessment	500 S. Flower St.
Joseff Precision Castings	Open - Site Assessment	129 E. Providencia Ave.
Dc Autocraft	Open - Site Assessment	25 E. Providencia Ave.
Artcraft Plating	Open - Site Assessment	76 E. Santa Anita Ave.
Am/Pm Door Repair	Open - Site Assessment	80 E. Santa Anita Ave.
Allied Signal Aerospace Co.	Open - Site Assessment	117 E. Providencia Ave.
Burbank Coach Works Inc.	Open - Site Assessment	515 S. Varney St.
Fiber Resin Corp.	Open - Site Assessment	170 W. Providencia Ave.
Burmahtech Serv.	Open - Site Assessment	700 S. Flower St.
Refrigeration Supplies Distributor	Open - Site Assessment	715 S. Flower St.
Interstate Brands Corp.	Open - Site Assessment	10 E. Linden Ave.
Mersola Property	Open - Site Assessment	70 E. Verdugo Ave.
Commodity Resource & Environmental, Inc.	Open - Site Assessment	116 E. Prospect Ave.
Black Entertainment Television	Open - Site Assessment	811 S. San Fernando Blvd.
Arc Litho	Open - Site Assessment	110 E. Verdugo Ave.
Agfa-Gevaert, Inc.	Open - Site Assessment	914 N. Victory Blvd.

Table 10-2 Open Cleanup Sites in Burbank		
Site Name	**Cleanup Status**	**Address**
Kbc America Inc.	Open - Site Assessment	730 N. Mariposa St.
Hyrail	Open - Site Assessment	415 N. Front St.
Burbank Sound	Open - Site Assessment	1321 W. Magnolia Blvd.
Gilderfluke & Co.	Open - Site Assessment	205 S. Flower St.
Ecola Services	Open - Site Assessment	1207 Isabel St.
Gtr Marble Inc.	Open - Site Assessment	1102 Isabel St.
Oroamerica	Open - Site Assessment	443 N. Varney St.
State Paint Co.	Open - Site Assessment	3920 W. Magnolia Blvd.
Veradyne Corp.	Open - Site Assessment	330 N. Victory Blvd.
Midwest Communication Corp.	Open - Site Assessment	1117 Isabel St.
Community Auto Body	Open - Site Assessment	300 S. Lake St.
Vorelco Inc.	Open - Site Assessment	825 N. Victory Blvd.
Pmi Prop Master Inc.	Open - Site Assessment	912 Isabel St.
Spence Electroplating	Open - Site Assessment	917 W. Chestnut St.
Artists & Sculptors Foundry	Open - Site Assessment	825 N. Lake St.
Burbank Gateway Center	Open - Site Assessment	201 E. Magnolia Blvd.
Spence Electroplating Company	Open - Site Assessment	1001 Chestnut St.
Angel's Auto Body	Open - Site Assessment	603 S. Victory Blvd.
Alameda Dry Cleaners	Open - Site Assessment	940 W. Alameda Ave.
General Motors Training Center	Open - Site Assessment	1105 Riverside Dr.
Rock Solid	Open - Site Assessment	801 S. Main St.
Warner Bros. Studio	Open - Site Assessment	3701 Oak St.
St. Joseph Med Ctr.	Open - Site Assessment	501 S. Buena Vista St.
Burbank Studios	Open - Site Assessment	330 Bob Hope Dr.
Network Art Service	Open - Site Assessment	630 S. Mariposa St.
Photo-Sonics Inc.	Open - Site Assessment	820 S. Mariposa St.
Source: GeoTracker 2010		

Table 10-3 Cortese List and Superfund Sites in Burbank		
Site Name	**Address**	**List**
All Metal Processing	264 W. Spazier Ave.	Superfund
Die Casting ID Corp	1304 S. Varney	Superfund
Dynamic Plating Inc.	1102 Isabel St.	Superfund, Cortese
K & L Anodizing	1200 S. Victory Blvd.	Superfund
Source: EnviroStor 2010, Superfund 2010		

10.1.2 SCHOOLS

Because children are more susceptible to adverse health effects from hazardous materials and emissions, the State CEQA Guidelines require the locations of schools relative to the sources of hazardous materials and emissions to be considered. Older schools constructed before these state regulations were established could place children near existing sources of hazardous materials and emissions. Please refer to Section 16. *Public Services, Utilities, and Recreation* for additional information regarding schools located in the planning area.

10.1.3 AIRPORT HAZARDS

The Bob Hope Airport is located in the northwestern corner of the planning area. The Bob Hope Airport serves commercial airlines and the needs of military aviation and general aviation. The Burbank-Glendale-Pasadena Airport Authority runs the airport and maintains a contract with Airport Group International, Inc., to provide daily operations and maintenance. In 2009, approximately 4.6 million passengers used the airport facility (Bob Hope Airport 2010).

The Bob Hope Airport has a Federal Aviation Administration approved Airport Emergency Plan. The Airport Emergency Plan sets forth emergency plans for prompt response to all emergencies by all responsible agencies to minimize the possibility and extent of personal injury and property damage around the airport. The Airport Fire Department is the first responder to all airport emergencies, but the Burbank Fire Department (BFD) has the ultimate responsibility for all incidents in the city.

10.1.4 TRANSPORTATION OF HAZARDOUS MATERIALS

Hazardous materials are transported through the planning area via four modes of transportation: roadways (highways and city streets), rail, pipeline, and air. Types of hazardous cargo regularly transported into, out of, and through the planning area include flammable liquids, corrosive materials, compressed and/or poisonous gases, explosives, flammable solids, and irritating materials.

Major roadways represent accident risks that could result in releases of hazardous materials. Transportation of hazardous materials on streets and I-5 or SR 134 is regulated by the U.S. Department of Transportation. When acutely toxic hazardous materials are transported, the California Highway Patrol (CHP) must be notified, as well as the Burbank Police Department, if city streets are used. The City does not designate specific haul routes for hazardous materials, because the handlers and users of hazardous materials are dispersed throughout the planning area (City of Burbank 2007:2-14).

The Union Pacific Railroad operates several miles of railroad lines in the planning area that may be used to transport hazardous materials. The BFD tracks the real-time incident data of hazardous materials and passenger railroad travel. The BFD also maintains an inventory of hazardous materials loads shipped through the planning area (City of Burbank 2007:2-15).

Four major pipelines traverse Burbank including two natural gas transmission lines and two hazardous liquid pipelines carrying crude oil.

A natural gas transmission pipeline enters the north end of Burbank under Glenoaks Boulevard at the border with the City of Los Angeles. The pipeline runs south along the full length of Glenoaks Boulevard and exits Burbank at the border with the City of Glendale. A second natural gas transmission line enters Burbank under Lake Street at the border with the City of Glendale. The pipeline travels north along Lake Street, west along Cedar Avenue and Oak Street, north on Reese Place, and west along Verdugo Avenue until it exits the city at the border with the City of Los Angeles.

A crude oil pipeline 20 inches in diameter enters the north end of Burbank along the Valley Line railroad right-of-way at the border with the City of Los Angeles. The pipeline runs south along the railroad right-of-way and exits Burbank at the border with the City of Glendale. A second crude oil pipeline, 14 inches in diameter, enters the north end of Burbank under Glenoaks Boulevard at the border with the City of Los Angeles. The pipeline travels south along Glenoaks Boulevard, east along Tulare Avenue, and south along Sixth Street until it exits Burbank at the border with the City of Glendale.

A hazardous materials incident related to aircraft associated traveling to or from the Bob Hope Airport is least probable relative to other modes of transport. The Airport Fire Department would be the first to respond to an incident occurring at the airport and the BFD would assume command after arriving to the site. If an incident were to occur outside of the airport property, the Airport Fire Department could assist the BFD or other agencies as necessary (City of Burbank 1997:128).

10.1.5 WILDLAND FIRES

Public Resources Code Sections 4201–4204 and Government Code 51175–51189 require identification of fire hazard severity zones within the State of California. Fire hazard severity zones are modeled based on vegetation, topography, weather, fuel load type, and ember production and movement within the area of question. Fire hazard severity zones are defined as moderate, high, and very high fire hazard severity by the California Department of Forestry and Fire (CAL FIRE). Fire prevention areas considered to be under state jurisdiction are referred to as “state responsibility areas,” while areas under local jurisdiction are called “local responsibility areas.”

Two portions of the planning area are mapped by the BFD as a Fire Hazard Severity Zone (FHSZ) and accepted by CAL FIRE. These FHSZs are areas vulnerable to wildland fires. One FHSZ is located along the foothills of the Verdugo Mountains in the northeastern portion of the planning area. This area is characterized by mountainous terrain, dense vegetation, and narrow streets and comprises 2,956 acres of private and public land (City of Burbank 1997). The other FHSZ occurs in the southwestern planning area and overlaps with Warner Bros. Studio and residential development adjacent to undeveloped hillsides to the east. Risks from wildland fires would also be similar to those in the Verdugo Mountain FHSZ. The Warner Bros. Studio is located in an urban area and does not contain the vegetation needed to fuel wildland fires.

10.2 REGULATORY SETTING

10.2.1 FEDERAL REGULATIONS AND LAWS

RESOURCE CONSERVATION AND RECOVERY ACT

At the federal level, the principal agency regulating the generation, transport, and disposal of hazardous substances is the EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). RCRA established an all-encompassing federal regulatory program for hazardous substances that is administered by EPA. Under RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibits the use of certain techniques for the disposal of various hazardous substances. The Federal Emergency Planning and Community Right to Know Act of 1986 imposes requirements for hazardous-materials planning to help protect local communities in the event of accidental release of hazardous substances. EPA has delegated many of the RCRA requirements to DTSC. Use and safety considerations related to blasting activities are regulated by the U.S. Department of Labor, Occupational Safety and Health Administration under the Construction Safety and Health Outreach Program.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. Cleanup actions can be conducted only at sites listed on EPA's National Priorities List (NPL). The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

REGULATION OF POLYCHLORINATED BIPHENYLS AND LEAD-BASED PAINT

The Toxic Substances Control Act of 1976 (Title 15 of the U.S. Code, Section 2605) banned the manufacture, processing, distribution, and use of polychlorinated biphenyls (PCBs) in enclosed systems. PCBs are considered hazardous materials because of their toxicity. They have been shown to cause cancer in animals, along with effects on the immune, reproductive, nervous, and endocrine systems, and studies have shown evidence of similar effects in humans.

The EPA Region 9 PCB Program regulates remediation of PCBs in several states, including California. Title 40 of the Code of Federal Regulations, Section 761.30(a)(1)(vi)(A) states that all owners of electrical transformers containing PCBs must register their transformers with EPA. Specified electrical equipment manufactured between July 1, 1978, and July 1, 1998, that does not contain PCBs must be marked by the manufacturer with the statement “No PCBs” (Section 761.40[g]). Transformers and other items manufactured before July 1, 1978, and containing PCBs, must be marked as such.

The Residential Lead-Based Paint Hazard Reduction Act of 1992 amended the Toxic Substances Control Act to include Title IV, Lead Exposure Reduction. EPA regulates renovation activities that could create lead-based paint hazards in target housing and child-occupied facilities, and has established standards for lead-based paint hazards and lead dust cleanup levels in most pre-1978 housing and child-occupied facilities.

10.2.2 State Plans, Regulations, and Laws

State laws that govern hazardous materials are equal to or more stringent than their federal counterparts. California has been granted primary oversight responsibility by EPA to administer and enforce hazardous waste management programs. The State has developed detailed planning and management requirements to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key state laws pertaining to hazardous wastes are discussed below. In addition, DTSC, the SWRCB, and the Integrated Waste Management Act have prescribed roles related to the generation and disposal of hazardous materials, also described below.

Hazardous Materials Handling

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires hazardous materials business plans to be prepared and inventories of hazardous materials to be disclosed. A business plan includes an inventory of the hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee safety and emergency response training (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for managing hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the State of California. Local agencies, including the Los Angeles County Environmental Health Department, administer these laws and regulations.

Sections 12101 through 12103 of the California Health and Safety Code require that permits be obtained by those manufacturing, transporting, possessing, or using explosives and endorsed by the jurisdiction(s) in which the transportation or use would occur.

Hazardous Waste Control Act

The Hazardous Waste Control Act is codified in California Code of Regulations Title 26, which describes requirements for the proper management of hazardous wastes. The act created the State’s hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The program includes hazardous waste criteria for:

- identification and classification;
- generation and transportation;
- design and permitting of recycling, treatment, storage, and disposal facilities;
- treatment standards;
- operation of facilities and staff training; and
- closure of facilities and liability requirements.

The Hazardous Waste Control Act and Title 26 regulations list more than 800 potentially hazardous materials and establish criteria for identifying, packaging, and disposing of such wastes. To comply with these regulations, the generator of hazardous waste material must complete a manifest that accompanies the material from the point of generation to transportation to the ultimate disposal location, and file copies of the manifest with DTSC.

EMERGENCY RESPONSE TO HAZARDOUS MATERIALS INCIDENTS

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies, including the California Environmental Protection Agency (Cal/EPA), CHP, DFG, and RWQCB.

EMERGENCY SERVICES ACT

Under the Emergency Services Act (California Government Code Section 8850 et seq.), the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Quick response to incidents involving hazardous materials or hazardous waste is a key part of the plan. The Governor's Office of Emergency Services administers the plan and coordinates the responses of other agencies, including Cal/EPA, CHP, RWQCBs, air quality management districts, and county disaster response offices.

GOVERNMENT CODE SECTION 65962.5 (CORTESE LIST)

The provisions of Government Code Section 65962.5 are commonly referred to as the Cortese List. The Cortese List is a planning document used by the state and local agencies to provide information about hazardous materials release sites. Government Code Section 65962.5 requires Cal/EPA to develop an updated Cortese List annually, at minimum. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

UNDERGROUND STORAGE TANK PROGRAM

The California Department of Public Health (formerly the California Department of Health Services) and the SWRCB maintain lists of hazardous UST sites for remediation. Sites are listed based on unauthorized release of toxic substances. Leak prevention, cleanup, enforcement, and tank testing certification are elements of the UST program.

UNIFIED PROGRAM

Cal/EPA grants oversight and permitting responsibility to qualifying local agencies for certain state programs pertaining to hazardous waste and hazardous materials. This is achieved through the Unified Program, created by state legislation in 1993 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following emergency and management programs:

- hazardous materials release response plans and inventories (business plans);
- California Accidental Release Prevention Program;
- UST Program;
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure plans;
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (tiered permitting) Programs; and
- California Uniform Fire Code: Hazardous material management plans and hazardous material inventory statements.

Burbank's participation in the Unified Program is coordinated by the Los Angeles County Fire Department (LACFD) Health Hazardous Materials Division, as the designated Certified Unified Program Agency (CUPA) for the City, with the BFD authorized as a participating agency.

CLEANUP OF CONTAMINATED SITES

The State of California has a number of different regulatory structures governing cleanup of contaminated sites. DTSC regulates many of these programs, including RCRA corrective actions, State Superfund sites, brownfields programs, and voluntary cleanups. The SWRCB (through RWQCBs and some local agencies) regulates releases with the potential to affect water resources under programs such as the LUST program and SLIC program. Regulatory authority for these programs may be delegated by the federal government (as with RCRA corrective actions directed by DTSC) or may be found in the California Health and Safety Code. These regulations vary in their specifics but require the reporting, investigation, and remediation of sites where releases of hazardous materials have occurred, followed by appropriate disposal of any hazardous materials. These programs govern a range of pollutants, such as solvents, petroleum fuels, heavy metals, and pesticides) in surface water, groundwater, soil, sediment, and air.

CALIFORNIA EMERGENCY RESPONSE PLAN

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the California Emergency Management Agency, which coordinates the responses of other agencies, including Cal/EPA, CHP, DFG, RWQCB, and the Los Angeles County Emergency Services Program.

SCHOOL SITE SELECTION AND APPROVAL CRITERIA AND GUIDE

State CEQA Guidelines Section 15186, School Facilities, requires that school projects, as well as projects proposed to be located near schools, examine potential health impacts resulting from exposure to hazardous materials, wastes, and substances. In particular, State CEQA Guidelines require EIRs to assess whether a project would emit hazardous air emissions or involve the handling of extremely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school (also see Public Resources Code Sections 21151).

The California Department of Education has developed the School Site Selection and Approval Guide to help school districts select appropriate locations for educational institutions. The guide contains 12 screening and ranking criteria, including safety, location, topography, cost, utilities, and public acceptance.

10.2.3 REGIONAL AND LOCAL PLANS AND POLICIES

CERTIFIED UNIFORM PROGRAM AGENCY

The LACFD Health Hazardous Materials Division is the designated CUPA for the City, with the BFD authorized as a participating agency. The CUPA was created by the California Legislature to minimize the number of business inspections and fees imposed on businesses. CUPA areas of responsibility are those described above under "Unified Program".

HAZARDOUS MATERIALS AREA PLAN

Pursuant to the California Health and Safety Code Section 25503(c), the BFD has prepared a Hazardous Materials Area Plan (Area Plan) for the City. The Area Plan is an administrative oversight, preparedness, and planning document for local agencies that outlines emergency response to a release or threatened release of hazardous materials. The Area Plan is separated into four phases of emergency management: preparedness, response, recovery, and mitigation. Each section of the Area Plan describes the relevant information for that particular phase of emergency management and provides references to incident-specific documents.

The preparedness section addresses pre-incident planning, risk assessment, integration with other plans, mutual aid, training, and equipment requirements. The response section describes how to respond to accidental hazardous material releases, as well as incident management system and emergency management system requirements. The plan then lays out protocols and operational roles for various agencies in different types of response actions. The recovery section includes the transition from response to recovery activities, removal and disposal of hazardous waste, review and critique of response actions, and cost recovery.

CITY OF BURBANK ALL HAZARD MITIGATION PLAN

The City's *All-Hazard Mitigation Plan*, updated in April 2011, meets the requirements of the Disaster Mitigation Act of 2000. The Disaster Mitigation Act of 2000 requires local governments to prepare plans that identify hazards and risks within a community, and create appropriate mitigation. The purpose of the *All-Hazard Mitigation Plan* is to integrate hazard mitigation strategies into the daily activities and programs of the City. After acceptance by the California Emergency Management Agency (CalEMA) the Federal Emergency Management Agency, selected mitigation strategies are further developed for funding and implementation by the appropriate City agencies and departments. Pursuant to federal and state requirements, the *All-Hazard Mitigation Plan* is incorporated by reference within the *Burbank2035* Safety Element.

The *All-Hazard Mitigation Plan* assesses risk to the City from earthquakes, transportation accidents, transportation loss, wild land/urban interface fires, terrorism and weapons of mass destruction, utility loss or disruption, water and wastewater disruption, hazardous materials incidents, aviation disasters, information technology loss or disruption, severe weather, explosions, economic disruption, floods, drought, dam failure, sinkholes, volcanic activity, and special events.

The City developed a specific list of long-term hazard mitigation goals, objectives, and related potential actions. The long term goals include:

- **Goal 1.** Promote disaster-resistant future development.
- **Goal 2.** Increase public understanding and support for effective hazard mitigation.
- **Goal 3.** Build local support and commitment to become less vulnerable to hazards.
- **Goal 4.** Enhance hazard mitigation coordination and communication with federal, state, and local jurisdictions.

- **Goal 5.** Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City of Burbank-owned facilities from the following high risks:

  - earthquake
  - transportation accident
  - transportation loss
  - wild land/urban interface fire in the city
  - terrorism/weapons of mass destruction
  - utility loss/disruption/substations
  - water/waste water disruption
  - hazardous materials incidents

MULTI HAZARD FUNCTIONAL PLAN

The City's *Multi Hazard Functional Plan* addresses Burbank's planned response to emergencies associated with natural disasters and technological incidents including both peacetime and wartime nuclear defense operations. It provides an overview of operational concepts, identifies components of the City of Burbank's emergency management organization within the Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS), and describes the overall responsibilities of the federal, state and county entities and the City of Burbank for protecting life and property and assuring the overall well-being of the population.

11 HYDROLOGY AND WATER RESOURCES

11.1 ENVIRONMENTAL SETTING

11.1.1 REGIONAL HYDROLOGY

The planning area is located in the San Fernando Valley within the Los Angeles River Watershed, which covers 834 square miles and is one of 19 major watersheds in the South Coast Hydrologic Region. The South Coast Hydrologic Region covers 11,000 square miles (approximately 7%) of the state's total land area and contains about 54% of the state's population.

The Los Angeles River and its tributaries drain the San Fernando Valley. The Los Angeles River, which flows from its headwaters in the Santa Monica Mountains, through the San Fernando Valley, south through the Glendale Narrows, and across the coastal plain into San Pedro Bay, defines a portion of the southern boundary of the city. The river has seven major tributaries: the Burbank Western Channel, Pacoima Wash, Tujunga Wash, Verdugo Wash, Arroyo Seco, Rio Hondo, and Compton Creek. The watershed contains 22 lakes and flood control reservoirs and a number of spreading grounds (i.e., groundwater recharge areas). The Los Angeles River is hydraulically connected to the San Gabriel River through the Whittier Narrows via the Rio Hondo. This hydrologic connectivity occurs primarily during large storm events. The Los Angeles River once flowed freely over the coastal plain but was channelized between 1914 and 1970 to control runoff and reduce the effects of major regional flood events. Today, over 90% of the Los Angeles River is lined with concrete, including the reach in and adjacent to the Burbank planning area.

Burbank's Mediterranean climate is typical of the coastal and interior valleys of the South Coast region. The climate is characterized by mild, wet winters and warm, dry summers. Approximately 75% of the region's precipitation typically occurs between December and March. Average precipitation can vary greatly within the South Coast region: from more than 40 inches annually in the mountains to less than 10 inches annually in the valleys (DWR 2009:7). Precipitation in the San Fernando Valley ranges from 15 to 23 inches per year and averages about 17 inches (DWR 2004:1). Although generally dry, monsoonal thunderstorms may inundate the eastern and southern portions of the region with water in the late summer. These thunderstorms result from low pressure cells in the southwest. The region generally experiences substantial climactic variability, with periods of higher than normal precipitation followed by lower than normal precipitation and periodic drought conditions. For instance, the region experienced very dry conditions in 2002, with the Los Angeles Civic Center recording 4.4 inches of rain, 30% of normal. Above average precipitation was recorded in 2005, with the Los Angeles Civic Center recording 37.5 inches of rain, which was 254% of normal (DWR 2009:7). The average annual rainfall in Burbank is 14.5 inches (BWP 2005:3).

11.1.2 LOCAL HYDROLOGY

GEOGRAPHY

Two naturally occurring, though highly modified, waterways flow through Burbank: the Burbank Western Channel and the Los Angeles River. The Burbank Western Channel begins at the confluence of Hansen Heights Channel and La Tuna Canyon Lateral in Sun Valley, and runs adjacent to I-5 for most of its length. The channel travels southeast through the western part of Burbank, then through the Riverside Rancho area of Glendale, and joins the Los Angeles River by the edge of the Los Angeles Equestrian Center. The channel is entirely lined with concrete through the city to the Los Angeles River confluence and serves to control flooding. The City of Los Angeles and the City of Burbank's water reclamation plants discharge less water in the summer, when demand for reclaimed water is higher, and discharge more in the winter, which mimics the natural flow regime (Cities of Los Angeles and Burbank 2008:19–20). Other localized flood control channels (e.g., the Lockheed Channel) have been constructed within the city.

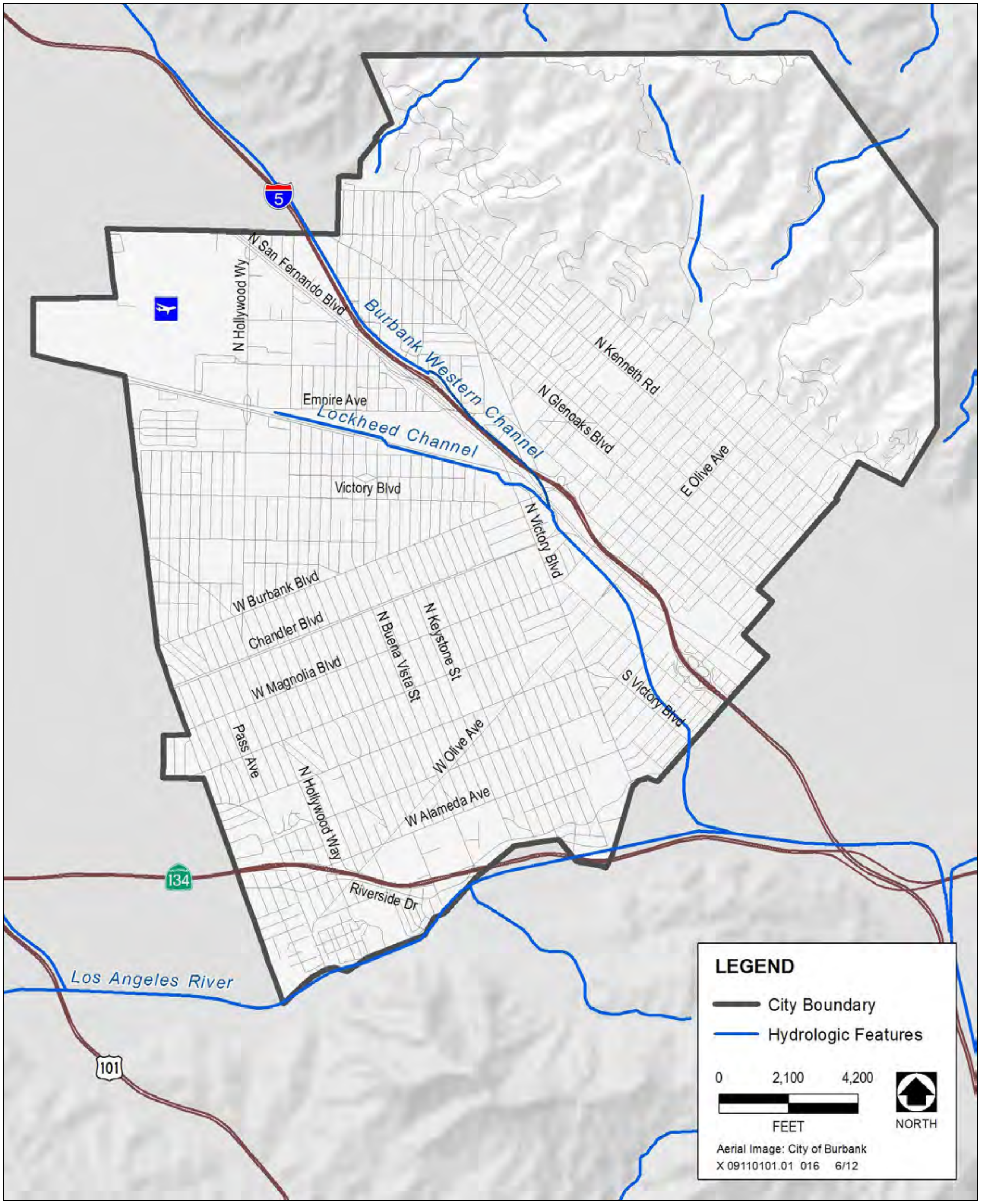
In addition to these streams, seasonal streams in the Verdugo Mountain canyons and drainage courses in the hillside area of the northeastern portion of the City planning area are formed by steep terrain with ridgelines and deep "V" canyons (Figure 11-1), and normally flow during the winter and early spring rainy seasons. These stream channels are unlined and recharge the underground aquifers in the area (FLPF 2009).

FEDERAL EMERGENCY MANAGEMENT AREA FLOOD ZONES

The FEMA's 100-year flood zone areas for Burbank (FEMA FIRM Number 06037C) are shown on Figure 11-2. The flood zone areas that are not contained by the flood control channels occur along areas of the Lockheed Drain Channel (Panel 1328), Lockheed Drain Channel and North Overflow (Panel 1329), Sunset Canyon (Panel 1335), Lockheed Drain Channel, North Overflow, and Lake Street Overflow (Panel 1337) and an area of the Burbank Western Channel and Victory Boulevard to the southwest (Panel 1337).

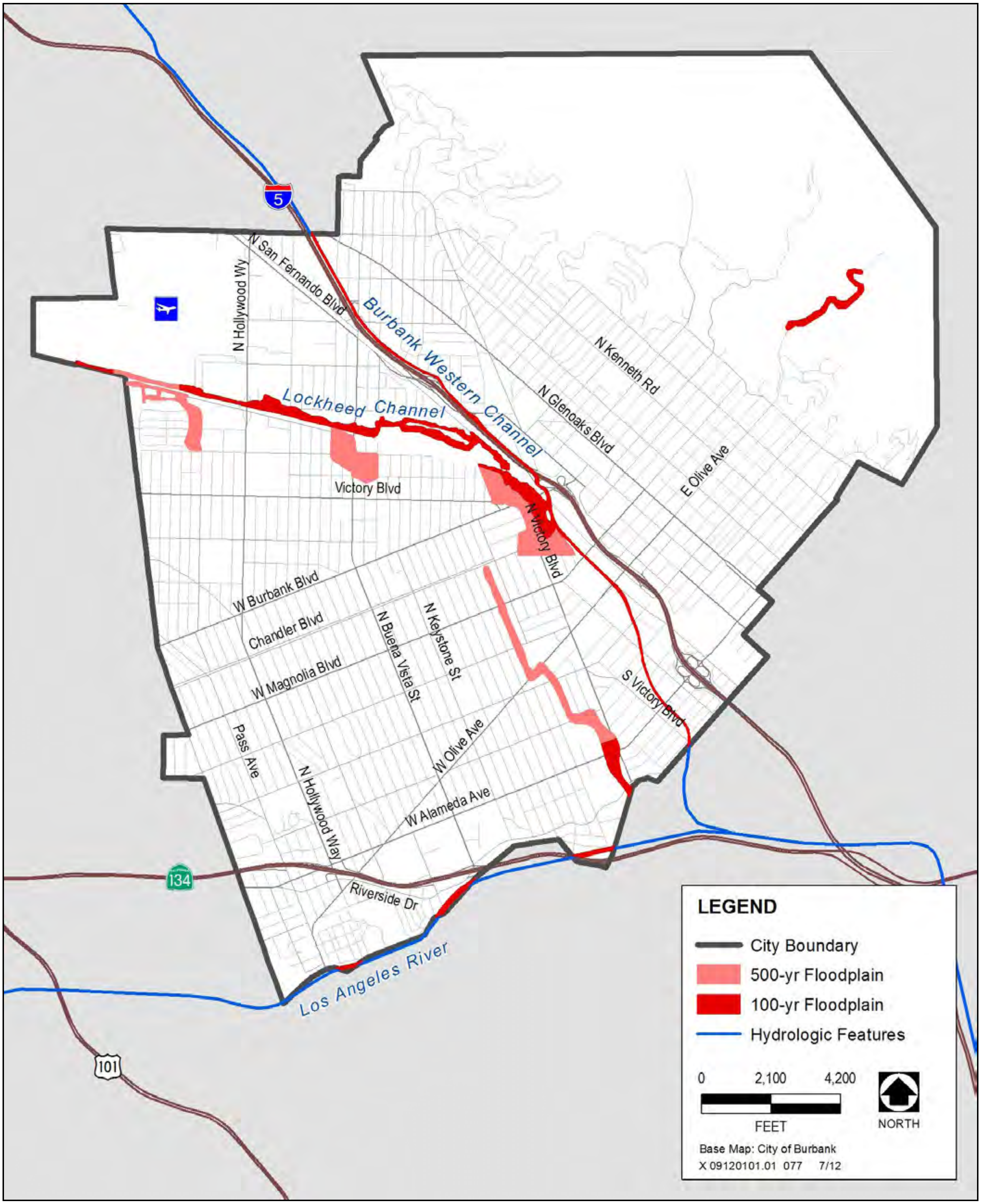
11.1.3 GROUNDWATER HYDROLOGY

The San Fernando Basin is an unconfined aquifer (i.e., an aquifer with a relatively permeable upper boundary that readily transmits water toward the surface) contained by the Santa Monica Mountains on the south, the Simi Hills to the West, the Santa Susana Mountains to the northwest, and the San Gabriel Mountains and Verdugo Hills to the northeast. A relatively thin finger of the basin extends eastward into the Tujunga Canyon between the San Gabriel Mountains and the Verdugo Hills (Metropolitan 2007:Chapter IV, 2-2). The basin, adjudicated in 1979 (i.e., the groundwater rights of the landowners overlying the basin and groundwater appropriators were determined by the State Superior Court), is one of 56 delineated groundwater basins in the South Coast hydrologic region. The water-bearing sediments in the groundwater basin consist of the lower Pleistocene Saugus Formation and Pleistocene and



Source: AECOM 2010, CASIL 1999

Hydrologic Features **Figure 11-1**



Source: AECOM 2010, FEMA 1996

FEMA Q3 Flood Zone Areas **Figure 11-2**

Holocene age alluvium. Some confinement occurs within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas (DWR 2004:1–3).

11.1.4 GROUNDWATER HYDROLOGY

The San Fernando Basin is an unconfined aquifer (i.e., an aquifer with a relatively permeable upper boundary that readily transmits water toward the surface) contained by the Santa Monica Mountains on the south, the Simi Hills to the West, the Santa Susana Mountains to the northwest, and the San Gabriel Mountains and Verdugo Hills to the northeast. A relatively thin finger of the basin extends eastward into the Tujunga Canyon between the San Gabriel Mountains and the Verdugo Hills (Metropolitan 2007:Chapter IV, 2-2). The basin, adjudicated in 1979 (i.e., the groundwater rights of the landowners overlying the basin and groundwater appropriators were determined by the State Superior Court), is one of 56 delineated groundwater basins in the South Coast hydrologic region. The water-bearing sediments in the groundwater basin consist of the lower Pleistocene Saugus Formation and Pleistocene and Holocene age alluvium. Some confinement occurs within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas (DWR 2004:1–3).

The depth to groundwater in the San Fernando Basin ranges between 24 and 400 feet. Shallow groundwater conditions are found in the western end of the basin (Metropolitan 2007:Chapter IV, 2-10). Groundwater in the basin flows generally from the edges toward the middle of the basin, then beneath the Los Angeles River Narrows into the Central Subbasin of the Coastal Plain of Los Angeles Basin. In the northeastern part of the basin, groundwater moves from the La Crescenta area southward beneath the surface of Verdugo Canyon, toward the Los Angeles River near Glendale. The groundwater in the Tujunga area flows west and follows the Tujunga Wash around the Verdugo Mountains to join groundwater flowing from the west that follows the course of the Los Angeles River near Glendale. Flow velocity ranges from about 5 feet per year in the western part of the basin to 1,300 feet per year beneath the Los Angeles River Narrows. Recharge of the basin occurs from a variety of sources. The primary inflows to the basin are imported water (i.e., surface or groundwater coming into the basin that is not from local watersheds, such as water from the California State Water Project) and natural precipitation and runoff during the rainy season (Metropolitan 2007:Chapter IV, 2-2). Infiltration of imported water and runoff occurs in the Pacoima, Tujunga, and Hansen Spreading Grounds. Runoff contains natural streamflow from the surrounding mountains, precipitation falling on impervious areas, reclaimed wastewater, and industrial discharges. Water from surface washes infiltrates and recharges the basin, particularly in the eastern portion (DWR 2004:1–3).

11.1.5 WATER QUALITY

SURFACE WATER

Los Angeles River Reach 4, Sepulveda Drive to Sepulveda Dam, is the segment located at Burbank's southern boundary. Reach 3 is located downstream of the confluence with the Burbank Western Channel just south of Burbank. Designated beneficial uses of the Los Angeles River and its tributaries, including these reaches, are shown on Table 11-1.

Table 11-1
Beneficial Uses for the Los Angeles River

Beneficial Use Designation	Definition
Municipal and Domestic Supply [potential beneficial use] (MUN)	Community, military, or individual water supply systems, including drinking water supply
Industrial Service Supply [potential beneficial use] (IND)	Industrial activities that do not depend primarily on water quality, including cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil-well repressurization
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers
Contact Water Recreation [prohibited] (REC1)	Recreational activities involving body contact with water (e.g., swimming, wading, waterskiing, skin and SCUBA diving, surfing, white water activities, fishing, use of natural hot springs), where ingestion of water is reasonably possible
Noncontact Water Recreation (REC2)	Recreational activities involving proximity to water, but not normally involving body contact with water (e.g., picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities), where ingestion of water is reasonably possible
Warm Freshwater Habitat (WARM)	Uses of water that support warm-water ecosystems, including preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates
Wildlife Habitat (WILD) [potential beneficial use]	Uses of water that support terrestrial or wetland ecosystems, including preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources
Wetland Habitat (WET)	Uses of water that support wetland ecosystems, including preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife and other unique wetland functions that enhance water quality, such as providing flood and erosion control, streambank stabilization, and filtration and purification of naturally occurring contaminants

Source: Los Angeles RWQCB 1995 (amended 2010)

The Burbank Western Channel has a potential beneficial use classification for municipal domestic supply (MUN), (WARM), and wildlife habitat (WILD). Contact water recreation (REC1) within the channel is prohibited by the Los Angeles County Department of Public Works (Los Angeles RWQCB 1995, [amended 2010]:Table 2-1).

Table 11-2 lists stream segments near the planning area that are identified as impaired under Section 303(d) of the federal CWA. Impairment is measured by Total Maximum Daily Load (TMDL), the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. The Los Angeles River Bacteria TMDL adoption process implementation process (see

"Section 303(d) Impaired Waters List" below for an explanation of the TMDL process) is ongoing at this time (Los Angeles RWQCB 2010).

Table 11-2
Impaired River and Stream Segments in and Near the Burbank Planning Area

Water Body Name	Estimated Affected Area	Pollutant	Expected TMDL Completion Date	Date TMDL Approved
Los Angeles River Reach 3 (Figueroa Street to Riverside Drive)	7.94 Miles	Ammonia	–	3/18/2004
		Copper	–	12/22/2005
		Lead	–	12/22/2005
		Nutrients (algae)	–	3/18/2004
		Trash	–	7/24/2008
Los Angeles River Reach 4 (Sepulveda Drive to Sepulveda Dam)	11.06 Miles	Ammonia	–	3/18/2004
		Coliform bacteria	in process	–
		Copper	–	12/22/2005
		Lead	–	12/22/2005
		Nutrients (algae)	–	3/18/2004
		Trash	–	7/24/2008
Burbank Western Channel	13.7 Miles	Copper	–	12/22/2005
		Cyanide	1/01/2019	–
		Indicator bacteria	1/01/2021	–
		Lead	–	12/22/2005
		Selenium	1/01/2021	–
		Trash	–	7/24/2008

Source: Los Angeles RWQCB 2009

Table 11-3 lists the applicable numeric water quality objectives used to assess compliance with the Los Angeles County Municipal Stormwater Permit No. CAS004001 described below under "State Plans, Policies, Regulations, and Laws." The Water Quality Objective ranges provided in Table 11-3 have been rounded and may not exactly match those provided in the Basin Plan or the California Toxics Rule, which are referenced in the text below. The mass emission monitoring station, S10, located at the existing stream gage station (Stream Gage F319-R) between Willow Street and Wardlow Road in the City of Long Beach, is representative of the Los Angeles River basin for contaminant loading to the river. The total drainage area for the tributaries upstream of the Los Angeles River is 825 square miles (Los Angeles County DPW 2009:2-2).

Table 11-3
Category 1* Numeric Objectives Used to Evaluate Attainment of Water Quality Standards in the Los Angeles River (Monitoring Station S10)

Constituent	Water Quality Objective	Source	Beneficial Use
Conventional Physical and Chemical Constituents			
Dissolved oxygen (mg/L)	>5.0	Basin plan	Warm Freshwater Habitat (WARM)
pH (standard units)	6.5–8.5	Basin plan	Warm/Cold Freshwater Habitat (WARM, COLD)
Total dissolved solids (mg/L)	1,500	Basin plan	Groundwater recharge (GWR), general water quality indicators
Cyanide (mg/L)	0.022	CTR	CTR
Chloride (mg/L)	150	Basin plan	Groundwater recharge (GWR), general water quality indicators
Sulfate (mg/L)	350	Basin plan	Groundwater recharge (GWR), general water quality indicators
Fecal coliform (mpn/100 ml)	<400	Basin plan	Contact Water recreation (REC-1) (wet weather suspension)
Ammonia	0.7–30 (COLD) 0.9–30 (WARM)	Basin plan	Warm/Cold Freshwater Habitat (WARM, COLD)
Trace Metals			
Dissolved arsenic (µg/L)	340	CTR	Aquatic life habitat (acute exposure only)
Dissolved cadmium (µg/L)	1–24	CTR	Aquatic life habitat (acute exposure only)
Dissolved chromium (hexavalent) (µg/L)	16	CTR	Aquatic life habitat (acute exposure only)
Dissolved chromium (µg/L)	180–2,050	CTR	Aquatic life habitat (acute exposure only)
Dissolved copper (µg/L)	4–61	CTR	Aquatic life habitat (acute exposure only)
Dissolved lead (µg/L)	14–350	CTR	Aquatic life habitat (acute exposure only)
Dissolved nickel (µg/L)	150–1,800	CTR	Aquatic life habitat (acute exposure only)
Dissolved silver (µg/L)	0.3–60	CTR	Aquatic life habitat (acute exposure only)
Dissolved zinc (µg/L)	40–450	CTR	Aquatic life habitat (acute exposure only)
Total mercury (µg/L)	0.051	CTR	Human health (fish consumption only)

Notes: µg/L = micrograms per liter; basin plan = Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties; mg/L = milligrams per liter; mpn/100 ml = most probable number of colonies per 100 milliliter; CTR = California Toxics Rule

The Water Quality Objective ranges provided in this table have been rounded and may not exactly match those provided in the Basin Plan or the California Toxics Rule

* Category 1 water quality objectives are those for which no uncertainty exists about the applicable objectives or the implementation concerning frequency and duration. Category 2 water quality objectives are those for which uncertainty exists about the applicability of the beneficial use or uncertainty about implementation of the objective.

Source: Cities of Los Angeles and Burbank 2008

The latest results from SQMP 2008–2009 wet weather sampling (Los Angeles County DPW 2009) show that fecal coliform bacteria did not attain the applicable water quality objective (less than 400 most probable number of colonies per 100 milliliter [mpn/100 ml]) five out of five times sampled during wet weather in the Los Angeles River.

Dissolved copper concentrations were somewhat variable (median 10 micrograms per liter [μg/L], ranging from 6 to 15 μg/L) and did not attain the hardness-based water quality objective (3.6 to 61.2 μg/L) once out of the four wet-weather events measured. Dissolved zinc concentrations, also somewhat variable (median 48 μg/L, ranging from 30 to 78 μg/L), did not attain the hardness-based water quality objective (36 to 460 μg/L) once out of the four wet-weather events measured. Cyanide did not attain the California Toxics Rule (CTR) acute water quality objective (0.022 μg/L) in one of the three dry-weather events measured. The CTR allows an exceedance frequency of no more than once every three years for aquatic life criteria, and cyanide has previously not attained the acute water quality objective within the past three years in the Los Angeles River. The basin plan's upper limit for pH is 8.5, which was not attained twice out of the three dry-weather events monitored. Fecal coliform bacteria did not attain the applicable water quality objective (less than 400 mpn/100 ml) once out of three times sampled during dry weather in Los Angeles River.

GROUNDWATER

The San Fernando Basin has numerous groundwater contamination problems. The estimated capacity of all the wells that have been removed from service in the basin due to elevated contamination levels is approximately 396 acre-feet per day (af/day). The EPA, the Department of Toxic Substances Control, and the Los Angeles RWQCB are working with the cities of Los Angeles, Glendale, and Burbank to identify and resolve San Fernando Basin contamination concerns (Metropolitan 2007:Chapter IV, 2-13).

Groundwater resources in California are assumed to support drinking-water-quality beneficial uses, unless proven otherwise, pursuant to SWRCB Resolution 88-63. Domestic groundwater from wells in Burbank is treated to remove trichloroethylene (TCE), tetrachloroethylene (PCE), and other VOCs. Burbank has two treatment facilities: the Granular Activated Carbon (GAC) Plant and the Burbank Operable Unit (BOU) Plant (BWP 2009). The City's domestic wells are monitored for general mineral, general physical, and inorganic chemical parameters pursuant to Title 22 requirements described below in Section 11.2, "Regulatory Setting."

Elevated levels of nitrate in the groundwater require blending it with Metropolitan Water District (MWD) water to meet drinking water quality standards. The BOU treatment plant was designed to blend the water to reduce nitrate levels. Since then, hexavalent chromium has also been found in the well water, and the blending is managed to keep total chromium below a 5-parts-per-billion level set by the Burbank City Council, pending new federal and state regulations for hexavalent chromium. Blending for chromium, currently a 50/50 blend of treated groundwater and MWD treated water, also creates acceptable nitrate levels. The blending requirement can make it necessary to limit groundwater production during periods of low water demand (BWP 2005:11).

See Chapter 16 *Public Services and Utilities* for detail on water and groundwater supply and demand.

11.2 REGULATORY SETTING

Detailed below are the federal, state, and local laws, regulations, and policies that pertain to surface water and groundwater in the planning area. They provide the regulatory framework for addressing all aspects of hydrology and water quality that would be affected by implementation of *Burbank2035*.

11.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL CLEAN WATER ACT

The EPA is the lead federal agency responsible for managing water quality. The CWA of 1972 is the primary federal law that governs and authorizes EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and apply to the proposed project are discussed below. Wetland protection elements administered by the USACE under Section 404 of the CWA, including permits to dredge or fill wetlands, are discussed further in Section 6, *Biological Resources*.

WATER QUALITY CRITERIA AND STANDARDS

EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. EPA has delegated to the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the state's Porter-Cologne Act, described below.

Under federal law, EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of the designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT PROGRAM

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. A discharge from any point source is unlawful unless the discharge is in compliance with an NPDES permit. Federal

NPDES permit regulations have been established for broad categories of discharges: point-source municipal waste, discharges, nonpoint-source stormwater runoff, industrial and construction. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase 1 of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons, which is applicable to the City of Burbank. Phase 1 also applied to stormwater discharges from a large variety of industrial activities, including general construction activity if the project would disturb more than five acres. The planning area is subject to the requirements of Phase 2 of the NPDES stormwater permit regulations (known as the NPDES General Permit for Small Municipal Separate Storm Sewer Systems [MS4s]) which became effective in March 2003. Phase 2 required that NPDES permits be issued for construction activity for projects that disturb one acre or more. California's RWQCBs are responsible for implementing the NPDES permit system (see additional information under Section 11.2.2, *State Plans, Policies, Regulations, and Laws* below). The planning area is within the jurisdiction of the Los Angeles RWQCB.

SECTION 401 WATER QUALITY CERTIFICATION OR WAIVER

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to the nine RWQCBs.

ANTIDEGRADATION POLICY

The federal antidegradation policy, established in 1968, is designed to protect existing uses, water quality, and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.

- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

SAFE DRINKING WATER ACT

Under the Safe Drinking Water Act (Public Law 93-523) passed in 1974, EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability (e.g., taste and odor, staining of laundry and porcelain fixtures) of the water. These types of contaminants are regulated by EPA's primary and secondary maximum contaminant levels (MCLs), which apply to treated water supplies delivered to the distribution system. MCLs and the process for setting these standards are reviewed every three years. Amendments to the Safe Drinking Water Act enacted in 1986 and 1996 established an accelerated schedule for setting MCLs for drinking water.

EPA has delegated the responsibility for administering California's drinking-water program to the California Department of Public Health (DPH). DPH is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA. The applicable state primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the CCR, and described in "Title 22 Standards" below.

SECTION 303(D) IMPAIRED WATERS LIST

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a TMDL for each of the listed pollutants. As noted previously, the TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings (sources of naturally occurring pollutants) and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives. The EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of a TMDL, it is intended that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

NATIONAL TOXICS RULE AND CALIFORNIA TOXICS RULE

In 1992, EPA issued the National Toxics Rule under the CWA to establish numeric criteria for priority toxic pollutants for California. The National Toxics Rule established water quality standards for 42 pollutants not covered under California's statewide water quality regulations at that time. As a result of the court ordered revocation of California's statewide water quality control plans (basin plans) in September 1994, EPA initiated efforts to issue additional federal water quality standards for California. In May 2000, EPA issued the California Toxics Rule, which includes all the priority pollutants for which EPA has issued numeric criteria not included in the National Toxics Rule.

NATIONAL FLOOD INSURANCE PROGRAM

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. FEMA established the design standard for flood protection in areas covered by the FIRMs, with the minimum level of flood protection for new development determined to be a 1-in-100 probability of annual exceedance (i.e., the 100-year flood event). As developments are proposed and constructed, FEMA is also responsible for issuing revisions to FIRMs, such as Conditional Letters of Map Revision and Letters of Map Revision through the local agencies that work with the NFIP.

EXECUTIVE ORDER 11988

Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to do the following:

- avoid incompatible floodplain development,
- be consistent with the standards and criteria of the NFIP, and
- restore and preserve natural and beneficial floodplain values.

U.S. ARMY CORPS OF ENGINEERS

USACE is responsible for issuing permits for the placement of fill or discharge of material into waters of the United States. These permits are required under Sections 401 and 404 of the CWA. Water supply projects that involve instream construction, such as dams or other types of diversion structures, trigger the need for these permits and related environmental reviews by USACE. USACE also is responsible for flood control planning and assisting state and local agencies with the design and funding of local flood control projects.

11.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

STATE WATER RESOURCES CONTROL BOARD

In California, the SWRCB has broad authority over issues related to controlling water quality for the state. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include DPH (for drinking-water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Game, and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt basin plans for all areas in the region and establish water quality objectives in the plans. California water quality objectives (or "criteria" under the CWA) are found in the basin plans adopted by the SWRCB and each of the nine RWQCBs. The Los Angeles RWQCB is responsible for the planning area and surrounding region. Chapter 16, *Public Services, Utilities, and Recreation* addresses the state regulations that apply to the demonstration of adequate water supply for the future water demands caused by implementation of the proposed project.

TITLE 22 STANDARDS

California's drinking water quality standards are contained in Title 22 of the CCR. Water quality standards are enforceable limits composed of two parts: the designated beneficial uses of water and criteria (i.e., numeric or narrative limits) to protect those beneficial uses. Municipal and domestic supply (MUN) is among the "beneficial uses" defined in Section 13050(f) of the Porter-Cologne Act as uses of surface water and groundwater that must be protected against water quality degradation. Maximum contaminant levels (MCLs) are components of the drinking water standards adopted by the California Department of Health Services (now Department of Public Health or DPH) pursuant to the California Safe Drinking Water Act (Title 22 of the CCR, Division 4, Chapter 15, Domestic Water Quality and Monitoring). Primary water quality objectives were established for protection of health. Secondary water quality objectives were established for aesthetic concerns (e.g., taste and odor, staining of laundry and porcelain fixtures), and at elevated levels do not pose a health hazard.

Drinking water MCLs directly apply to water supply systems "at the tap" (i.e., at the point of use by consumers in, for example, their home and office), and are enforceable by the State and Los Angeles County Departments of Public Health. California MCLs, both primary and secondary, directly apply to groundwater and surface water resources when they are specifically referenced as water quality objectives in the pertinent basin plan. In such cases, MCLs become enforceable limits by the SWRCB and RWQCBs. When fully health protective, MCLs may also be used to interpret narrative water quality objectives prohibiting toxicity to humans in water designated as a source of drinking water (MUN) in the basin plan.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Act is California's statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update basin plans. Basin plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of reports of waste discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWDs and/or WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD BASIN PLAN

The City of Burbank is within the jurisdiction of the Los Angeles RWQCB, which is responsible for the preparation and implementation of the water quality control plan for the Los Angeles Region (Los Angeles RWQCB 1995). The basin plan defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for waters of the coastal drainages in the Los Angeles region between Rincon Point on the coast of western Ventura County and the eastern Los Angeles County line. The basin plan contains specific numeric water quality objectives that apply to certain water bodies or portions of water bodies. Objectives have been established for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, total dissolved solids, temperature, turbidity, and trace elements. Numerous narrative water quality objectives have also been established.

CALIFORNIA STATE NONDEGRADATION POLICY

In 1968, as required under the federal antidegradation policy described above, the SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

- Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the State and would not unreasonably affect present and anticipated beneficial uses of such water.

- Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements, which would ensure (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the State would be maintained.

California Toxics Rule and State Implementation Plan

The CTR was issued in 2000 in response to requirements of the EPA National Toxics Rule and establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The CTR criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are subject to CWA Section 303(c). The CTR includes criteria for the protection of aquatic life and human health. Human health criteria (water and organism based) apply to all waters with a Municipal and Domestic Water Supply Beneficial Use designation as indicated in the basin plans.

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the SIP, was adopted by the SWRCB in 2000. It establishes provisions for:

- translating CTR criteria, National Toxics Rule criteria, and the basin plans' water quality objectives for toxic pollutants into NPDES permit effluent limits;
- determining effluent compliance;
- monitoring for 2,3,7,8-TCDD (dioxin) and its toxic equivalents;
- providing chronic (long-term) toxicity control;
- initiating site-specific water quality objective development; and
- granting exceptions for effluent compliance.

The goal of the SIP is to establish a standardized approach for the permitting of discharges of toxic effluents to inland surface waters, enclosed bays, and estuaries in a consistent fashion throughout the state.

NPDES Permit System and Waste Discharge Requirements for Construction

The SWRCB and Los Angeles RWQCB have adopted specific NPDES permits for a variety of activities that have potential to discharge wastes to waters of the state. The SWRCB General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 99-08-Division of Water Quality [DWQ]) applies to all land-disturbing construction activities that would affect one acre or more. The Los Angeles RWQCB has issued a General NPDES Permit and General WDRs governing construction-related dewatering discharges within the Los Angeles RWQCB's jurisdictional area (Los Angeles RWQCB Order No. R4-2003-0111; NPDES No. CAG994004). This permit, known as the General Dewatering Permit (GDP), addresses discharges from temporary dewatering operations associated with construction and permanent dewatering operations associated with development. The discharge requirements include provisions mandating notification, sampling and analysis, and reporting of dewatering and testing-related discharges. The NPDES permits all involve similar processes including submittal of notices of intent to discharge to the Los Angeles RWQCB and implementation of best management practices (BMPs) to minimize those discharges. The Los Angeles RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the state.

Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-storm-water discharges to storm sewer systems and other waters. The permit also requires dischargers to install postconstruction permanent BMPs that would remain in service to protect water quality throughout the life of the project. Types of BMPs include source controls, treatment controls, and site planning measures.

Activities subject to the NPDES general permit for construction activity must develop and implement a storm water pollution prevention plan (SWPPP). The SWPPP includes a site map and description of construction activities and identifies the BMPs that will be employed to prevent soil erosion and discharge of other construction related pollutants, such as petroleum products, solvents, paints, cement, that could contaminate nearby water resources. A monitoring program is generally required to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of pollutants that are related to storm water.

On September 2, 2009, the SWRCB approved important changes to Order 99-08-DWQ. The amended general permit (Order 2009-0009-DWQ) became effective on July 1, 2010, and differs from Order 99-08-DWQ in the following important ways:

- Risk-Based Permitting Approach: The amended general permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: (1) Project Sediment Risk and (2) Receiving Water Risk.

- Rainfall Erosivity Waiver: The amended general permit includes the option allowing a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their project's given location and time frame calculates to be less than or equal to 5 (the variable "R" in the EPA's Revised Universal Soil Loss Equation). Dischargers can access the online rainfall erosivity calculator from EPA's Web site.

- Technology-Based Numeric Action Levels (NAL): the amended general permit includes NALs for pH and turbidity.

- Technology-Based Numeric Effluent Limitations (NEL): the amended general permit contains daily average NELs for pH during any construction phase where there is a high risk of pH discharge and daily average NELs turbidity for all discharges in Risk Level 3. The daily average NEL for turbidity is set at 500 Nephelometric Turbidity Units (NTUs) to represent the minimum technology that sites need to employ to meet the traditional best available technology economically achievable [BAT]/

best conventional pollutant control technology [BCT] standard and the traditional, numeric receiving water limitations for turbidity.

- Minimum Requirements Specified: The amended general permit imposes more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.

- Project Site Soil Characteristics Monitoring and Reporting: The amended general permit provides the option for dischargers to monitor and report the soil characteristics at their project location. The primary purpose of this requirement is to provide better risk determination and eventually better program evaluation.

- Effluent Monitoring and Reporting: The amended general permit requires effluent monitoring and reporting for pH and turbidity in storm water discharges. The purpose of this monitoring is to determine compliance with the NELs and evaluate whether NALs included in this general permit are exceeded.

- Receiving Water Monitoring and Reporting: The amended general permit requires some Risk Level 3 dischargers to monitor receiving waters and conduct bioassements.

- Postconstruction Storm Water Performance Standards: The amended general permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize and/or mitigate impacts from postconstruction storm water runoff.

- Rain Event Action Plan: The amended general permit requires certain sites to develop and implement a rain event action plan that must be designed to protect all exposed portions of the site within 48 hours before any likely precipitation event.

- Annual Reporting: The amended general permit requires all projects that are enrolled for more than one continuous 3-month period to submit information and annually certify that their site is in compliance with permit requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and pubic information.

- Certification/Training Requirements for Key Project Personnel: The amended general permit requires that key personnel (e.g., SWPPP preparers, inspectors) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with general permit requirements.

- Linear Underground/Overhead Projects: The amended general permit includes requirements for all linear underground/overhead projects.

MUNICIPAL STORMWATER PERMIT PROGRAM

The SWRCB Municipal Storm Water Permitting Program regulates storm water discharges from MS4s. MS4 permits are issued in two phases. Under Phase I, which started in 1990, the RWQCBs adopted NPDES storm water permits for medium municipalities (serving between 100,000 and 250,000 people). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. As part of Phase II, the SWRCB adopted a General Permit for the Discharge of Storm Water from Small MS4s (Water Quality Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities. The current MS4 permit requires the discharger to develop and implement a storm water management plan/program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the CWA. The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. Medium municipalities are required to conduct chemical monitoring.

On December 13, 2001, the Los Angeles RWQCB issued an MS4 permit (No. CAS004001, Order No. 01-182, as amended on September 14, 2006, by Order R4-2006-0074 and on August 9, 2007, by Order R4-2007-0042) to Los Angeles County, the Los Angeles County Flood Control District, and 84 co-permittee cities within the Los Angeles region, including the City of Burbank. The MS4 permit designates the Los Angeles County Flood Control District (LACFCD) as the principal permittee, and Los Angeles County and 84 cities within the Los Angeles County Flood Control District as co-permittees. As the principal permittee, the LACFCD is required to coordinate and facilitate activities with the co-permittees necessary to comply with the permit requirements, but is not responsible for ensuring compliance of any individual permittee. Each permittee is required to comply only with the permit requirements applicable to discharges within its boundaries. Within its geographic jurisdiction, each permittee is required to:

- comply with the requirements of the Stormwater Quality Management Program (SQMP) (summarizes the program components the co-permittees will implement to comply with the MS4 permit and to reduce the discharges of pollutants in stormwater to the MEP), as described in Part 3 of the MS4 permit;

- coordinate among its internal departments and agencies, as appropriate, to facilitate implementation of the requirements of the SQMP;

- participate in intra-agency coordination (e.g., fire department, building and safety, code enforcement, public health) necessary to successfully implement the provisions of the permit and the SQMP; and

- prepare an annual budget summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for specific categories defined in Part 3, Section E of the permit,

URBAN WATER MANAGEMENT PLANNING ACT

Each urban water supplier in California is required to prepare an urban water management plan (UWMP) and update the plan on or before December 31 in years ending in 5 and 0, pursuant to California Water Code Sections 10610–10657, as last amended by SB 318 (Chapter 688, Statutes of 2004), the Urban Water Management Planning Act. SB 318 is the 18th amendment to the original bill requiring a UWMP, which was initially enacted in 1983. The latest City of Burbank UWMP was produced in 2005 (BWP 2005).

SENATE BILL 610

SB 610 (Chapter 643, Statues of 2001) became effective January 1, 2002. The purpose of SB 610 is to strengthen the process by which local agencies determine whether current and future water supplies are adequate and sufficient to meet current and future demand. SB 610 amended the California Public Resources Code to incorporate California Water Code requirements within the CEQA process for certain types of projects. Projects requiring water supply assessments include (State Water Code Section 10912 (a):

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- a proposed hotel or motel, or both, having more than 500 rooms;
- a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- a mixed-use project that includes one or more of the projects specified in this subdivision; or,
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

SB 610 also amended the California Water Code to broaden the types of information required to be included in an UWMP (Water Code Section 10610 et seq.).

SENATE BILL 221

SB 221 (Chapter 642, Statues of 2001) requires a county or city to include as a condition of approval of any tentative map, parcel map, or development agreement for certain residential subdivisions a requirement that a "sufficient water supply" be available. Proof of a sufficient water supply must be based on a written verification from the public water system that would serve the development. To determine "sufficient water supply," the water supplier must consider:

- the availability of water supplies over a historical record of at least 20 years,
- the applicability of an urban water shortage contingency analysis,
- any reductions in water supply allocated to a specific water use sector pursuant to an adopted resolution or ordinance or contractual obligation on the part of the public water system, and
- the amount of water that the water supplier can reasonably rely on receiving from other water supply projects.

The written verification of a water supplier's ability or inability to provide sufficient water to a subdivision needs to be supported by substantial evidence, which may include the public water system's most recently adopted UWMP or other information relating to the sufficiency of the water supply.

RECYCLED WASTEWATER REQUIREMENTS

Wastewater recycling in California is regulated under Title 22, Division 4, of the CCRs under the jurisdiction of DPH. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. The regulations establish acceptable levels of constituents in recycled water for a range of uses and prescribe means for ensuring reliability in the production of recycled water. Using recycled water for nonpotable uses is common throughout the state and is an effective means of maximizing use of water resources. The RWQCB establishes water reclamation requirements under the Title 22 regulations and is responsible for implementing wastewater recycling projects. These requirements and standards are summarized in Tables 11-4 and 11-5.

CALIFORNIA DEPARTMENT OF WATER RESOURCES

The California Department of Water Resources is responsible for preparation of the California Water Plan, management of the SWP, regulation of dams, provision of flood protection, and other functions related to surface water and groundwater resources. These other functions include helping water agencies prepare their UWMPs, which are discussed in Chapter 16, Public Services, Utilities, and Recreation.

Table 11-4 Summary of Title 22 Recycled Water Treatment and Use Requirements	
Treatment Process	**Allowable Uses**
Undisinfected Secondary	Orchards and vineyards where the recycled water does not come into contact with the edible portion of the crop; nonfood bearing trees; fodder/ fiber/pasture for animals not producing milk for human consumption; seed crop not for human consumption; nursery and sod farms, with restrictions.
Disinfected Secondary-23	As above, plus cemeteries; freeway landscaping; restricted access golf courses; nursery and sod farms (unrestricted), pasture for animals producing milk for human consumption; other non-edible vegetation with controlled access; landscape impoundment without decorative fountains.
Disinfected Secondary-2.2	As above, plus irrigation of food crops where no contact occurs between the edible portion and the recycled water; restricted recreational impoundments.
Disinfected Tertiary	As above, plus edible food crops; parks and playgrounds; school yards; residential landscaping; unrestricted access golf courses; nonrestricted recreational impoundments; industrial or commercial cooling.

Disinfected Secondary-23: Defined in Title 22 Chapter 3 Article 1 Section 60301.220
Disinfected Secondary-2.2: Defined in Title 22 Chapter 3 Article 1 Section 60301.225
Source: CDPH 2001

Table 11-5 Title 22 Disinfected Tertiary Recycled Water Standards for Unrestricted Use	
Constituent	**Standard**
Turbidity	24-hour average: < 2 NTU Less than 5% of values: > 5 NTU At all times: < 10 NTU
Total coliform bacteria	Running 7-day median: < 2.2 MPN/100 ml Once every 30 days: > 23 MPN/100 ml At all times: < 240 MPN/100 ml
Biochemical oxygen demand, 5-day	At all times: < 10 mg/l
Total suspended solids	At all times: < 10 mg/l

Notes:
NTU = Nephelometric Turbidity Unit
MPN/100mL = Most Probable Number per 100 milliliters
mg/l = milligrams per liter
Source: CDPH 2001

11.2.3 Regional and Local Plans, Policies, Regulations, and Ordinances

Standard Urban Stormwater Mitigation Plan

The *Standard Urban Storm Water Mitigation Plan* (SUSMP) (Los Angeles County DPW 2002) was developed as required in Part D.2 of the Los Angeles County MS4 permit to address stormwater pollution from new construction and redevelopment. On March 8, 2000, the final SUSMP was approved by the Los Angeles RWQCB; it was subsequently updated in February 2002. The SUSMP contains a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce the post-project discharge of pollutants from stormwater conveyance systems. The SUSMP defines the types of practices that must be included and issues that must be addressed as appropriate to the development type and size based on land use type. Compliance with SUSMP requirements is used as one method to evaluate significance of project development effects on surface water runoff. The primary objectives of the MS4 program requirements are to:

1. Effectively prohibit non-storm water discharges, and

2. Reduce the discharge of pollutants from storm water conveyance systems to the MEP statutory standard.

All projects that fall into one of nine categories are identified in the 2001 Los Angeles County MS4 Permit as requiring SUSMPs. These categories are:

- Single-family hillside home (only development of one acre or more of surface area is subject to the SUSMP numerical design criteria requirement);

- Ten or more unit homes (including single family homes, multifamily homes, condominiums, and apartments);

- A 100,000 or more square feet of impervious surface area industrial/commercial developments;

- Automotive service facilities (as defined by Standard Industrial Code [SIC] 5013, 5014, 5541, 7532-7534, and 7536-7539);

- Retail gasoline outlets;

- Restaurants (as defined by SIC 5812);

- Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;

- Redevelopment projects in subject categories that meet Redevelopment thresholds; and

- Location within or directly adjacent to or discharging directly to an environmentally sensitive area.

SUSMP requirements are summarized as follows:

1. Peak Stormwater Runoff discharge Rates. Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion.

2. Conserve Natural Areas. A list of applicable measures consistent with applicable General Plan and Local Area Plan policies must be implemented.

3. Minimize Stormwater Pollutants of Concern. Applicable BMPs are listed and described in the SUSMP. The incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable.

4. Protect Slopes and Channels. Applicable BMPs are listed and described in the SUSMP. Project plans must include BMPs consistent with local codes and ordinances and the SUSMP to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff.

5. Provide Storm Drain Stenciling and Signage

6. Properly Design Outdoor Material Storage Areas. Applicable performance criteria are provided in the SUSMP.

7. Provide Properly Designed Trash Storage Areas. Applicable performance criteria are provided in the SUSMP.

8. Provide Proof of Ongoing BMP Maintenance. As part of project review, if a project applicant has included or is required to include, Structural or Treatment Control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

9. Design Standards for Structural or Treatment Control BMPs. Structural or Treatment control BMPs selected for use at any of the following categories of planning development project shall meet the design standards of the SUSMP unless specifically exempted.

LOS ANGELES RIVER WATERSHED MONITORING PROGRAM

The Los Angeles River Watershed Monitoring Program (LARWMP) was implemented by the Los Angeles RWQCB to address the requirement of an NPDES permit for the City of Los Angeles' Glendale and Donald C. Tillman Water Reclamation Plants, for the Burbank Water Reclamation Plant, and for the Las Virgenes Municipal Water District's Tapia Treatment Plant (Cities of Los Angeles and Burbank 2008:1). The LARWMP provides a framework for monitoring at the watershed scale by:

- expanding the monitoring of ambient conditions related to key beneficial uses to the entire watershed,
- improving the coordination and cost-effectiveness of disparate monitoring efforts, and
- providing a framework for periodic and comprehensive assessments of watershed conditions.

The LARWMP reflects the collaborative work of a workgroup formed at the request of the Cities of Los Angeles and Burbank. The technical committee included representatives from state and federal regulatory agencies, key permittees in the watershed, other resource management agencies, and several conservation organizations active in the watershed (Cities of Los Angeles and Burbank 2008:8–9).

The LARWMP fits within a larger context for monitoring program design being adopted throughout the southern California region. Monitoring activities are organized into three categories:

1. Core monitoring includes long-term monitoring, intended to track compliance with specific regulatory requirements or limits, to conduct ongoing assessments, or to track trends in certain important conditions over time. Thus, core monitoring generally occurs at fixed stations that are sampled routinely over time.

2. Regional monitoring includes cooperative studies that provide a larger-scale view of conditions and can be used to assess the cumulative results of anthropogenic and natural effects on the environment. Regional monitoring also helps to place particular impacts in perspective by comparing local results (i.e., core monitoring) to the breadth and depth of human impacts and natural variability found throughout a larger region.

3. Special projects include specific targeted studies included as adaptive elements within core or regional monitoring designs. These are shorter-term efforts, with a specified beginning, middle, and end, intended to extend or provide more insight into core monitoring results, for example, by investigating the specific sources that may be contributing to a receiving water problem.

The LARWMP focuses primarily on core monitoring and regional monitoring priorities, leaving special projects as the responsibility at this point of the individual program partners.

BURBANK MUNICIPAL CODE

Title 9, Chapter 1, Article 9 (Section 9-1-9-907) of the Burbank Municipal Code describes the requirements for sediment and erosion control BMPs and SWPPPs. Title 9, Chapter 1, Article 1 (Sections 9-1-1-G102.2 and 9-1-1-G103.9) establish flood hazard areas, define the duties and responsibilities of the floodplain administrator, and set requirements and performance standards for construction within flood zones. Title 8, Chapter 1, Article 5 contains general discharge requirements and performance standards for industrial wastewater disposal and sewage plants. Title 8, Chapter 2, Article 3 contains the City's Sustainable Water Use Ordinance. The Water Conserving Fixtures Fittings Ordinance amended Title 9, Chapter 1 of the Burbank Municipal Code to require new water conserving fixtures and fittings standards for all new construction, additions, and certain remodels. Specifically, all new construction projects and some remodels will be required to use certain low flow showerheads, lavatory faucets, water closets, and urinals (City of Burbank 2008).

BURBANK URBAN WATER MANAGEMENT PLAN

The Burbank UWMP was adopted on June 7, 2011 by the Burbank City Council (BWP 2010a). The City is an "urban water supplier" as defined by Section 10617 of the California Water Code. The purpose of the 2010 UWMP is to serve as a foundational document and source of information for Water Supply Assessments (SB 610) and Written Verifications of Water Supply (SB 221). The UWMP also serves as:

- A long-range planning document for water supply.
- Source data for development of a regional water plan.
- A source document for cities and counties as they prepare their General Plans.
- A key component to Integrated Regional Water Management Plans.

Pursuant to SB 610, described above, the UWMP provided estimates for population, water demand, and water supply with projections in five-year increments to 2035.

BURBANK RECYCLED WATER MASTER PLAN

Burbank's *Recycled Water Master Plan* (BWP 2010b) describes the City's recycled water system, operated by BWP. In fiscal year 2009-2010, this system delivered over 675 mgd of recycled water to customers within the city limits (BWP 2010b:1-1). BWP's recycled water system is used for landscape irrigation, industrial use, fire suppression, and heating, ventilation, and air conditioning systems. The source of water for this system is the city-owned Burbank Water Reclamation Plant (BWRP), which produces tertiary-treated water (the highest level of treatment) that is approved for all uses but drinking. BWP operates and maintains numerous pipelines, pump stations, and reservoirs that are dedicated to providing recycled water throughout the city. The City of Burbank Public Works Department hires its contractor United Water, Inc., to operate and maintain the BWRP (BWP 2007:I–II). The existing system is consists of the following elements:

- *Burbank Water Reclamation Plant.* This is the source of recycled water. This facility, near the intersection of Chestnut and Lake Streets, west of the Golden State Freeway (I-5), currently receives an average of approximately 8.5 mgd, but has the capacity to receive and treat up to 12.5 mgd. At the point of discharge recycled water is being delivered through a 20 inch gravity flow pipeline to serve recycled water to the BWP Campus for the power plant yard, landscape irrigation, and HVAC system. The recycled water at BWRP is also pumped through PS-1 to serve recycled water system customers throughout the City.

- *Distribution System.* A distribution system of approximately 230 miles of pipeline ranging from 6- to 30 inches in diameter, 2 pumping stations and corresponding pressure zones.

- The largest customer by far is the Magnolia Power Plant The Magnolia power plant has a demand of approximately 1.2 to 1.9 MGD for cooling and all other power plant process uses. The average annual usage is estimated to be approximately 1.2 MGD (1,350 AFY). The power plant recycles all its process and cooling water to extinction through its zero liquid discharge (ZLD) unit. The ZLD unit purifies and filters all recaptured water for reuse. Per the agreement developed between BWP and the Magnolia Power Plant, power plant personnel fill the plant's storage reservoir with recycled water during the off-peak hours of the recycled water system between 9:00 a.m. and 9:00 p.m. to allow smoother system operation and manage recycled water system flows and pressure levels more efficiently.

This page intentionally left blank.

12 LAND USE AND PLANNING

12.1 ENVIRONMENTAL SETTING

The City of Burbank encompasses 17.1 square miles (10,966 acres) in the eastern San Fernando Valley of southern Los Angeles County, 12 miles northwest of Downtown Los Angeles. Burbank is bordered by the City of Glendale to the east and the City of Los Angeles to the north, west, and south. The Verdugo Mountains border Burbank to the east.

The city is predominately laid out on a gridded street system with I-5 and the UPRR right-of-way bisecting it from northwest to southeast. Several axial roadways break up the strict geometry of the grid and either act as a hinge to rotate the grid as with West Burbank Boulevard, or bisect it at a diagonal angle as with West Olive Avenue. Roadways in the northeast planning area respond to the natural contours of the Verdugo Mountains and do not follow the grid found within the rest of the city.

12.1.1 EXISTING LAND USES

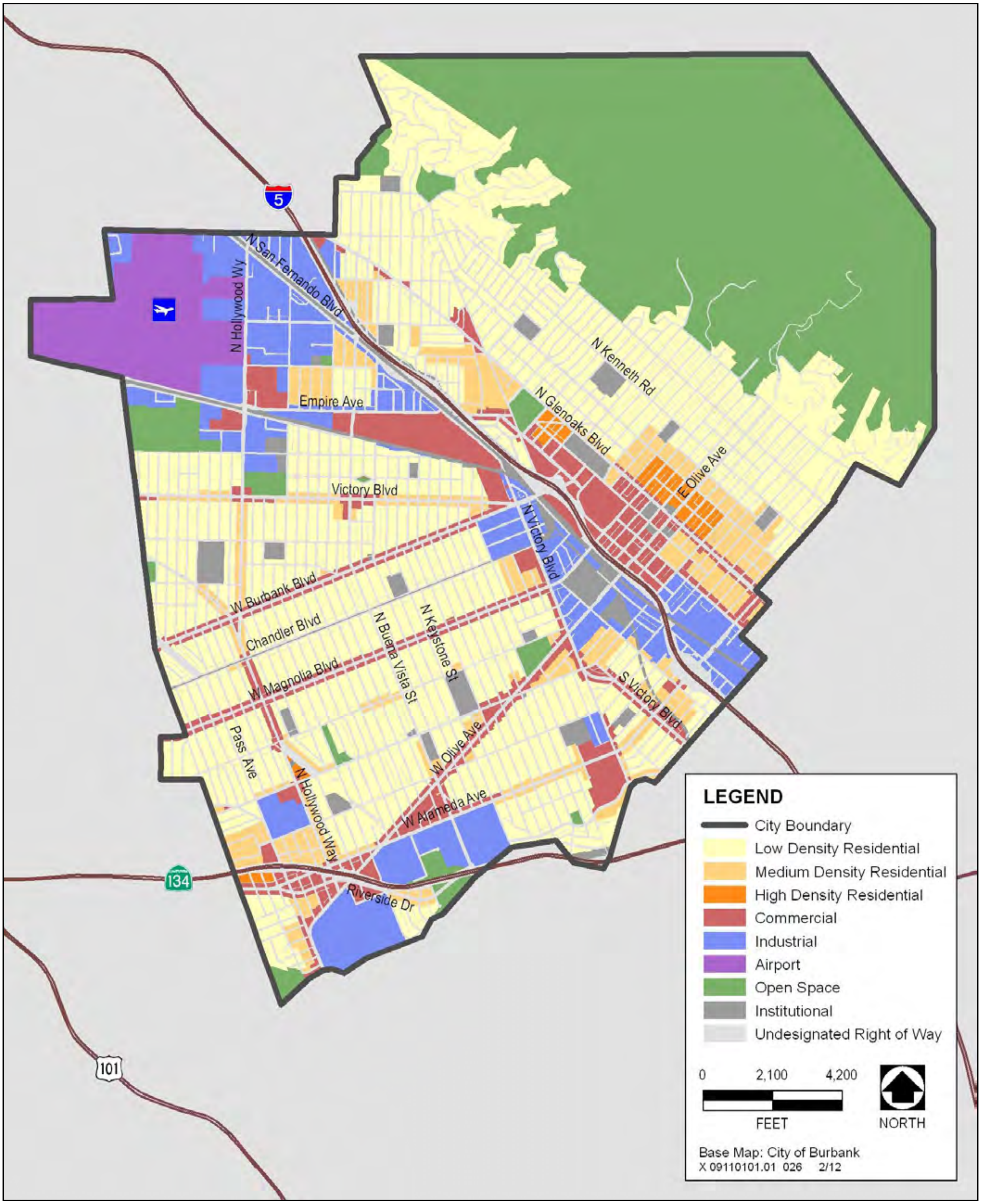
The City's existing land uses include residential, commercial, industrial, open space, institutional, airport, and right-of-way uses. Table 12-1 shows the City's existing land uses, organized into nine broad land use categories that do not directly correspond to the proposed land use designations in *Burbank2035*. Descriptions of the nine land use categories included in Table 12-1 and Figure 12-1 are provided below.

LOW DENSITY RESIDENTIAL

The predominant existing land use in the city is low-density residential housing, which comprises 3,367 acres or 31% of the land area. Low-density residential uses are distributed throughout the planning area. Low-density residential uses include single-family homes and duplexes. The *Burbank2035* Land Use Element provides a maximum density of 7 units per acre for single-family neighborhoods (R-1 zone) and 14 units per acre for duplex neighborhoods (R-2 zone) in the Low-Density Residential designation.

MEDIUM DENSITY RESIDENTIAL

Medium-density residential uses in Burbank contain multifamily housing developments, often mixed with single-family housing units. Existing medium-density residential neighborhoods comprise 546 acres (5%) of the city and are concentrated in several areas. Similar to commercial corridors, linear concentrations of multifamily uses occur adjacent to and within single-family neighborhoods and can be found along Victory Boulevard, Hollywood Way, and portions of Alameda Avenue. Larger areas of multifamily housing uses can be found around SR 134, along West Olive Avenue, and between I-5 and Sixth Street. A large concentration of medium-density residential uses is located east of Downtown Burbank. The *Burbank2035* Land Use Element provides a maximum density of 29 units per acre in the Medium Density Residential designation.



Source: City of Burbank adapted by AECOM 2010

Existing Land Uses **Figure 12-1**

Table 12-1 Existing Land Uses			
Existing Use Categories	**Corresponding *Burbank2035* Category**	**Acreage**	**Percent of Total**
Low Density Residential	Low Density Residential	3,367	31%
Medium Residential	Medium Density Residential	546	5%
High Density Residential	High Density Residential	64	1%
Commercial Industrial	Corridor Commercial, Regional Commercial, Downtown Commercial, South San Fernando Commercial, North Victory Commercial/Industrial, Media District Commercial, Rancho Commercial, Golden State Commercial/Industrial	660 909	6% 8%
Open Space	Open Space	2,671	24%
Institutional	Institutional	342	3%
Airport	Airport	436	4%
Right of Way	-	1,971	18%
Total		**10,966**	**100%**

Note: Existing land use data describes different land use designations than the *Burbank2035* Land Use Element. The Corresponding *Burbank2035* Category column shows the correlation between to the two classification systems.
Source: Compiled by AECOM in 2010 with data from the City of Burbank

HIGH DENSITY RESIDENTIAL

High density residential uses comprise 64 acres (1%) of the city and are primarily concentrated northeast of Downtown Burbank along North Sixth Street between Elmwood Avenue and Harvard Avenue. High density residential uses generally contain multifamily housing developments with two- to four-story buildings. The High Density Residential designation described in the *Burbank2035* Land Use Element provides for a maximum density of 43 units per acre.

COMMERCIAL

Commercial uses comprise 660 acres (6%) of the city and are dispersed across several areas. Neighborhood-serving commercial uses line several streets to create commercial corridors, including Burbank Boulevard, Magnolia Boulevard, Olive Avenue, and Victory Boulevard. Larger auto-oriented commercial uses are found between Empire Avenue, Victory Place, and the Union Pacific Railroad (UPRR) tracks. Airport-serving uses, such as chain restaurants and hotels are located along Hollywood Way. Uses serving employment centers, including restaurants, are clustered around the intersection of SR 134 and Olive Avenue, within the *Media District Specific Plan* (MDSP) area. The Burbank Town Center is a regional commercial use at the intersection of Magnolia and San Fernando Boulevards that includes national retailers and chain restaurants. Pedestrian-oriented commercial uses are concentrated in Downtown Burbank between I-5, Verdugo Avenue, Third Street, and Magnolia Boulevard.

INSTITUTIONAL

Institutional uses include City facilities, public schools, flood control channels, railroad tracks, and other public and private institutions. Existing institutional uses account for 342 acres (3%) and are distributed throughout the city.

INDUSTRIAL

Industrial uses account for 909 acres (8%) of the city's area. Industrial uses are concentrated around Bob Hope Airport, along the I-5 corridor, and in the southwestern planning area where the media studios are located. Most industrial uses along I-5 south of Burbank Boulevard are included in the *Burbank Center Plan* (BCP). Industrial uses associated with the film studios are included in the MDSP. See "Specific Plans" below for a description of the city's three specific plan areas.

AIRPORT

The airport use includes the Bob Hope Airport and comprises 436 acres (4%) in the northwestern portion of the city. The airport is adjacent to industrial, commercial, and open space uses.

OPEN SPACE

The second largest land use in the city is open space with 2,671 acres (24%). Open space is largely concentrated in the Verdugo Mountains east of low-density residential neighborhoods. This category also includes public parks, cemeteries, private open space, and golf courses, which are dispersed throughout the city.

RIGHT OF WAY

Undesignated rights-of-way (e.g., roads, highways) comprise 1,971 acres (18%) of the city.

12.1.2 ZONING

The Burbank Zoning Ordinance includes the 36 zones listed in Table 12-2. The zoning ordinance provides for nine residential zones, including one to allow horse keeping. The Media District, Rancho, and Burbank Center zones are included to implement specific plans.

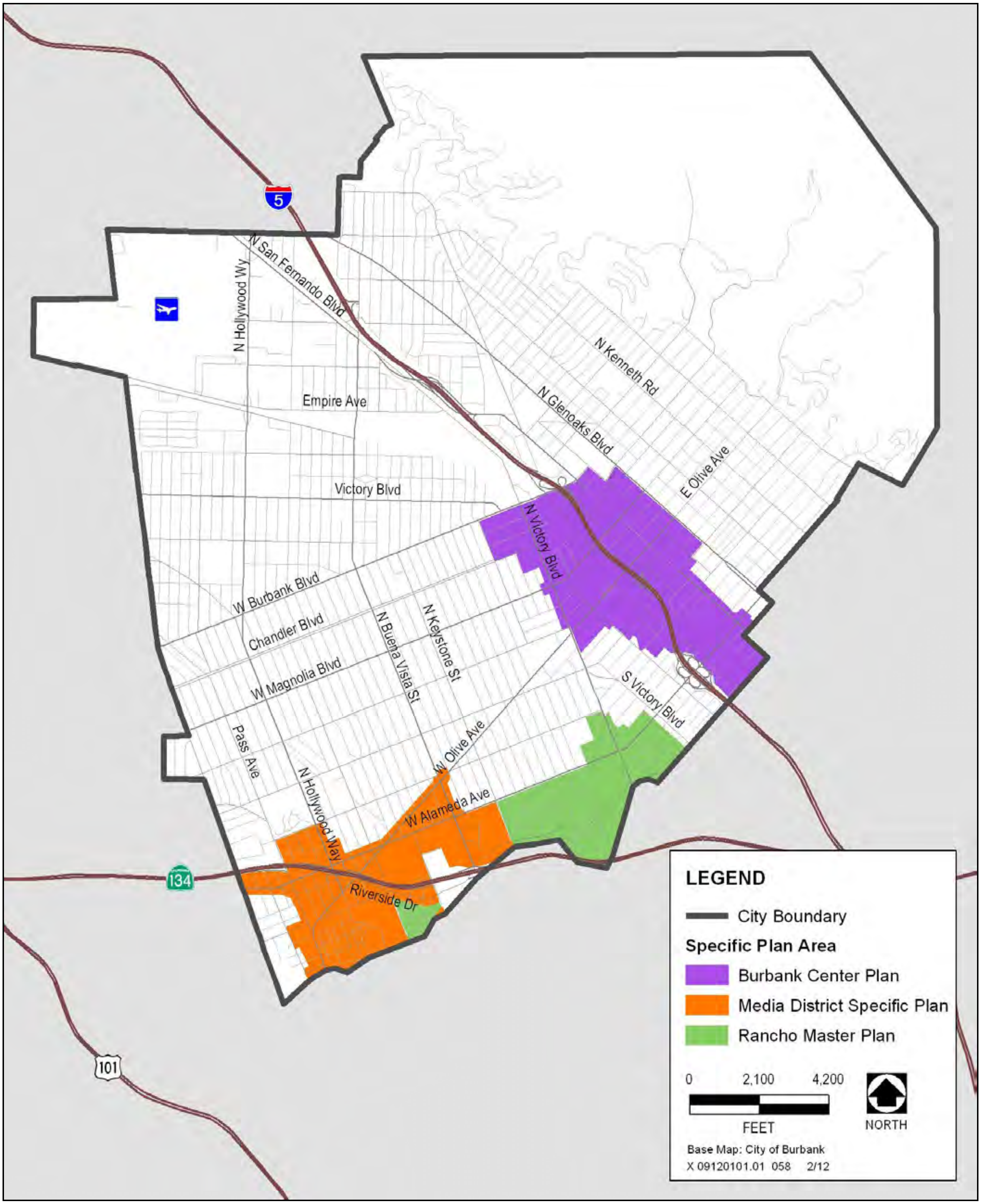
12.1.3 SPECIFIC PLANS

The City has two adopted specific plans and a third designated specific plan area with accompanying land use policies and zoning regulations. In each case, unique land use strategies and policies guide development within their boundaries (Figure 12-2). These specific plans are incorporated by reference in *Burbank2035*, but are maintained as separate documents.

Table 12-2
Land Use Zones

Symbol	Description
R-1	Single Family Residential Zone
R-2	Low Density Residential Zone
R-3	Medium Density Residential Zone
R-4/R-5	High and Very High Density Residential Zones
C-1	Commercial Retail–Professional Zone
C-2	Commercial Limited Business Zone
C-3	Commercial General Business Zone
C-4	Commercial Unlimited Business Zone
M-1	Manufacturing Limited Industrial Zone
M-2	Manufacturing General Industrial Zone
Airport	Airport Zone
Cemetery	Cemetery Zone
Railroad	Railroad Zone
Open Space	Open Space Zone
MDR-3	Media District – Medium Density Residential Zone
MDR-4/MDR-5	Media District – High and Very High Density Residential Zone
MDM-1	Media District Industrial Zone
MDC-2	Media District Limited Commercial Zone
MDC-3	Media District General Business Zone
MDC-4	Media District Commercial/Media Production Zone
R-1-H	Single Family Residential Horsekeeping Zone
NB	Neighborhood Business Zone
GO	Garden Office Zone
RC	Rancho Commercial Zone
C-R	Commercial–Recreational Zone
RBP	Rancho Business Park Zone
BCC-1	Burbank Center Commercial Retail–Professional Zone
BCC-2	Burbank Center Commercial Limited Business Zone
BCC-3	Burbank Center Commercial General Business Zone
BCCM	Burbank Center Commercial Manufacturing Zone
MPC-1	Magnolia Park Commercial Retail–Professional Zone
MPC-2	Magnolia Park Commercial Limited Business Zone
MPC-3	Magnolia Park Commercial General Business Zone
AD	Auto Dealership Zone

Source: Burbank Municipal Code, Section 10-1-301



Source: City of Burbank 2010

Specific Plan Areas **Figure 12-2**

BURBANK CENTER PLAN

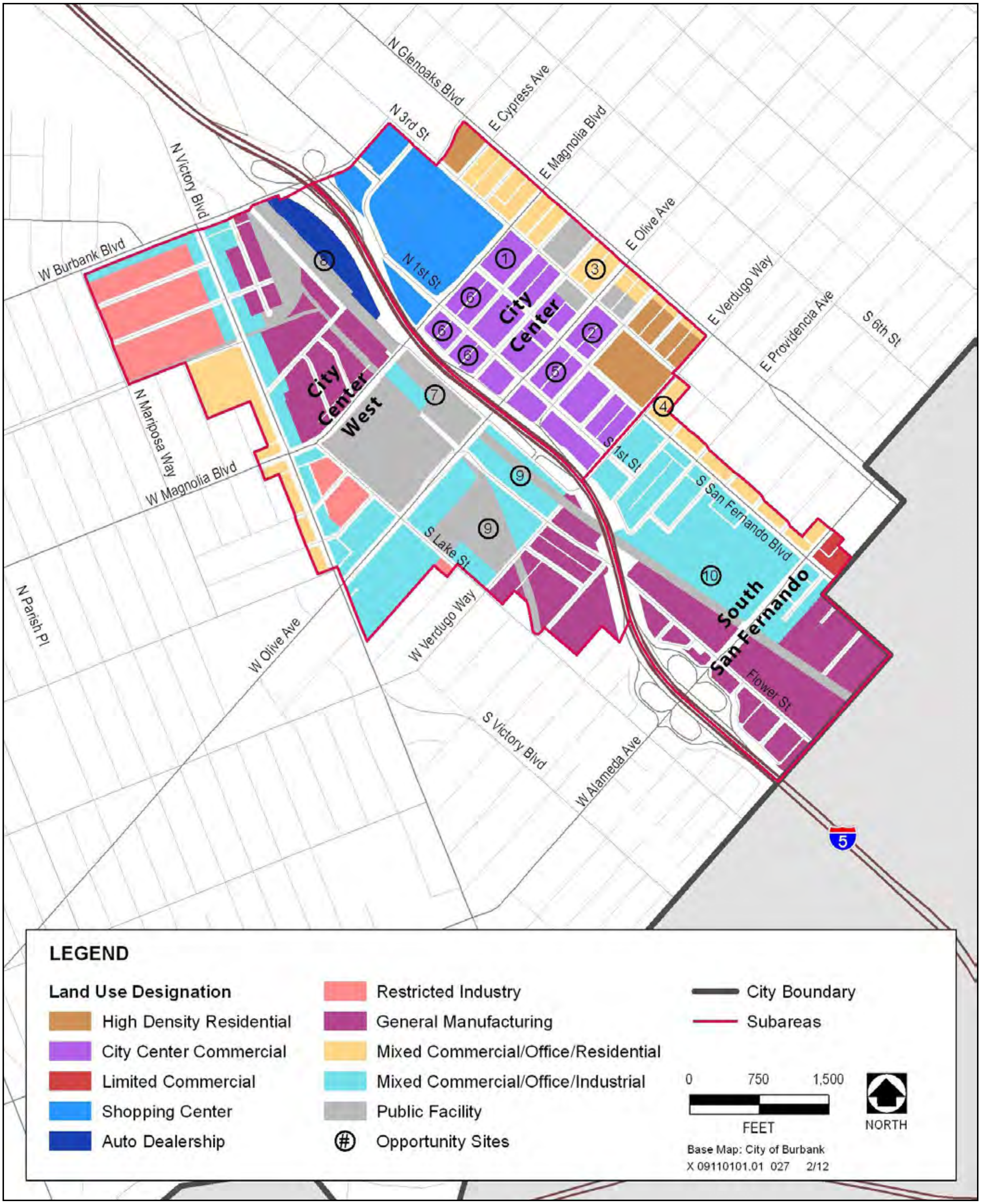
The BCP was adopted in 1997 as an economic revitalization plan for Downtown Burbank and its surrounding areas. The BCP includes an area approximately bound by Burbank Boulevard to the north, Glenoaks and San Fernando Boulevards to the east, the Burbank/Glendale city boundaries to the south, and Lake Street and Victory Boulevard to the west (see Figure 12-3). The BCP includes a mix of industrial, commercial, high-density residential, and public uses and aims to revitalize underutilized industrial properties and minimize motor vehicle traffic on local streets in the neighborhoods within and around the specific plan area. The plan focuses on intensifying uses around existing and proposed intermodal transportation centers to increase opportunities for public transportation and walking within the downtown area.

The BCP comprises three subareas with distinct land use issues, shown on Figure 12-3. The City Center is located east of I-5 and north of Verdugo Avenue and has experienced recent revitalization with office, retail, and entertainment uses. Parking management is the primary concern in this subarea. The South San Fernando subarea is located east of I-5 and south of Verdugo Avenue. This subarea includes underutilized industrial properties with the opportunity to assemble large parcels to support revitalization efforts. The City Center West subarea is located west of I-5 and includes commercial and light industrial properties with future potential to recycle into mixed-use and transit-oriented developments. The BCP also identified 10 vacant or underutilized opportunity sites that had potential to be recycled to act as catalysts for additional development in the surrounding areas (see Figure 12-3).

MEDIA DISTRICT SPECIFIC PLAN

The MDSP was adopted in 1991 in response to the development of several high-rise office buildings in the 1980s. The plan restricts the growth of commercial and industrial uses in southwestern Burbank to minimize future effects on surrounding residential neighborhoods. The most important feature of the plan is the introduction of development intensity limits. The MDSP establishes a density of 1.1 gross square feet of office-equivalent development per 1.0 square foot of lot area. This floor-to-area ratio of 1.1 is considerably lower than that of several high-rise buildings previously constructed in the area, which range from 4.0 to 7.2. Additional neighborhood protection techniques include height restrictions and height step backs from residential uses, development standards to improve the aesthetic quality of the area, and traffic diversion to protect surrounding neighborhoods from through-traffic and on-street parking competition from Media District employees. While the MDSP seeks to limit the amount of commercial and industrial growth that can occur, it was also created to allow sufficient opportunity for continued development of media and medical industries.

The MDSP is generally located around the intersection of SR 134 and Olive Avenue, as shown in Figure 12-4. The specific plan area includes Warner Bros. Studios, Burbank Studios, ABC Studios, Disney Studios, Providence St. Joseph Medical Center, and surrounding multifamily residential, commercial, and industrial areas. Commercial uses are generally distributed along Olive and Alameda Avenues. Industrial uses, including the media studios and Providence St. Joseph Medical Center, are located south



Source: City of Burbank 2010

Burbank Center Plan Land Use **Figure 12-3**

Source: City of Burbank 2010

Media District Specific Plan Land Use **Figure 12-4**

of Olive Avenue. Medium- and high-density residential uses are generally distributed north of Alameda Avenue, west of Pass Avenue, and east of California Street.

The MDSP is generally located around the intersection of SR 134 and Olive Avenue, as shown in Figure 12-4. The specific plan area includes Warner Bros. Studios, Burbank Studios, ABC Studios, Disney Studios, Providence St. Joseph Medical Center, and surrounding multifamily residential, commercial, and industrial areas. Commercial uses are generally distributed along Olive and Alameda Avenues. Industrial uses, including the media studios and Providence St. Joseph Medical Center, are located south of Olive Avenue. Medium- and high-density residential uses are generally distributed north of Alameda Avenue, west of Pass Avenue, and east of California Street.

RANCHO MASTER PLAN

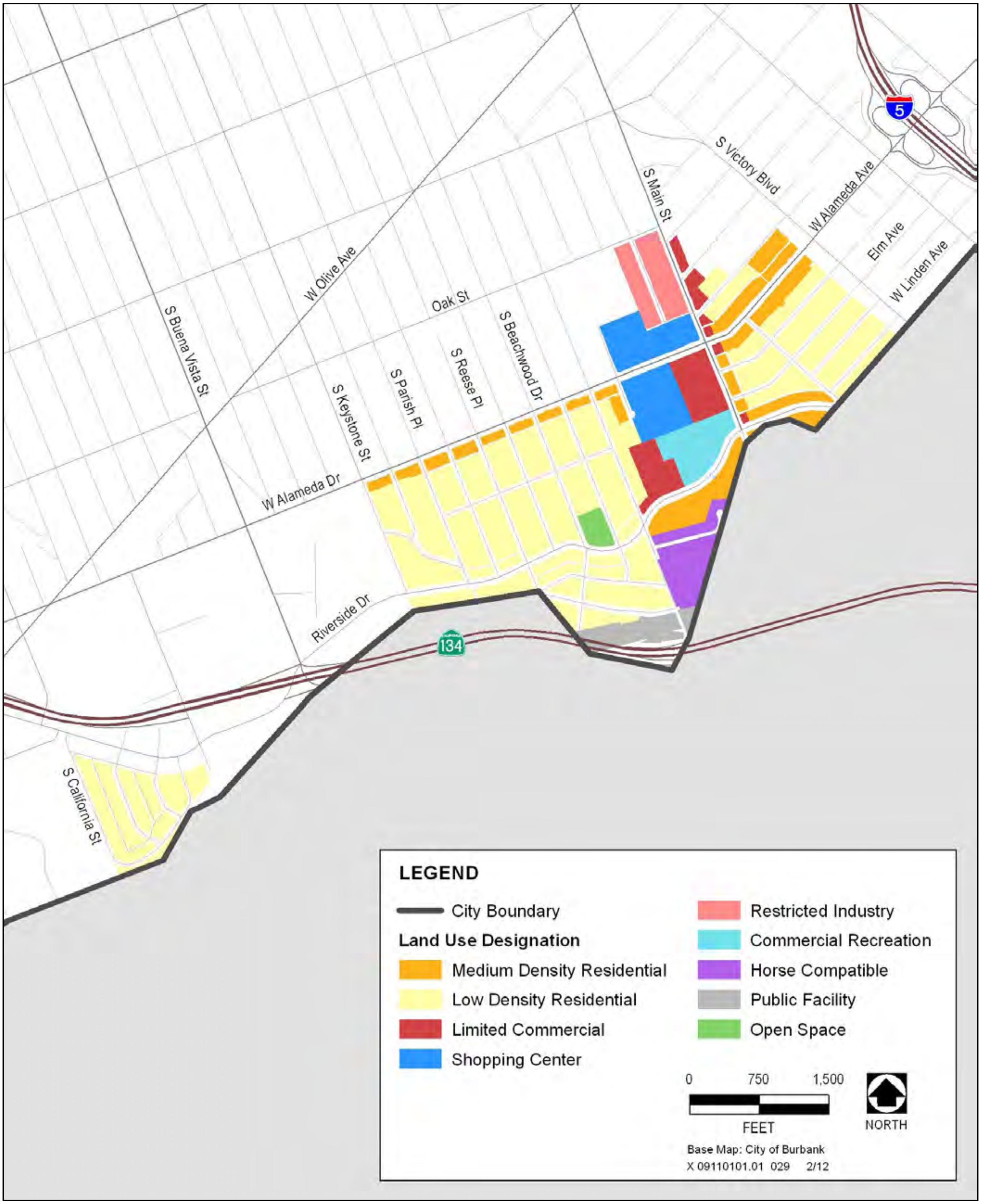
The *Draft Rancho Commercial Recreation Master Plan* was prepared in 1992, but was not adopted by the Burbank City Council. However, land use policies and zoning regulations for the Rancho neighborhood were adopted in 1993 in an effort to recognize and preserve its unique equestrian character. A General Plan amendment in 1993 incorporated the land use component of the Rancho Master Plan into the General Plan's Land Use Element. Land use designations for the Rancho Master Plan are shown on Figure 12-5.

Ordinance No. 3343 created the Rancho Master Plan Area (RMPA), established regulations and development standards for the RMPA, and created a Rancho Review Board to review all development projects within the RMPA that are subject to development review. Ordinance No. 3343 regulates land zoned residential single family horsekeeping, neighborhood business, garden office, Rancho commercial, commercial-recreation, and Rancho business park. Design standards apply within all zones, except residential single family horsekeeping, and address items such as roof style, building orientation, pedestrian entry, architectural design, and building materials, finishes, and colors.

Low-density residential is the primary designation within the RMPA and is generally located south of Alameda Avenue. Medium-density residential designations line Alameda Avenue, Riverside Drive, and portions of Main Street. A commercial and industrial business concentration is located in approximately the center of the RMPA.

12.1.4 AIRPORT LAND USE COMPATIBILITY

The City Council approved a development agreement with the Burbank-Glendale-Pasadena Airport Authority in February 2005. Among other provisions, the agreement prohibits the airport from expanding the existing passenger terminal or constructing a new passenger terminal through 2015. In return, the City may not change the development or use standards applicable to the Airport or take any action that constitutes planning for a new terminal, including creating new or updated General Plan policies related to a terminal.



Source: City of Burbank 2010

Rancho Master Plan Land Use **Figure 12-5**

The Los Angeles County Airport Land Use Commission (ALUC) has adopted an Airport Influence Area for the Bob Hope Airport (Los Angeles County 2004:19). An Airport Influence Area describes the area in which noise, overflight, safety, or airspace protection factors related to airport may affect land uses or necessitate restrictions on those uses as determined by the ALUC. The Airport Influence Area, shown in Figure 12-6, is defined by the noise contour of 65 community noise equivalent level (see Chapter 14, "Noise"). In accordance with state regulations (California State Assembly Bill 2776, which amends Section 11010 of the Business and Professions Code and Sections 1102.6, 1103.4, and 1353 of the Civil Code, relating to aviation), the seller of a property in the Airport Influence Area must provide the purchaser with a Real Estate Transfer Disclosure Statement that includes a "Notice of Airport in Vicinity" indicating that the property is located in an Airport Influence Area.

The *Los Angeles County Airport Land Use Plan* (ALUP) identifies two safety zones within the planning boundaries of the airport: the Approach Surface and the Runway Protection Zone. The Approach Surface governs the height of objects on or near the airport. It is an imaginary inclined plane that extends from the end of the runway surface to an outward distance dependent upon runway use. The Approach Surface width and slope are also dependent upon runway use. Generally, objects are not allowed to extend above this imaginary plane. If one does, it needs to be marked or removed (Los Angeles County Department of Regional Planning 2004:9).

The Runway Protection Zone is the ground level area that provides for unobstructed passage of landing aircraft through the airspace above. It begins at the end of the runway surface, and its size is dependent upon the designated use of the runway (see Figure 12-6). This area should be kept free of all obstructions; no structure should be permitted or congregation of people allowed in this zone (Los Angeles County Department of Regional Planning 2004:9).

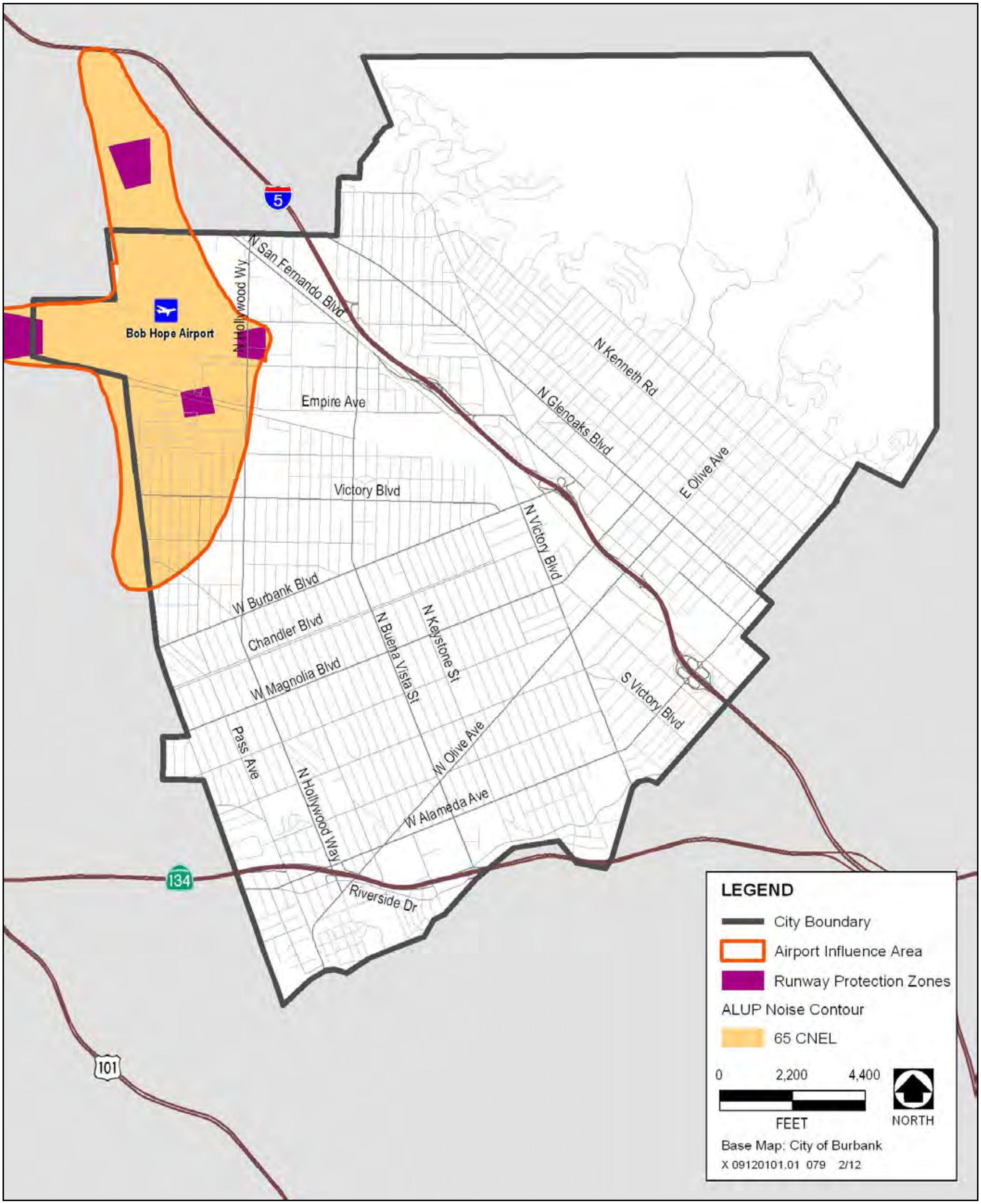
12.2 REGULATORY SETTING

12.2.1 FEDERAL REGULATIONS

OBSTRUCTIONS AND AIRPORT LAND USE COMPATIBILITY

Part 77 of the Federal Aviation Regulations (FAR), "Objects Affecting Navigable Airspace," has been adopted as a means of monitoring and protecting the airspace required for safe operation of aircraft and airports. Objects that exceed certain specified height limits constitute airspace obstructions. FAR Section 77.13 requires that FAA be notified of proposed construction or alteration of certain objects within a specified vicinity of an airport, among them the following:

> (1) Any construction or alteration of more than 200 feet in height above the ground level at its site.
> (2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at [a slope of] 100 to 1 for horizontal distance of 20,000 feet from the nearest point of the nearest runway of each [public-use airport, public-use airport under construction, or military airport] with at least one runway more than 3,200 feet in actual length, excluding heliports.



Source: Los Angeles County Department of Regional Planning 2004:14

Bob Hope Airport Runway Protection Zones **Figure 12-6**

12.2.2 State Plans and Policies

Planning Law and Guidelines

California planning law requires cities and counties to prepare and adopt a "comprehensive, long-range general plan" to guide development (Government Code Section 65300). To successfully guide long-range development, general plans require a complex set of analyses, comprehensive public outreach and input, and public policy for a vast range of topic areas. State law also specifies the content of general plans. Current law requires seven mandated elements:

- land use,
- circulation,
- housing,
- conservation,
- open space,
- noise, and
- safety.

A general plan must contain development policies, diagrams, and text that describe objectives, principles, standards, and plan proposals. According to the Governor's Office of Planning and Research's (OPR's) guidelines regarding general plans, topics from different elements may be combined, but all must be addressed within the general plan.[1]

Airport Land Use Compatibility Planning

The Caltrans Division of Aeronautics has published its guidance for complying with State aeronautics law in the Airport Land Use Planning Handbook. The Handbook provides guidance to Airport Land Use Commissions (ALUCs) in complying with the State Aeronautics Act (California Public Utilities Code 21670 et seq.), but is not a formal state policy or regulation (Caltrans 2002). The Handbook outlines the structure and functions of ALUCs, describes the components of noise and safety compatibility planning in detail, and provides support, guidance, and reference materials to be used in preparation of Airport Land Use Compatibility Plans (ALUCPs) by ALUCs.

The Caltrans Division of Aeronautics considers the essential components of an ALUCP to be:

- A clear identification of the plan's scope, geographically and in terms of authority and purpose;
- Information about the airport and airport plans which provide the basis for the compatibility plan;
- A list of compatibility policies and criteria;
- Appropriate maps of the airport compatibility zones;
- Procedures to be used in conducting compatibility reviews; and
- An initial assessment of the consistency between general plans and other applicable local ordinances and regulations and policies set forth in the compatibility plan.

[1] Please refer to the Governor's Office of Planning and Research *General Plan Guidelines* for more information.

12.2.3 Regional and Local Plans and Ordinances

Los Angeles County Airport Land Use Plan

State law requires the creation of Airport Land Use Commissions (ALUCs) to coordinate planning for the areas surrounding public use airports (Los Angeles County Department of Regional Planning 2004:1). The purpose of the law is to minimize the public's exposure to excessive noise and hazards related to airport activities and to reduce interference with airport operations from nearby land uses. In Los Angeles County, the Regional Planning Commission acts as the ALUC and coordinates the airport planning of public agencies within the county (Los Angeles County Department of Regional Planning 2004:1). The *Los Angeles County Airport Land Use Plan* (ALUP) applies to the county's 15 public airports, including the Bob Hope Airport in Burbank.

The ALUC has adopted boundaries for all of the public airports within Los Angeles County. The boundaries delineate areas subject to noise and safety impacts, including height restriction areas and approach surface and runway protection zones. The ALUC must review certain proposed local actions within these boundaries, including general plan and specific plan amendments, to ensure compatibility with ALUC land use policies.

Southern California Association of Governments Compass Blueprint

SCAG developed *Compass Growth Vision 2004* as part of the Compass Blueprint program, which defines the region's growth planning strategy. Considerable public participation was incorporated during its development to define growth principles and then craft growth scenarios based on those principles. The growth scenarios were evaluated using computer models that incorporated data on the region's land use, transportation, and demographics/economics, after which a preferred growth scenario (the growth vision) was selected. The Compass Blueprint guides implementation of the growth vision using the 2% Strategy, which calls for modest changes to current land use and transportation trends on only 2% of the land area of the region. Portions of Burbank are located within a designated 2% Strategy Opportunity Area, including parts of Bob Hope Airport, surrounding industrial properties, and a 1.5 mile-radius circle drawn approximately from the Downtown Burbank Metrolink Station.

Southern California Association of Governments Regional Comprehensive Plan

The SCAG is responsible for most regional planning in southern California. SCAG represents a six-county region that includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties and 189 cities; Burbank is part of the San Fernando Valley Council of Governments.

SCAG prepared its *2008 Regional Comprehensive Plan* (RCP) to address regional issues, goals, objectives, and policies related to growth and infrastructure challenges in the southern California region. The RCP is a plan to address issues such as housing, traffic/transportation, air quality, and water and serves as an advisory document to local agencies for their use in preparing local plans that deal with issues of regional significance. The RCP is based on the growth management framework of the Compass

Blueprint, but further promotes environmental policies to lay the groundwork for the 2012 update of the Regional Transportation Plan. SCAG is currently in its 2012 planning cycle which will update the RCP.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS REGIONAL TRANSPORTATION PLAN

The *2008 Regional Transportation Plan (RTP): Making the Connections* provides a comprehensive outline of the regional vision for transportation investments in southern California through 2035. The RTP was adopted in 2008 and is updated every four years to address regional transportation needs. Only projects included in the RTP become eligible for federal and state funding and federal environmental clearance. SCAG is currently in its 2012 planning cycle which will update the RTP.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS SUSTAINABLE COMMUNITIES STRATEGY

To fulfill its commitments as an MPO under SB 375, SCAG adopted a Sustainable Community Strategy (SCS) in May 2012 designed to reduce GHG emissions from passenger vehicles by 8% per capita by 2020 and 13% per capita by 2035 compared to 2005, consistent with regional targets set by the ARB. The SCS focuses the majority of new regional housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for TOD. Many of Burbank's transportation corridors are SCS high quality transit areas.

The SCS identifies several GHG emission reduction actions and strategies for the state, SCAG, and local jurisdictions. The SCS recommends that local jurisdictions: a) update zoning codes to accelerate adoption of SCS land use strategies; b) prioritize transportation investments to support compact infill development that includes a mix of land uses and housing options; c) develop infrastructure plans and educational programs that promote active transportation options; d) emphasize active transportation projects as part of complying with the Complete Streets Act (AB 1358), and e) increase the efficiency of existing transportation systems (SCAG 2011:150-153).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

The SCAQMD adopted its latest AQMP in 2007. The 2007 AQMP mandates a variety of measures to reduce traffic congestion and improve air quality. The measures are implemented at the federal, state, and regional level. At the regional level, SCAG assists subregional and local governments in playing a role in forming the air quality portion of transportation planning. In addition, local governments serve an important role in developing and implementing the AQMP's transportation control measures.

LOS ANGELES COUNTY LOCAL AGENCY FORMATION COMMISSION

The Los Angeles County Local Agency Formation Commission (LAFCO) is responsible for overseeing and approving annexations and land detachments and establishing cities, special districts, and spheres of influence within Los Angeles County. Responsibilities of the Los Angeles County LAFCO include annexations and detachments of land to cities or special districts, the formation and dissolution of governmental agencies (including cities and special districts), and the establishment of spheres of influence, which identify the probable future boundaries of governmental agencies. LAFCO review and approval would be required for any annexations of land or for changes in utility or special district service areas.

CITY OF BURBANK ZONING ORDINANCE

The City of Burbank Zoning Ordinance is the primary implementation tool for the Land Use Element. The Zoning Ordinance consists of two parts: the Official Zoning Map dividing the city into zones consistent with the land use designations of the General Plan and text establishing development standards for each zone including permitted uses, density and intensity of uses, building height, performance standards, and other regulations.

CITY OF BURBANK SPECIFIC PLANS

A specific plan is a tool for the systematic implementation of the general plan. It links implementing policies of the general plan to the individual development proposals in a defined area. Specific plans are intended to specify the types of uses to be permitted, development standards (e.g., setbacks, heights, landscape, architecture), and circulation and infrastructure improvements that are broadly defined by the general plan. Specific plans are often used to ensure that multiple property owners and developers adhere to a single common development plan and to provide flexibility in development standards beyond those contained in the zoning ordinance as a means of achieving superior design.

This page intentionally left blank.

13 MINERAL RESOURCES

13.1 ENVIRONMENTAL SETTING

In 1994, the State Mining and Geology Board (SMGB) updated mapping the Mineral Resource Zones (MRZs) in southern California. Burbank lies within the San Fernando Valley Production-Consumption Region in Los Angeles County, as mapped by the SMGB. As shown on Figure 13-1, the planning area contains one area designated as MRZ-2 and two areas designated as MRZ-3. The MRZ-2 classification identifies areas where data shows mineral resources may be present. The MRZ-3 classification indicates that the significance of mineral resources could not be evaluated from available data.

The MRZ-2 area extends from the Bob Hope Airport in the north toward the southeastern border of the city (California Department of Conservation, 2010). Even though mineral resources may be present, the classification of this MRZ-2 area was not broken down to the more detailed MRZ-2a or MRZ-2b categories because no mining has occurred in this MRZ-2 area. In addition, conservation of aggregate resources in the city is no longer feasible because the city is urbanized in this MRZ-2 area. Past land use changes to accommodate planned urbanization now preclude mining activities in Burbank.

13.2 REGULATORY SETTING

Mineral resources in the State of California are protected by state and local regulations and policies. The state regulations and policies provide the regulatory framework for addressing mineral resources that would be affected by implementation of *Burbank2035*. The City of Burbank has no local regulations or policies addressing mineral resources.

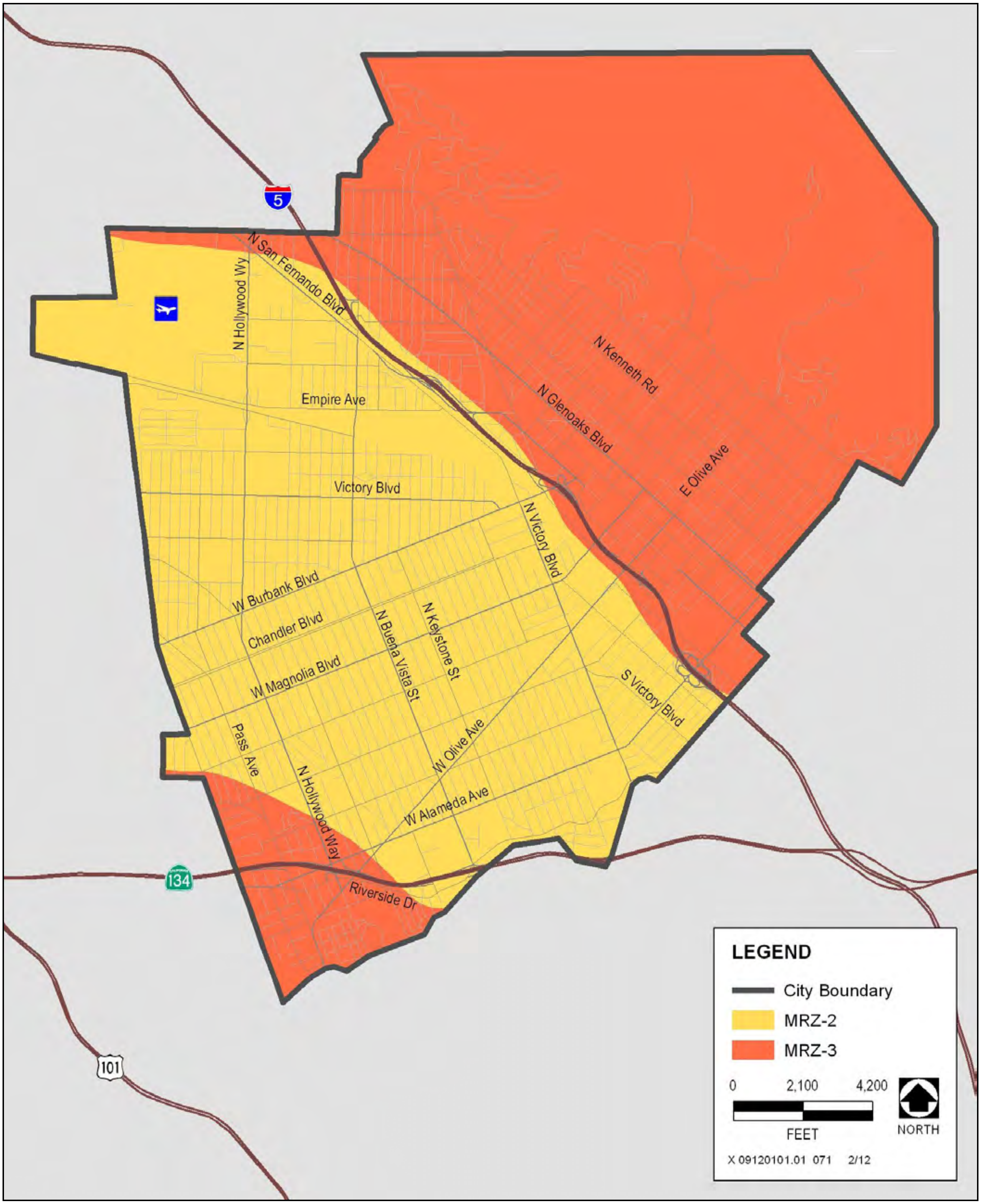
13.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to mineral resources apply to the City of Burbank.

13.2.2 STATE LAWS

SURFACE MINING AND RECLAMATION ACT

The Surface Mining and Reclamation Act (SMARA) of 1975 (Public Resources Code, Division 2, Chapter 9, Section 2710 et seq.), mandated the classification of mineral lands throughout the state to help identify and protect mineral resources within areas that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. Since 1975, SMGB has mapped areas throughout the State of California that contain regionally significant mineral resources. Deposits of construction aggregate resources (sand, gravel, or crushed stone) were the initial commodity targeted for classification by the SMGB because of its importance to the state. Once mapped, the SMGB is required to designate for future use those areas that contain aggregate deposits that are of prime importance in meeting the region's future need for construction quality aggregates.



Source: City of Burbank 2010, Miller 1994, adapted by AECOM in 2010, CASIL 1990

Mineral Resource Zones **Figure 13-1**

The key objective of mineral lands classification under the SMARA is for each jurisdiction to develop policies that will conserve important mineral resources, if feasible, when such resources are needed. The SMARA requires that once policies are adopted, land use decisions by the local agency must be in accordance with that local agency's management policies for mineral resources. These decisions must also balance the mineral value of the resource to the market region as a whole, not just their importance to the local jurisdiction.

The State Geologist developed the MRZ classification system to assist in the implementation of SMARA. The California Mineral Land Classification System uses the following types of MRZs for mapping and reporting purposes (California Department of Conservation 2010):

MRZ-1: 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-2a:[1] Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.

MRZ-2b:[1] Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered deposits that are either inferred reserves or deposits that are presently sub-economic as determined by limited sample analysis, exposure, and past mining history.

MRZ-3a: Areas containing known mineral deposits that may qualify as mineral resources, which could be considered hypothetical resources. MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits.

MRZ-3b: Areas containing inferred mineral deposits that may qualify as mineral resources, which could be considered speculative resources. Land classified MRZ-3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits.

MRZ-4: Areas where geologic information does not rule out either the presence or absence of mineral resources. The distinction between the MRZ-1 and MRZ-4 categories is important for land-use considerations. It must be emphasized that the MRZ-4 classification does not imply that there is little likelihood for the presence of mineral resources, but rather that there is a lack of knowledge regarding mineral occurrence.

[1] MRZ-2 is further divided as MRZ-2a and MRZ-2b based on both degree of knowledge and economic factors.

13.2.3 Regional and Local Plans, Policies, Regulations, and Ordinances

No regional or local plans, policies, regulations, or ordinances related to mineral resources apply.

14 NOISE

14.1 ACOUSTIC FUNDAMENTALS

Acoustics refers to scientific studies that evaluate perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective in nature, and can vary substantially from person to person. Common sources of environmental noise and noise levels are presented in Figure 14-1.

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz (Hz), which is equivalent to one complete cycle per second.

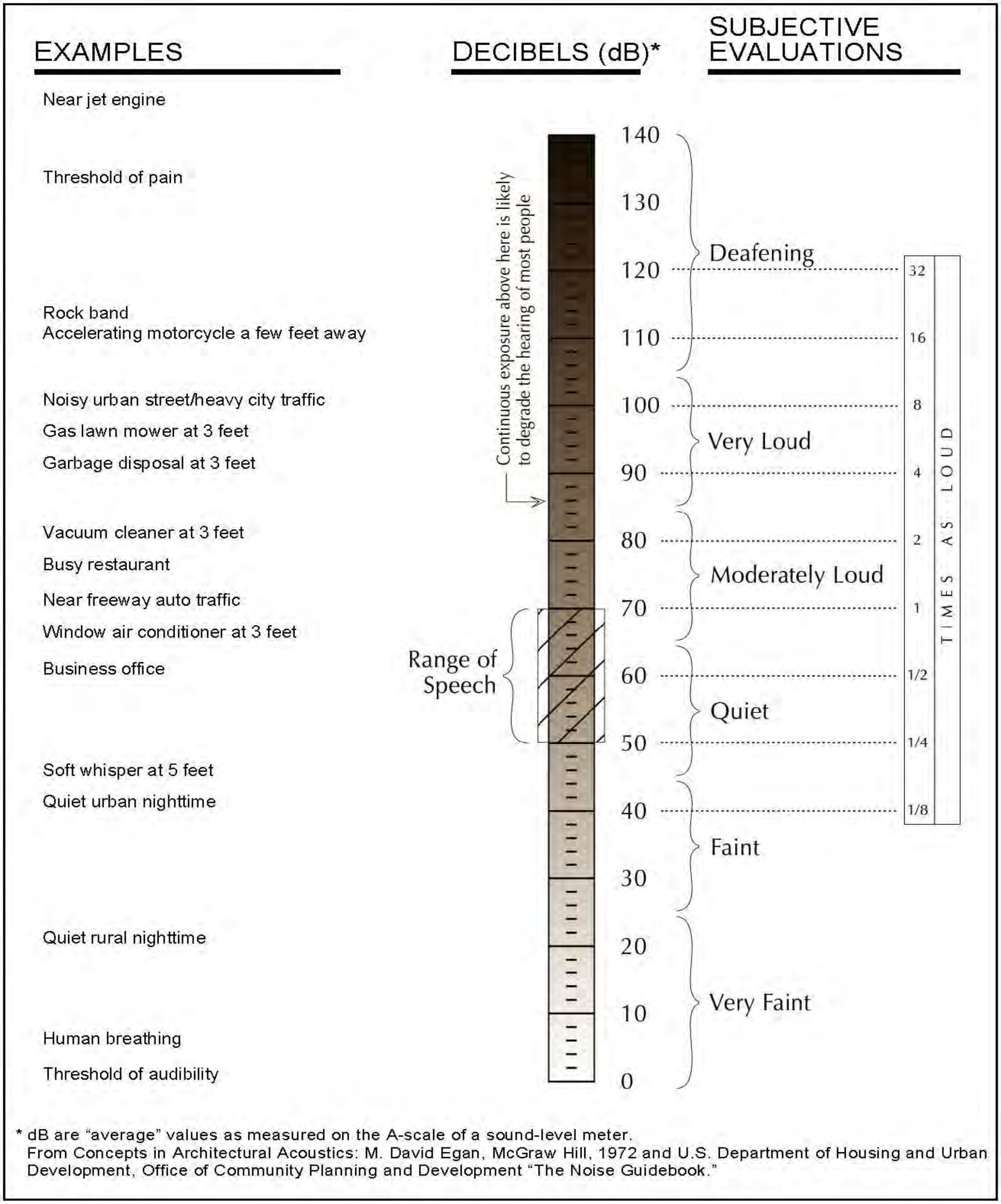
Sound is a change in air pressure, the level of which is expressed in decibels (dB). A decibel is logarithmic measure of the intensity of sound (change in air pressure) relative to zero (no change). Therefore, sound can be easily quantified and measured.

However, whether sound becomes "noise" is somewhat subjective based on an individual's perception of sound. Since individuals have differing physical responses to sound, this complicates the analysis of its effects on people. People judge the relative magnitude of sound sensation in subjective terms, such as noisiness or loudness. Table 14-1 presents the subjective effect of changes in sound pressure levels as perceived by humans.

Table 14-1
Changes in Sound Pressure Levels, dB

dB Change	Change in Apparent Loudness
+/- 3 dB	Threshold of human perceptibility
+/- 5 dB	Clearly noticeable change in noise level
+/-10 dB	Half or twice as loud
+/-20 dB	Much quieter or louder

Source: Engineering Noise Control, Bies and Hansen (1988).



Source: Egan 1988:13

Common Noise Sources and Levels **Figure 14-1**

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. A strong correlation exists between the way humans perceive sound and A-weighted sound levels (dBA). For this reason the dBA can be used to predict community response to noise from the environment, including noise from mobile and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., walls, building façades, berms). Noise generated from mobile sources generally attenuates at a rate of 3dBA (typical for hard surfaces) to 4.5 dBA (typical for soft surfaces) per doubling of distance, depending on the intervening ground type. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 dBA to 7.5 dBA per doubling of distance.

The presence of a large object (e.g., barrier, topographic features, intervening building façades) between the source and the receptor can also alter the propagation of noise and attenuate noise levels for the receiver. The amount of noise level reduction or “shielding” provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural barriers such as berms, hills, or dense woods and human-made features such as buildings and walls may be effective noise barriers.

14.1.1 ATMOSPHERIC CONDITIONS

Atmospheric conditions, such as wind speed, temperature gradients, and humidity, may additionally alter the propagation of noise and affect levels at a receiver. Wind has shown to be the most important meteorological factor within approximately 500 feet of a noise source, while vertical air temperature gradients are more important over longer distances (Caltrans 2009:2-34).

The effects of wind on noise are mostly confined to noise paths located close to the ground because of wind shear, which is caused by the slowing of wind in the vicinity of a ground plane from friction. As the surface roughness of the ground increases, friction between the ground and the air moving over it also increases. As the wind slows with decreasing heights, it creates a sound velocity gradient with respect to the ground. This velocity gradient tends to bend sound waves downward in the same direction of the wind and upward in the opposite direction. This process, called refraction, creates a noise shadow (reduction) upwind of the source and a noise concentration (increase) downwind of the source. Wind effects on noise levels depend on wind angle, receiver distance, and site characteristics. A 6-mile-per-hour cross wind can increase noise levels at 250 feet by 3 dBA downwind and reduce noise by about the same amount upwind (Caltrans 2009:2-34–2-35).

Air temperature typically decreasing with height above the ground is called the normal lapse rate, which for dry air is approximately -1º Celsius per 100 meters. In addition, the speed of sound decreases as air temperature decreases. As a result, a temperature gradient is parallel to a sound velocity gradient over a change in height. Temperature inversions have the effect of propagating noise with less than the usual attenuation rates, thereby increasing noise. The effects of vertical temperature gradients are more important over longer distances (Caltrans 2009:2-36–2-37).

Molecular absorption in air also reduces noise levels with distance. Although this process only accounts for approximately 1 dBA per 1,000 feet under normal atmospheric conditions, the process can cause significant longer-range effects. Air temperature and humidity affect molecular absorption differently, depending on the frequency spectrum and can vary significantly over long distances in a complex manner (Caltrans 2009:2-37).

14.1.2 NOISE DESCRIPTORS

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often used to describe environmental noise are defined as follows:

- **L_{max} (Maximum Noise Level):** The highest noise level occurring during a specific period of time.
- **L_{min} (Minimum Noise Level):** The lowest noise level during a specific period of time.
- **Peak:** The highest weighted or unweighted instantaneous peak-to-peak value occurring during a measurement period.
- **L_n (Statistical Descriptor):** The noise level exceeded n% of a specific period of time, generally accepted as an hourly statistic. An L90 would be the noise level exceeded during 90% of the measurement period.
- **L_{eq} (Equivalent Noise Level):** L_{eq} represents an average of the sound energy occurring over a specified period. Effectively, the varying sound level over a specified period contains the same acoustical energy as a steady-state sound level in that same period.
- **L_{dn} (Day-Night Noise Level):** The 24-hour L_{eq} with a 10-dBA “penalty” applied during nighttime noise-sensitive hours, 10 p.m. through 7 a.m. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- **CNEL (Community Noise Equivalent Level):** Similar to the L_{dn} described above, but with an additional 5-dBA "penalty" for the noise-sensitive hours between 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and watching television. If the same 24-hour noise data are used, the CNEL is typically 0.5 dBA higher than the L_{dn}.

- **SEL (Sound Exposure Level):** The cumulative exposure to sound energy over a stated period of time.

EFFECTS OF NOISE ON HUMANS

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research, attempting to discover correlations between exposure to elevated noise levels and health problems such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several nonacoustic factors. The number and effect of these nonacoustic environmental and physical factors vary depending on individual characteristics of the noise environment, such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to changes in noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels attributed to a new noise source relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to the individual.

With respect to how humans perceive and react to changes in noise levels, a 1-dBA increase is imperceptible, a 3-dBA increase is barely perceptible, a 6-dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988:21). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50–70 dBA, as this is the usual range of voice and interior noise levels. For these reasons, a permanent noise level increase of 3 dBA or greater is typically considered substantial in terms of the degradation of the existing noise environment.

VIBRATION

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2006:7-1–7-8; Caltrans 2004:5-7). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. The response of the human body to vibration relates well to average vibration amplitude; therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity. Similar to airborne sound, vibration velocity can be expressed in decibel notation as vibration decibels (VdB). The logarithmic nature of the decibel serves to compress the broad range of numbers required to describe vibration.

Typical outdoor sources of perceptible groundborne vibration include construction equipment, steel-wheeled trains, and traffic on rough roads. Although the effects of vibration may be imperceptible at low levels, effects may result in detectable vibrations and slight damage to nearby structures at moderate and high levels, respectively. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in damage to structural components. The range of vibration that is relevant to this analysis occurs from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings (FTA 2006:8-1–8-8).

14.2 ENVIRONMENTAL SETTING

14.2.1 ROADWAY TRAFFIC SOURCE NOISE

Traffic noise is the dominant noise source in the planning area and originates from major roads, such as Olive Avenue, Hollywood Way, Glenoaks Boulevard, Burbank Boulevard, and Magnolia Boulevard, along with freeway traffic on I-5 and SR 134. Existing (2007) vehicle-traffic noise levels were modeled using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data provided by the City of Burbank. The FHWA model is based on the California Vehicle Noise (Calveno) emission levels for automobiles, medium trucks, and heavy trucks with consideration given to vehicle volume, speed, roadway configuration, distance to the receptor, and ground attenuation factors. Since 1985, with approval of the FHWA, Calveno Reference Energy Mean Emission Levels (REMELs) have been used in lieu of national levels for all noise studies prepared in California. Vehicle mix and vehicle speeds on roadways were estimated from field observations and Caltrans data pertaining to I-5 and SR 134 (Caltrans 2009, 2010).

Table 14-2 summarizes the modeled traffic noise levels for 2007, provides noise levels at 100 feet from the centerline of each major roadway within the city, and lists distances from the roadway centerlines to the 60-dBA, 65-dBA, and 70-dBA L_{dn} traffic noise contours. Traffic noise levels were modeled at 100 feet, based on field observations of typical distances between noise receptors and roadway centerlines. Figure 14-2 shows the traffic noise contours for roadways, freeways (i.e., I-5, SR 134), railroads, and the airport within the planning area. These traffic noise modeling results are based on existing peak-hour traffic volumes. As shown in Table 14-2, the location of the 60-dBA L_{dn} contour ranges between 43 feet and 1,606 feet, 65-dBA L_{dn} contour ranges between 14 feet and 508 feet, and 70-dBA L_{dn} contour ranges between 4 and 161 feet from the centerline of the modeled roadways. The extent to which existing land uses are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise.

14.2.2 AIRCRAFT FLYOVER NOISE

Airports that are either public or serve a scheduled airline are required to have a comprehensive land use plan (CLUP) prepared by the applicable ALUC. The purpose of the ALUC is to:

- Protect public health, safety, and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise; and
- Prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utility of these airports into the future.

The adoption and implementation of a CLUP embodies the land use compatibility guidelines for height, noise, and safety. The Los Angeles County Airport Land Use Commission was established as the ALUC for public use airports in Los Angeles County, including the Bob Hope Airport.

BOB HOPE AIRPORT

The Bob Hope Airport is located in the northwestern portion of Burbank. The airport was established in 1930 as a private field and is now owned and operated by the Burbank-Glendale-Pasadena Airport Authority (Airport Authority). The airport is identified as a scheduled air carrier with a total size of 436 acres and contains 310 based aircraft (Los Angeles County ALUC 2004:4, 13). The Bob Hope Airport had 123,521 aircraft operations in 2007, which accounts for an average daily traffic count of 338 operations (Airport Authority 2009a:xiii).

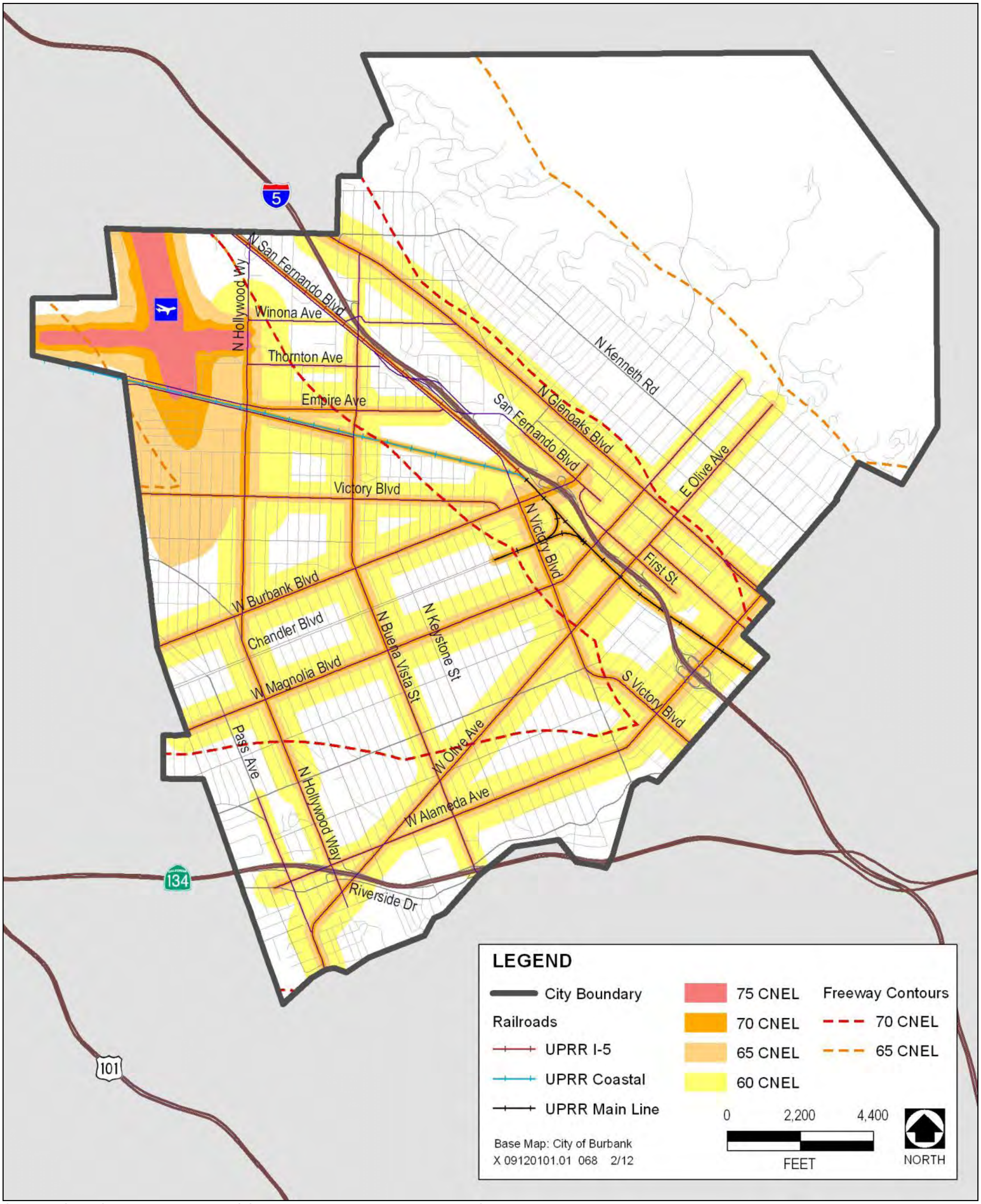
Table 14-2 Summary of Modeled Existing (2010) Traffic Noise Levels in the Planning Area						
Roadway	Segment		L_{dn}, 100 Feet from Roadway Centerline (dB)	Distance (feet) from Roadway Centerline to L_{dn} Contour		
	From	To		70 dBA	65 dBA	60 dBA
West Alameda Ave.	Riverside Dr.	City boundary	68	61	194	612
West Alameda Ave.	North Pass Ave.	West Olive Ave.	66	40	126	399
West Alameda Ave.	West Olive Ave.	South Buena Vista St.	67	45	141	447
West Alameda Ave.	South Buena Vista St.	South Victory Blvd.	69	72	227	716
East Alameda Ave.	South Victory Blvd.	San Fernando Road	70	105	333	1,053
East Alameda Ave.	San Fernando Rd.	South Glenoaks Blvd.	69	82	260	821
East Olive Ave.	Glenoaks Blvd.	Kenneth Rd.	66	42	132	418
East Olive Ave.	1st St.	Glenoaks Blvd.	68	61	193	611
West Olive Ave.	Victory Blvd.	1st St.	70	90	285	902
West Olive Ave.	Buena Vista St.	Victory Blvd.	69	72	229	725
West Olive Ave.	West Alameda Ave.	Buena Vista St.	68	59	187	591
West Olive Ave.	Riverside Dr.	West Alameda Ave.	68	63	201	634
West Olive Ave.	Hollywood Way	Riverside Dr.	69	73	232	733
West Olive Ave.	North Pass Ave.	Hollywood Way	69	76	242	764
West Olive Ave.	North Pass Ave.	City boundary	68	63	198	628
West Magnolia Blvd.	North Hollywood Way	City boundary	68	66	209	661
West Magnolia Blvd.	North Hollywood Way	North Buena Vista St.	69	71	226	715
West Magnolia Blvd.	North Buena Vista St.	North Victory Blvd.	69	80	252	797
West Magnolia Blvd.	North Victory Blvd.	North 1st St.	69	83	262	829
East Magnolia Blvd.	North 1st St.	North Glenoaks Blvd.	68	70	222	704
East Magnolia Blvd.	North Glenoaks Blvd.	North Kenneth Rd.	64	28	88	277
West Burbank Blvd.	North Hollywood Way	City boundary	69	72	228	722
West Burbank Blvd.	North Hollywood Way	North Buena Vista St.	69	75	237	748
West Burbank Blvd.	North Buena Vista St.	North Victory Blvd.	68	68	215	680
East Burbank Blvd.	North Victory Blvd.	North San Fernando Blvd.	72	161	508	1,606
East Burbank Blvd.	North San Fernando Blvd.	North 3rd St.	67	55	174	552
West Victory Blvd.	North Hollywood Way	City boundary	68	57	179	565
West Victory Blvd.	North Hollywood Way	North Buena Vista St.	67	48	152	482
West Victory Blvd.	North Buena Vista St.	West Burbank Blvd.	67	53	169	533
North Victory Blvd.	West Burbank Blvd.	West Magnolia Blvd.	70	102	322	1,019
North Victory Blvd.	West Magnolia Blvd.	West Olive Ave.	70	98	310	980
South Victory Blvd.	West Olive Ave.	West Alameda Ave.	69	75	239	755
South Victory Blvd.	West Alameda Ave.	City boundary	69	75	239	755
Vanowen St.	North Buena Vista St.	North Hollywood Way	69	82	261	825
West Empire Ave.	North Buena Vista St.	North Victory Place	69	84	266	841
West Empire Ave.	North Buena Vista St.	North Hollywood Way	67	45	142	448
Thornton Ave.	North Hollywood Way	North Buena Vista St.	64	24	77	243

Table 14-2
Summary of Modeled Existing (2010) Traffic Noise Levels in the Planning Area

Roadway	Segment From	Segment To	L_{dn}, 100 Feet from Roadway Centerline (dB)	Distance (feet) from Roadway Centerline to L_{dn} Contour: 70 dBA	65 dBA	60 dBA
Winona Ave.	North Hollywood Way	North San Fernando Blvd.	61	12	38	121
North Hollywood Way	Winona Ave.	Thornton Ave.	71	123	389	1,231
North Hollywood Way	Thornton Ave.	West Victory Blvd.	72	142	448	1,415
North Hollywood Way	West Victory Blvd.	West Burbank Blvd.	69	77	242	765
North Hollywood Way	West Burbank Blvd.	West Magnolia Blvd.	69	71	226	714
North Hollywood Way	West Magnolia Blvd.	West Verdugo Ave.	68	69	219	691
North Hollywood Way	West Verdugo Ave.	West Olive Ave.	66	41	129	409
North Hollywood Way	West Olive Ave.	Warner Blvd.	56	4	14	43
North Pass Ave.	West Alameda Ave.	West Verdugo Ave.	64	26	83	261
North Pass Ave.	West Alameda Ave.	West Olive Ave.	62	15	49	155
North Buena Vista St.	North Glenoaks Blvd.	San Fernando Rd.	63	19	61	192
North Buena Vista St.	San Fernando Rd.	West Empire Ave.	66	42	132	418
North Buena Vista St.	West Empire Ave.	Vanowen St.	68	58	184	582
North Buena Vista St.	Vanowen St.	West Victory Blvd.	69	83	261	826
North Buena Vista St.	West Victory Blvd.	West Burbank Blvd.	69	77	245	774
North Buena Vista St.	West Burbank Blvd.	West Magnolia Blvd.	69	84	265	840
North Buena Vista St.	West Magnolia Blvd.	West Olive Ave.	67	48	151	476
South Buena Vista St.	West Olive Blvd.	West Alameda Ave.	67	46	145	458
South Buena Vista St.	West Alameda Ave.	Riverside Dr.	66	43	136	429
South Buena Vista St.	Riverside Dr.	Bob Hope Dr.	64	26	82	259
North San Fernando Blvd.	East Burbank Blvd.	Amherst Dr.	68	59	187	592
North San Fernando Blvd.	East Burbank Blvd.	Cypress Ave.	66	43	137	433
South San Fernando Blvd.	East Alameda Ave.	East Olive Ave.	67	53	167	528
San Fernando Rd.	East Alameda Ave.	City boundary	67	54	171	541
North 1st St.	East Magnolia Ave.	North San Fernando Blvd.	65	29	90	285
North 1st St.	East Olive Ave.	East Magnolia Ave.	67	48	152	480
South 1st St.	East Olive Ave.	East Santa Anita Ave.	68	57	181	573
North Glenoaks Blvd.	Buena Vista St.	City boundary	69	83	264	834
North Glenoaks Blvd.	Buena Vista St.	Scott Rd.	68	69	218	689
North Glenoaks Blvd.	East Magnolia Blvd.	Scott Rd.	68	69	218	689
North Glenoaks Blvd.	East Olive Ave.	East Magnolia Blvd.	67	55	172	545
South Glenoaks Blvd.	East Alameda Ave.	East Olive Ave.	67	56	177	561
South Glenoaks Blvd.	East Alameda Ave.	City boundary	68	56	178	564

Notes: dBA = A-weighted decibels; L_{dn} = day-night noise level

Source: Data provided by AECOM 2012 based on modeling using the Federal Highway Administration's Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data provided by the City of Burbank



Source: City of Burbank 2010, AECOM 2012, Airport Authority 2009, Caltrans 2008

Existing (2010) Transportation Noise Contours **Figure 14-2**

Figure 14-2 shows the most recent noise contours (i.e., 65, 70, 75 dBA CNEL) associated with Bob Hope Airport operations. Based on a 2008 baseline noise analysis, 255 acres of noise-sensitive land uses (e.g., residential, schools, places of worship) are located within the airport's 65 dBA CNEL contour. By 2015, the noise-sensitive area within the 65 dBA CNEL contour is projected to increase to 383 acres. Additionally, an estimated 4,825 people currently reside within the 65 dBA CNEL contour (Airport Authority 2009b:4).

The Airport Authority, in conjunction with the Federal Aviation Administration (FAA), implemented a Residential Acoustical Treatment Program (RATP) to insulate residential units located in the cities of Burbank and Los Angeles. The RATP originated as part of a Federal Aviation Regulations (FARs) Part 150 study, completed in 1989, that determined which neighborhoods, noise-sensitive public buildings, and local jurisdictional boundaries lie within the noise-affected area surrounding the Burbank-Glendale-Pasadena Airport. Facilities identified by the study are eligible to receive noise mitigation treatments funded by federal grants and local matching funds supplied by the Airport Authority.

The Airport Authority implemented two primary mitigation measures approved by the Part 150 study: insulation of homes and acquisition of avigation easements for homes located within the 65-dB-CNEL area. Avigation easements allow aircraft to fly over the home without the threat of a future lawsuit by the property owner against the Airport Authority. Under the insulation program, consultants for the Airport Authority design a specific treatment for each home to ensure that interior noise levels always remain quiet enough to enjoy normal use of the home. The acoustical treatment can include door and window replacement, attic insulation, weather stripping, ventilation, and air conditioning. This program is free of cost to the property owner in return for granting the Airport Authority an avigation easement.

The airport also has a voluntary airline curfew in effect from 10:00 pm to 7:00 am. The Airport Authority submitted a Part 161 Study to the FAA as part of an application for a mandatory nighttime curfew, which would be enforceable under federal law and would supersede the voluntary airline curfew currently in place. In November 2009, the FAA issued its finding that the Part 161 Study did not justify a mandatory curfew and disapproved the application.

14.2.3 Railroad Traffic Source Noise

Railroad operations within the planning area operate on three lines: Union Pacific Railroad (UPRR) I-5 Corridor, UPRR Coast Line and UPRR Main Line. Several freight and passenger service use those lines including Metrolink commuter train service and Amtrak passenger service (see Table 14-3). The UPRR I-5 Corridor Line runs through the central portion of Burbank in a northwest-southeast direction adjacent to industrial and commercial land uses, and nearly parallels I-5 (see Figure 14-2). The Coast Line spurs off the I-5 Corridor Line near the intersection of West Burbank Boulevard and I-5, and runs through the northwestern portion of the planning area in a west-east direction. The Coast Line runs primarily adjacent to commercial and residential uses and the Bob Hope Airport.

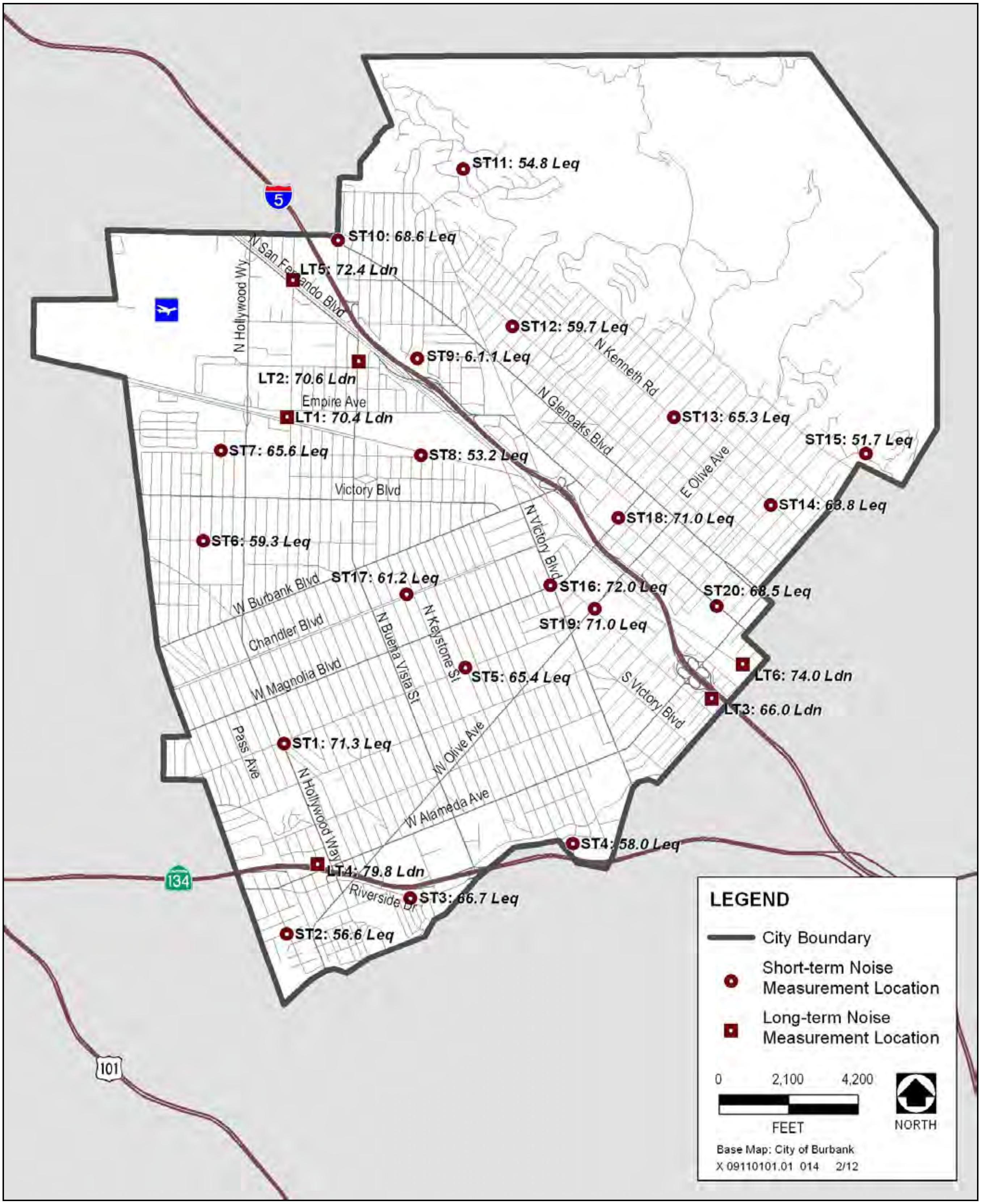
Table 14-3
Railroad Lines and Services

Physical Rail Line	Service
UPRR I-5 Corridor Line	UPRR I-5 Corridor Line (freight) Metrolink Antelope Valley (commuter train service) Metrolink Ventura County (commuter train service)
UPRR Coast Line	UPRR Coast Line (freight) Amtrak Pacific Surfliner (passenger service) Amtrak Coast Starlight (passenger service) Metrolink Ventura County (commuter train service)
UPRR Main Line	UPRR Coast Line (freight) UPRR I-5 Corridor (freight) Amtrak Pacific Surfliner (passenger service) Amtrak Coast Starlight (passenger service) Metrolink Antelope Valley (commuter train service) Metrolink Ventura County (commuter train service)

Metrolink operates commuter train service on their Ventura County Line, which extends on the southern portion of the UPRR I-5 Corridor Line and the UPRR Coast Line, and their Antelope Valley Line, which extends on the UPRR I-5 Corridor Line in Burbank. All four lines operated by UPRR and Metrolink use the same segment of rail lines (referred to as Main Line) in the easternmost portion of the city (see Figure 14-2).

To document noise levels generated by train operations on the UPRR I-5 Corridor and Coast Lines, along with the Metrolink Ventura County and Antelope Valley Lines (sites LT 1, LT 5, and LT 6, as shown in Figure 14-3), 24-hour continuous noise measurements were conducted at three locations between April 6th and 8th, 2010. The first noise measurement site (LT 1) was located near West Empire Avenue and North Ontario Street the second (LT 5) near the intersection of San Fernando Road and North Ontario Street, and the third (LT 6) at the southern end of East Linden Avenue. The 24-hour continuous noise-level measurements were conducted in accordance with the American National Standards Institute (ANSI) acoustic standards, using a Larson Davis (LD) Model 820 sound level meter. The sound level meter was programmed to collect SEL data from trains passing through the planning area, as well as L_{eq} noise levels for each hour of the day. The sound level meter was located at a distance of 50 feet from the railroad centerline at sites LT 5 and LT 6. It was located at a distance of 69 feet from the railroad centerline at site LT 1 because of site restrictions preventing closer access.

The 24-hour continuous noise measurement results indicated that the average SEL associated with operation of an individual train at LT1 was 95 dBA at a distance of 69 feet from the railroad centerline, at LT5 was 97 dBA at a distance of 50 feet from the railroad centerline, and at LT6 was 97 dBA at a distance of 50 feet from the railroad centerline. Based on the SEL noise levels, L_{max} noise levels, and event durations of the continuous noise measurement field data, approximately eight freight trains passed by during the 24-hour period. In addition, approximately 10 Amtrak trains and 53 Metrolink trains operated each day. Therefore, Metrolink train pass-bys dominated the calculated L_{dn}.



Source: Data compiled by AECOM 2010

Noise Measurement Locations **Figure 14-3**

To determine the distances to the railroad noise contours, it first was necessary to calculate the L_{dn} at the noise measurement site. This was done using the collected SEL values, the daily number of trains, and the distribution of daily train operations. In accordance with Federal Transit Administration methods, the L_{dn} may be calculated as follows (FTA 2006:2-22–2-23):

L_{dn} = SEL + 10 log N_{eq} - 49.4 dBA, where:

SEL is the average SEL of the event, N_{eq} is the sum of the number of daytime events (7 a.m.–10 p.m.) per day plus 10 times the number of nighttime events (10 p.m.–7 a.m.) per day, and 49.4 is 10 times the logarithm of the number of seconds per day.

At a distance of 69 feet from the railroad tracks, the noise level attributable to overall train activity during the 24-hour measurement period at site LT1 was 68.8 dBA L_{dn}, at site LT5 was 69.4 dBA L_{dn}, and at site LT6 was 73.2 dBA L_{dn}. Applying an attenuation rate of 4.5 dBA per doubling of distance, which is standard for line sources, the distances to the 60, 65, and 70 dBA L_{dn} noise contours were estimated and are presented in Table 14-4 and are shown on Figure 14-2. The noise levels along these rail lines were estimated based on the number of train pass-by events and the sound measurement data collected along the I-5 Corridor, Coast, Ventura County, and Antelope Valley Lines, assuming similar travel speeds, train lengths, and times of day when train activity occurs. These noise contour distances also are shown in Table 14-4.

Table 14-4
Summary of Modeled 2010 Railroad Noise Levels

UPRR and Metrolink Lines	Site	L_{dn}, dBA	Distance of L_{dn} Contour[1] from Railroad Centerline (feet)		
			60 dBA	65 dBA	70 dBA
50 Feet from Railroad Centerline					
I-5 Corridor and Antelope Valley	LT 5	69.4	213	99	46
Main Line[2]	LT 6	73.2	380	176	82
69 Feet from Railroad Centerline					
Coast and Ventura County	LT 1	68.8	265	123	57

Notes: UPRR = Union Pacific Railroad; L_{dn} = day-night average noise level; dBA = A-weighted decibels

1 Noise level contours are based on a measured mean sound exposure level of 95 and 97 dBA at a distance of 69 and 50 feet from the centerline of the railroad tracks, respectively, the above number of daily pass-bys on each track (randomly distributed), and Federal Transit Administration -recommended methodologies.

2 Main Line refers to the segment of rail used by UPRR Coast and I-5 Corridor and the Metrolink Antelope Valley and Ventura County Lines.

Source: Data compiled by AECOM in 2010 based on modeling using a Larson Davis Model 820 sound level meter

Railroad noise generation in the planning area is expected to exceed accepted land use compatibility criteria at noise-sensitive land uses (surrounding the LT2 and ST8 sites [refer to Figure 14-3]) because of their relative proximity to the railroad tracks within the planning area.

The California High Speed Rail Project is currently proposed to pass through the City of Burbank and to operate a station that serves the San Fernando Valley. The high speed rail project would involve the construction and operation of a high-speed, conventional train system that connects San Diego, Los Angeles, San Francisco and Sacramento, along with other intermediate cities potentially including Burbank. Final alignment for the high-speed rail route and precise location of stations, however, have not been determined.

14.2.4 STATIONARY SOURCE NOISE

The production of noise is a result of many processes and activities, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations, but noise levels that extend beyond the facility's property line may exceed locally acceptable standards. Activities associated with commercial, recreational, and public service facilities can also produce noise that affects adjacent sensitive land uses.

With the exception of City parks, most stationary noise-producing land uses are located adjacent to railroad tracks and/or major roadways (e.g., Burbank Boulevard, Hollywood Way, Victory Boulevard, Olive Avenue). The noise levels generated by these sources vary substantially and the majority of them are housed within warehouse spaces that provide interior to exterior noise reduction, but for the purposes of this report it was not practical to accurately isolate and quantify the noise emissions of these sources by reason of their proximity to transportation noise sources. The ambient noise environment in the immediate vicinity of these facilities includes noise generated by other industrial facilities, local vehicle traffic, and railroad activities.

Although Burbank includes large areas of industrial land uses, activities associated with these land uses primarily occur indoors and thus do not create any discernible noise outside of buildings. The City of Burbank Water and Power facility is the only industrial land use in the city considered to be an industrial noise source that may affect the immediate noise environment of noise-sensitive uses because of their proximity. Noise levels taken at this facility on April 9, 2010, measured the noise environment to be 68 dBA at 50 yards from the primary noise source. However, traffic noise from I-5 continues to dominate the overall noise environment. In addition, surrounding land uses include industrial and commercial, which are not considered noise-sensitive land uses.

14.2.5 COMMUNITY NOISE SURVEY

A community noise survey was conducted on April 7th through 9th, 2010, to document the existing noise environment at noise-sensitive receptors within the city and at existing noise sources. The dominant noise source identified during the ambient noise survey was traffic from the local area roadway network. Measurements of noise levels were taken in accordance with ANSI standards at 26 locations using an LD Model 820 or Model 824 precision integrating sound-level meter. Continuous 24-hour, long-term monitoring of noise levels was conducted at six locations using an LD Model 820 sound-level meter. The sound-level meters were calibrated before and after use with an LD Model

CAL200 acoustical calibrator to ensure that the measurements would be accurate. The equipment used meets all pertinent specifications of the ANSI for Type 1 sound-level meters (ANSI S1.4-1983[R2006]).

Community noise survey locations are shown in Figure 14-3. The L_{eq}, L_{max}, L_{10}, L_{50}, and L_{90} values were taken at each short-term ambient noise measurement location presented in Table 14-5. During the survey, average daytime ambient noise levels ranged from 51.7 dBA to 72.0 dBA L_{eq}, with maximum noise levels that ranged from 69.5 dBA to 88.3 dBA L_{max}. Maximum noise levels were attributable to back-up alarms, car horns, garbage trucks, and pedestrians.

The L_{dn}, L_{eq}, L_{max}, L_{50}, and L_{90} values taken at each long-term ambient noise measurement location are presented in Table 14-5. During the survey, 24-hour ambient noise levels ranged from 66.0 dBA to 79.8 dBA L_{dn}, with maximum noise levels that ranged from 69.5 dBA to 92.8 dBa L_{max}. The monitoring locations correspond to those depicted in Figure 14-3 and shown in Table 14-6.

14.2.6 NOISE-SENSITIVE LAND USES

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses, such as parks, historic sites, cemeteries, and recreation areas, are also considered sensitive to exterior noise levels. Schools, places of worship, libraries, nursing homes, retirement residences, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The majority of noise-sensitive land uses involve residential structures and spaces, which are located primarily in two areas of the city. The first area of residential uses is generally northeast of commercial and industrial land uses along I-5. The second area of residential uses is generally north of SR 134 and southwest of commercial and industrial land uses adjacent to I-5 and the Bob Hope Airport. Other notable noise-sensitive land uses are Providence Saint Joseph Urgent Care Center, at North Hollywood Way and Pacific Avenue, and Providence Saint Joseph Medical Center, at West Alameda Avenue and South Buena Vista Street.

14.3 REGULATORY SETTING

Various private and public agencies have established noise guidelines and standards to protect people from potential hearing damage and other adverse physiological and social effects associated with noise. The following federal, state, and local regulations apply to the *City of Burbank 2035 General Plan*.

Table 14-5
Summary of Monitored Short-Term Daytime Ambient Noise Levels (2010)

Site	Location	Date/Time	Noise Sources	A-Weighted Sound Level (dBA)				
				L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}
ST 1	Intersection of West Clark Avenue and North Hollywood Way	April 8, 2010 10:05–10:20 a.m.	Traffic, pedestrians, commercial jet flyover	71.3	80.2	75.6	68.8	59.9
ST 2	Intersection of Warner Boulevard and Rose Street	April 8, 2010 10:30–10:45 a.m.	Traffic, pedestrians, single prop flyovers, construction activity	56.6	70.7	60.6	50.6	42.7
ST 3	Intersection of Riverside Drive and South Fairview Street	April 8, 2010 10:55–11:10 a.m.	Freeway traffic, pedestrians, local traffic	66.7	82.5	70.8	61.9	57.5
ST 4	Intersection of South Beachwood Drive and Valleyheart Drive	April 8, 2010 11:20–11:35 a.m.	Freeway traffic, pedestrians, garbage truck, landscaping	58.0	71.0	60.6	54.4	53.1
ST 5	Intersection of North Parish Place and West Clark Avenue	April 8, 2010 9:35–9:50 a.m.	Traffic, garbage truck, helicopter flyover, commercial jet flyover pedestrians	65.4	88.3	63.9	53.9	46.4
ST 6	Intersection of Jeffries Avenue and North Maple Street	April 8, 2010 3:52–4:07 p.m.	Kids playing, traffic, pedestrians	59.3	78.2	62.1	52.5	46.3
ST 7	Intersection of West Pacific Avenue and North Screenland Drive	April 8, 2010 3:18–3:33 p.m.	Aircraft flyover, traffic, parked/idling vehicle	65.6	82.8	64.6	55.5	51.3
ST 8	Intersection of Pacific Avenue and North Parish Place	April 8, 2010 2:28–2:43 p.m.	Aircraft flyovers, birds, traffic, landscaping, backup alarm	53.2	69.5	54.1	47.3	44.4
ST 9	Intersection of Peyton Avenue and Parish Place	April 7, 2010 1:20–1:35 p.m.	Local traffic, pedestrians, freeway traffic, garbage trucks	61.1	76.2	63.4	57.4	54.4
ST 10	Intersection of Glenoaks Boulevard and Kenneth Road	April 7, 2010 12:00–12:15 p.m.	Traffic, pedestrians, single prop flyover, honking	68.6	84.1	71.7	65.8	58.8
ST 11	Intersection of Brace Canyon Road and Joaquin Drive	April 7, 2010 12:30–12:45 p.m.	Traffic, turbo prop flyovers, small jet flyover, commercial jets, garbage truck	54.8	70.4	56.7	46.5	43.0
ST 12	Intersection of th Street and Eton Drive	April 7, 2010 12:57–1:12 p.m.	Kids playing, traffic, single prop flyover, pedestrians, backup alarm	59.7	74.8	62.9	54.6	47.4
ST 13	Intersection of East Cypress Avenue and North Kenneth Road	April 7, 2010 3:52–4:07 p.m.	Traffic, landscaping, pedestrians, helicopter flyover	65.3	84.4	65.8	57.9	51.8
ST 14	Intersection of East Providencia Avenue and South Kenneth Road	April 7, 2010 3:24–3:39 p.m.	Kids playing, traffic, car horn, pedestrians, dog barking	63.8	81.5	66.7	59.8	53.3
ST 15	Intersection of East Elmwood Avenue and Sherlock Drive	April 7, 2010 4:17–4:32 p.m.	Traffic, single prop flyover, gate opening/beeping/closing	51.7	70.1	54.4	42.5	37.7
ST 16	Intersection of North Victory Boulevard and West Magnolia Boulevard	April 8, 2010 9:05–9:20 a.m.	Traffic, crosswalk beeping, pedestrians, car horns, motorcycles	72.0	83.2	74.9	70.4	64.9

Table 14-5
Summary of Monitored Short-Term Daytime Ambient Noise Levels (2010)

Site	Location	Date/Time	Noise Sources	A-Weighted Sound Level (dBA)				
				L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}
ST 17	Intersection of West Chandler Boulevard and North Keystone Street	April 7, 2010 4:55–5:10 p.m.	Traffic, little league practice	61.2	76.0	64.2	58.5	54.1
ST 18	Intersection of South San Fernando Boulevard and East Magnolia Boulevard	April 7, 2010 2:14–2:29 p.m.	Traffic, pedestrians, music, train horn, crosswalk beeping	71.0	86.1	75.0	66.9	61.5
ST 19	Intersection of North Lake Street and West Olive Avenue	April 8, 2010 8:32–8:47 a.m.	Traffic, crosswalk beeping, pedestrians, intercom, train horn	71.0	84.2	74.4	68.3	60.1
ST 20	Intersection of San Fernando Road and East Elmwood Avenue	April 7, 2010 3:00–3:15 p.m.	Traffic, u-turns, train horn	68.5	79.9	72.3	66.1	55.9

Notes: dBA = A-weighted decibels; Leq = equivalent noise level; Lmax = maximum noise level; Ln = noise level exceeded n percent of a specific period of time

Source: Data compiled by AECOM 2010 based on modeling using a Larson Davis Model 820 or Model 824 precision integrating sound-level meter

Table 14-6
Summary of Measured 24-hour Long-Term Ambient Noise Levels

Site	Location	Date	L_{dn}	Average Measured Hourly Noise Levels (dBA)					
				Daytime (7 a.m.–10 p.m.)			Nighttime (10 p.m.–7 a.m.)		
				L_{eq}	L_{max}	L_{50}	L_{eq}	L_{max}	L_{50}
LT 1	West Empire Ave. and North Ontario St.	4/6/10–4/7/10	70.4	64.0	85.7	51.3	64.0	80.4	49.9
LT 2	Thornton Ave. and North Buena Vista St.	4/6/10–4/7/10	70.6	66.3	84.5	63.7	63.7	82.7	59.7
LT 3	West Linden Ave. and Moss St.	4/7/10–4/8/10	66.0	60.4	71.6	59.5	59.4	69.5	58.3
LT 4	South Screenland Dr. and SR 134	4/8/10–4/9/10	79.8	76.0	84.3	75.2	72.7	81.5	71.2
LT 5	San Fernando Road and North Ontario St.	4/6/10–4/7/10	72.4	68.6	90.3	62.4	65.3	84.7	60.3
LT 6	East Linden Ave. and San Fernando Rd. (railroad tracks)	4/7/10–4/8/10	74.0	67.5	92.8	55.0	67.7	81.5	58.8

Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level; L_{eq} = the equivalent hourly average noise level; L_{max} = maximum noise level; L_{50} = the noise level exceeded 50% of a specific period of time; L_{90} = the noise level exceeded 90% of a specific period of time.

Source: Data compiled by AECOM 2010 based on modeling using a Larson Davis Model 820 or Model 824 precision integrating sound-level meter

14.3.1 FEDERAL REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

The EPA's Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, which established programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues, such as noise, would be better addressed at lower levels of government, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies. Accordingly, in 1982 responsibilities for regulating noise control policies were transferred to designated federal agencies and state and local governments. However, noise control guidelines and regulations contained in EPA rulings from prior years remain in place.

FEDERAL AVIATION ADMINISTRATION

FAA is an agency of the United States Department of Transportation with authority to regulate and oversee all aspects of civil aviation in the U.S. An instrument of FAA regulation, the FARs govern all aviation activities in the United States. The FARs are part of Title 14 of the Code of Federal Regulations which regulate a wide variety of activities, such as airplane design, typical airline flights, pilot training activities, hot-air ballooning, lighter-than-air craft, built-structure heights, obstruction lighting and marking, and model rocket launches and model aircraft operation. The rules are designed to promote safe aviation, protecting pilots, passengers, and the general public from unnecessary risk, and are intended to protect the national security of the United States. The FARs are organized into sections, called parts, owing to their organization within the Code of Federal Regulations. Each part deals with a specific type of activity. Part 150 deals with airport noise compatibility planning and is described below.

Federal Aviation Regulation Part 150

Part 150 of the FARs prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs. Part 150 prescribes single systems for measuring noise at airports and surrounding areas, to determine exposure of individuals to noise resulting from the operations of an airport. These single systems generally provide a highly reliable relationship between projected noise exposure and surveyed reaction of people to noise. Land uses which are normally compatible with various levels of exposure to noise by individuals are also identified. Lastly, Part 150 provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs.

The primary intent of Part 150 studies is to map the location of noise impact areas and to study various options for reducing noise at its source (noise abatement) or reducing the impact of noise on the receiving end (mitigation). A primary incentive for an airport to do a Part 150 Study is the resulting eligibility for federal grant funds to assist in implementing mitigation measures adopted by the study and approved by the FAA.

Federal Aviation Regulation Part 161

FAR Part 161, promulgated to implement provisions of the Airport Noise and Capacity Act of 1990 (ANCA), requires a detailed evaluation of any proposed action that would restrict access to an airport by aircraft certificated as meeting Stage 2 or Stage 3 noise level requirements.

On November 5, 1990, the U.S. Congress enacted ANCA which called for the FAA to develop a national aviation noise policy with accompanying regulations to implement two provisions of the Act including:

- Phased elimination of older, louder, so-called "Stage 2" civil subsonic turbojet aircraft having maximum gross takeoff weights over 75,000 pounds, and

- Imposition of limits on an airport´s ability to adopt new noise or use restrictions affecting either Stage 2 or newer, quieter Stage 3 aircraft.

The FAA implemented the first provision of ANCA by amending an existing regulation, FAR Part 91, placing new limits on the operation of heavy Stage 2 aircraft after 1999. The FAA implemented the second provision of the Act through a new regulation, Part 161.

FAR Part 161, entitled "Notice and Approval of Airport Noise and Access Restrictions", sets forth definitions of several key terms that determine the scope of the regulation. Part 161 requires that airport proprietors examine the impacts of a proposed noise or access restriction within an "airport noise study area". That area must include all property that lies within the 65 dBA CNEL noise exposure contour. Second, in determining whether land use around an airport is compatible with airport noise, an airport proprietor must use the land use compatibility guidelines that appear in FAR Part 150.

The regulations distinguish among three types of noise and access restrictions:

- Negotiated agreements,
- Restrictions on the operation of the older, noisier Stage 2 aircraft, and
- Restrictions on the operation of the newer, quieter Stage 3 aircraft.

The procedures for enacting each type, and the FAA's scrutiny of each, are different. Since the proposed restriction of nighttime operations at Bob Hope Airport would affect Stage 3 aircraft, the highest level of review and approval is involved.

14.3.2 State Regulations and Guidelines

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation.

California Green Building Standards Code

Title 24 of the California Code of Regulations, also known as the California Green Building Standards Code, establishes building standards applicable to all occupancies throughout the state. The code provides acoustical regulations for exterior-to-interior sound insulation, as well as for sound and impact isolation between adjacent spaces of various occupied units. Title 24, Part 2, Chapter 12, Section 1207.11.2, states that interior noise levels generated by exterior noise sources shall not exceed 45 dBA L_{dn} in any habitable room.

California General Plan Guidelines

Though not adopted by law, the State of California General Plan Guidelines 2003, published by the California Governor's Office of Planning and Research, provides guidance for land use compatibility of projects within areas of specific noise exposure. Table 14-7 presents acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

14.3.3 Regional and Local Plans, Policies, Regulations, and Ordinances

Burbank General Plan Noise Element

The City of Burbank General Plan Noise Element contains goals and actions to protect citizens from exposure to excessive noise. The Noise Element establishes two noise standards, as part of Policies E and F, which are summarized below.

Policy E—Adopt and enforce development regulations and conditions of approval which include noise control for the exterior living space of all new residential developments within noise impact areas.

Action: The City will adopt and enforce development regulations and conditions of approval that require an acoustical analysis for all new residential developments within the 60 dBA L_{dn} contour of the freeways, arterials, airport and rail lines. The analysis will state the measures by which the overall noise exposure within the exterior living spaces will be reduced. Residential development within the 65 dBA contour will be expected to reduce exterior noise levels to the extent feasible.

Table 14-7 Land Use Noise Compatibility Guidelines				
Land Use Category	Community Noise Exposure (CNEL/L_{dn}, dBA)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential—Low-Density Single Family, Duplex, Mobile Home	<60	55–70	70–75	75+
Residential—Multiple Family	<65	60–70	70–75	75+
Transient Lodging, Motel, Hotel	<65	60–70	70–80	80+
School, Library, Church, Hospital, Nursing Home	<70	60–70	70–80	80+
Auditorium, Concert Hall, Amphitheater		<70	65+	
Sports Arenas, Outdoor Spectator Sports		<75	70+	
Playground, Neighborhood Park	<70		67.5–75	72.5+
Golf Courses, Stable, Water Recreation, Cemetery	<75		70–80	80+
Office Building, Business Commercial and Professional	<70	67.5–77.5	75+	
Industrial, Manufacturing, Utilities, Agriculture	<75	70–80	75+	

Notes: CNEL = Community Noise Equivalent Level; L_{dn} = day-night average noise level; dBA = A-weighted decibels

[1] Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

[2] New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

[3] New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

[4] New construction or development should generally not be undertaken.

Source: OPR 2003:244–254

Policy F—Adopt and enforce development regulations and conditions of approval which include noise control for the interior living space of all new residential developments within noise impact areas

Action: The City will adopt and strictly enforce development regulations and conditions of approval which require that the noise exposure within the interior living space of any new single or multi-family residential development not exceed an L_{dn} of 45 dBA. Currently, Article 18 of the Burbank Municipal Code only applies this standard to new multi-family construction.

The first standard requires new residential development, in areas where the ambient noise level exceeds 60 dBA in the exterior living space, to conduct an acoustical analysis. The second standard stipulates that the interior living space of any new single or multi-family residential development not exceed an L_{dn} of 45 dBA.

BURBANK NOISE ORDINANCE

The Burbank Noise Ordinance (Title 9, Building Regulations; Chapter 3, Environmental Protection; Article 2, Noise Control of the Burbank Municipal Code) contains performance standards for the purpose of prohibiting unnecessary, excessive, and annoying sounds that, at certain levels and frequencies, are detrimental to the health and welfare of the city's residents. In addition, Title 9, Building Regulations; Chapter 1, Building; Article 1, Building Regulations; Section 105.8, Construction Hours of the Burbank Municipal Code identifies the days and hours which construction, alteration, movement, enlargement, replacement, repair, equipment, maintenance, removal and demolition work can take place in the city. The following sections of the City's Noise Ordinance are applicable to the proposed project.

9-1-1-105.8: CONSTRUCTION HOURS:

The following construction hours shall apply to all construction, alteration, movement, enlargement, replacement, repair, equipment, maintenance, removal and demolition work regulated by this code:

Construction Hours:

Monday – Friday: 7:00 a.m. to 7:00 p.m.

Saturday: 8:00 a.m. to 5:00 p.m.

Sunday and City Holidays: None

EXCEPTIONS:

1. Single-family residential owner-builder permits when work is performed solely by the owner and family members:

   Monday – Friday: 7:00 a.m. to 7:00 p.m.

   Saturday: 8:00 a.m. to 5:00 p.m.

   Sunday and City Holidays: 8:00 a.m. to 5:00 p.m.

2. Where work must be performed in an emergency situation, as defined in Section 9-3-204 of the Burbank Municipal Code.

3. The Community Development Director may grant exceptions wherever there are practical difficulties involved in carrying out the provisions of this section or other specific onsite activity warrants unique consideration.

4. The Planning Board or City Council may grant exceptions pursuant to land use entitlements.

9-3-208: MACHINERY, EQUIPMENT, FANS AND AIR CONDITIONING:

A. Decibel Limit: No person shall operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in such a manner as to cause the ambient noise level to be exceeded by more than five (5) decibels. In the case of leaf blowers, as defined by Section 9-3-214 of this article, the ambient noise level may not be exceeded by more than twenty (20) decibels.

B. Ambient Noise Base Level: For the purposes of this section only, all ambient noise measurements shall commence at the following ambient noise base levels in the zones and during the times shown:

Noise Level (dB)	Time of Day	Land Use
45	Night	Residential
55	Day	Residential
65	Any	Commercial
70	Any	All Other

Accordingly, and by way of illustration, the ambient noise level in commercial zones shall be deemed to be sixty five (65) dB notwithstanding a lower reading; provided, however, that when the ambient noise base level for the property on which the machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device is located is higher than the ambient noise base level for adjacent property, the ambient noise base level for the adjacent property shall apply. Properties separated by a street shall be deemed to be adjacent to one another.

C. Exception For Home Air Conditioners: Air conditioning appliances and equipment installed on or before June 1, 1992, in residences in residential zones may be operated until January 1, 1994, between the hours of eight o'clock (8:00) A.M. and ten o'clock (10:00) P.M. without complying with the decibel limits prescribed in this section.

9-3-223: NOISE SOURCES NOT SPECIFICALLY COVERED:

Notwithstanding any other provision of this article and in addition thereto, it shall be unlawful for any person to willfully make or continue any loud, unnecessary or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The standards which shall be considered in determining whether a violation of this section exists shall include, but not be limited to, the following:

A. The sound pressure level of the noise;

B. The octave band sound pressure level of the noise;

C. Whether the nature of the noise is usual or unusual;

D. Whether the origin of the noise is natural or unnatural;

E. The sound pressure level and octave band sound pressure level of the background noise, if any;

F. The proximity of the noise to residential sleeping facilities;

G. The nature and zoning of the area within which the noise emanates;

H. The density of the inhabitation of the area within which the noise emanates;

I. The time of the day or night when the noise occurs;

J. The duration of the noise;

K. Whether the noise is recurrent, intermittent or constant; and

L. Whether the noise is produced by a commercial or noncommercial activity.

9-3-224: SCHOOLS, HOSPITALS AND CHURCHES:

It shall be unlawful for any person to create any noise on any street, sidewalk or public place adjacent to any hospital or to any school, institution of learning or church while the same is in use, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets, sidewalk or public place indicating the presence of a school, church or hospital.

This page intentionally left blank.

15 POPULATION, HOUSING, AND EMPLOYMENT

15.1 ENVIRONMENTAL SETTING

15.1.1 POPULATION GROWTH

From 2000 to 2010, Burbank's population increased 3.0% from 100,316 to 103,340 (Census 2011a). This was slightly less than the growth rate of Los Angeles County during the same time period (3.1%) (Census 2011b). The *Burbank2035* Land Use Element estimates an expected 2035 population of 116,516, a 12.8% increase from the 2010 population. This expected buildout population is based on land use designations and policies in the *Burbank2035* Land Use Element and the 2008 Housing Element.

In 2010, Burbank had 41,940 households with an average household size of 2.45 persons (SCAG 2011:2, Census 2010a). Household size was smaller than for Los Angeles County as a whole (3.03 persons) (Census 2010a).

15.1.2 EMPLOYMENT

JOBS

Burbank had a total of 94,932 jobs in 2010. Approximately 60% of these jobs were in the information technology, education and health, and professional and management industries. According to the City of Burbank (2010), major employers account for 30% of the jobs in the city. Table 15-1 lists Burbank's major employers and the number of persons employed by each.

15.1.3 HOUSING

According to the US Census, between 2000 and 2010, the number of housing units in Burbank increased 7.1% from 41,365 to 44,309, which is equal to the percentage increase Los Angeles County experienced during the same time period (Census 2011a; Census 2011b). According to the State Department of Finance, approximately 45% of these housing units are single-family detached units, while 40% are multifamily homes with five or more units (DOF 2010).

The balance between housing supply and demand can be described using a "vacancy rate." If the demand for housing units is greater than the available supply, then the vacancy rate is low and the price of housing will most likely increase at a higher rate than in an area where supply and demand are more in balance. According to the California Department of Housing and Community Development (HCD) (2000), a housing vacancy rate of 5% is considered normal. Vacancy rates below 5% indicate a housing shortage in a community. Approximately 5.3% of housing units in Burbank were vacant in 2010 (Census 2010b). Though this vacancy rate seems to indicate a balanced housing supply, the much higher proportion of jobs to housing units suggests there may be additional unmet housing demand (see the "Jobs/Housing Ratio" subsection below.)

Table 15-1 Major Employers		
Company	**Employees**	**Type**
The Walt Disney Company	7,900	Entertainment
Warner Bros. Entertainment, Inc.	7,400	Entertainment
Providence/Saint Joseph Medical Center	2,850	Medical
Bob Hope Airport	2,400	Aviation
ABC, Inc.	2,300	Entertainment
Burbank Unified School District	1,800	Education
City of Burbank	1,700	Government
NBC/Universal	1,300	Entertainment
FotoKem Industries	600	Media
Crane/Hydro-Aire Company	600	Manufacturing
Source: City of Burbank 2010:		

15.1.4 JOBS/HOUSING RATIO

The jobs/housing ratio is an area's (e.g., city, county, region) total jobs divided by total housing units and is often used to describe how an area is doing at balancing economic development with housing construction. A jobs/housing ratio of 1.0 means one job exists for every housing unit in an area. Depending on the ratio, an area can be characterized as housing-rich, jobs-rich, or balanced. Balanced areas have adequate housing available to support workers across all industries; that is, employees can live in the communities in which they work. Housing-rich areas, like the Inland Empire, are net exporters of employees, which contributes to highway commuting from the Inland Empire to the Los Angeles area where there are more jobs available. On the other hand, jobs-rich areas like Burbank are net importers of employees from other areas because they have more jobs than resident workers. In 2010, Burbank had a jobs/housing ratio of 2.14 (94,932 jobs / 44,309 housing units), meaning there were slightly more than two jobs for every housing unit in the city. It should be noted that, without knowing how many employees live in a typical Burbank housing unit, comparing total jobs to housing units provides only a rough picture of whether the city is balanced.

15.2 REGULATORY SETTING

15.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to population, housing, and employment apply to the City of Burbank.

15.2.2 STATE PLANS AND REGULATIONS

STATE HOUSING ELEMENT REQUIREMENTS

Article 10.6 of the California Government Code outlines the California housing element requirements. The housing element must analyze existing and projected housing needs, examine special housing needs within the population, evaluate the effectiveness of current goals and policies, identify governmental and other constraints, determine compliance with other housing laws, and identify opportunities to incorporate energy conservation into the housing stock. The element must also establish goals, policies, and programs to maintain, enhance, and develop housing. Burbank last updated its Housing Element in 2008.

Housing and Community Development Department Building Blocks

Unlike other general plan elements, housing elements are subject to detailed statutory requirements and mandatory review by a state agency, the HCD. In order to assist cities and counties in preparing adequate housing elements, HCD provides "Building Blocks for Effective Housing Elements." The Building Blocks provide detailed information about specific statutory requirements; information and resources to complete effective analyses of housing needs, resources and constraints; sample/model analyses and programs; and links to resources (including demographic data, current research, funding and policy strategies, public and private industry and advocacy organizations) (HCD 2010).

CALIFORNIA RELOCATION LAW

The California Relocation Law, California Public Resources Code Section 7260(b), requires the fair and equitable treatment of persons displaced as a direct result of programs or projects undertaken by a public entity. The law requires agencies to prepare a relocation plan, provide relocation payments, and identify substitute housing opportunities for any resident that is to be displaced by a public project.

15.2.3 REGIONAL AND LOCAL PLANS, REGULATIONS, AND ORDINANCES

REGIONAL HOUSING NEEDS ALLOCATION

A RHNA is mandated by the State of California (California Government Code Section 65584) for regions to address housing issues and needs based on future growth projections for the area. The RHNA is developed by SCAG and allocates to cities and counties their "fair share" of the region's projected housing needs based on household income groupings over the planning period for the housing elements of each specific jurisdiction. On July 12, 2007, the SCAG Regional Council adopted the 2006–2014 RHNA Plan. To comply with the requirements of SB 375, SCAG recently completed the next RHNA planning cycle, which will cover 2013-2021. Cities and counties must develop and adopt their housing elements to address how they will meet their allocations. The City of Burbank Housing Element is described below (SCAG 2007, SCAG 2010).

2008-2014 Housing Element

Burbank last updated its Housing Element in 2008. The Housing Element noted the continuing need to develop affordable workforce housing, as well as housing for seniors, disabled residents, and other residents with special needs. The Housing Element also identified the growing need for, and interest in, mixed-use housing, infill housing in downtown Burbank, and small-lot single family homes. Burbank was able to accommodate its RHNA within its existing zoning and land uses, demonstrating that the City has sufficient sites at appropriate densities to meet legal requirements for addressing its fair share of the regional housing need.

Residential Growth Management Ordinance

A residential growth management ordinance, known as Measure One, was adopted and codified in Title 10, Article 20, Sections 10-1-2001 through 10-1-2012 of the Burbank Municipal Code. Measure One was adopted to coordinate residential growth with the provision of sufficient public facilities, and established a maximum allowable number of residential units for the City based on the existing Land Use Element. Measure One prohibits any amendments to the Land Use Element, as it existed on July 1, 1988, which would increase the maximum allowable number of residential units that can be maintained and constructed in the city. The ordinance does not restrict the ability of the City Council to issue density bonuses to low- and moderate-income multi-family development projects. The most recent extension to the ordinance extends the effective date to January 1, 2020.

16 PUBLIC SERVICES, UTILITIES, AND RECREATION

16.1 ENVIRONMENTAL SETTING

16.1.1 FIRE PROTECTION

Fire protection services in Burbank are provided by the Burbank Fire Department (BFD), which also provides first response emergency medical services, fire prevention services, and disaster preparedness services. The Fire Prevention Bureau provides public education, code enforcement, investigation, and plan check services (City of Burbank 2010a). The emergency medical service program is recognized as a leader in the field, and employs a nurse educator and medical director to ensure the most up-to-date and efficient care possible for Burbank residents (City of Burbank 2010b).

In total, BFD has 139 staff, including 63 firefighters, 27 fire engineers (with 2 in the Fire Prevention Bureau and 1 in Training), 28 fire captains (with 3 in the Fire Prevention Bureau and 1 in Disaster Preparedness), 6 battalion chiefs (3 line chiefs, 1 in the Fire Prevention Bureau as a Fire Marshal, 1 Training Chief, and 1 Assistant Fire Chief), 1 deputy fire marshal (a civilian position), and 1 fire chief (Arakelian 2012).

BFD operates a headquarters facility, which is shared with the police department, and six fire stations, located throughout the city. Each station operates and houses at least one engine company, with most stations housing equipment and operations. In addition to an engine company, Station 11 also operates a truck company, a rescue ambulance, and houses the department's mechanic shop. Station 12 operates an engine company, a truck company, and BFD's Hazardous Materials Division. Stations 13 and 15 operate an engine company and a rescue ambulance from each facility. Station 14 houses only an engine company, while Station 16 operates both an engine company and the department's water tender (City of Burbank 2010c). For emergency medical services, the city is divided into three service areas served by the BFD's three ambulances. In addition, all truck and engine companies are considered to be assessment companies, meaning that they are capable of providing Advanced Life Support (ALS) services when a paramedic is assigned to the company (City of Burbank 2010b).

The BFD is a member department of the Verdugo Fire Communications Center, a regional communications center that fields calls for service for the Cities of Burbank, Glendale, Pasadena, Alhambra, Arcadia, Monrovia, Montebello, Monterey Park, San Gabriel, San Marino, Sierra Madre, and South Pasadena. The service area for the communications center covers approximately 134 square miles, with a combined population of approximately 875,000 people. Calls received at the communications center are responded to by 43 fire stations (Verdugo Fire Communications Center 2010). The communication center was established by the Cities of Burbank, Glendale, and Pasadena under a "no borders" agreement in which the closest fire station to a reported incident responds to the call, regardless of jurisdiction. Since the establishment of the Communications Center, the remaining nine jurisdictions have joined. This resulted in more efficient regional delivery of fire protection and emergency medical services (Verdugo Fire Communications Center 2010). During the 2008-2009 fiscal year, the Verdugo Fire Communications Center dispatched 63,898 calls for service, or an average of 431 calls per day (Verdugo Fire Communications Center 2009:9, 15).

There were 8,939 incidents in Burbank reported by the Verdugo Fire Communications Center during the 2008-2009 fiscal year. Of these incidents, 7,136 calls were for emergency medical services (78.5%), while 1,348 (14.8%) were for fire incidents. The remaining calls were for services, out of area calls, and other miscellaneous calls (Verdugo Fire Communications Center 2009:23). The BFD responded to 433 calls within other jurisdictions, and 424 calls within Burbank were responded to by other jurisdictions (Verdugo Fire Communications Center 2009:25). The BFD's average response time during the 2008-2009 fiscal year was 4 minutes and 5 seconds. BFD arrived on scene within 5 minutes for 67.6% of medical calls and 75.1% of fire calls (Verdugo Fire Communications Center 2009:14).

The Insurance Services Office (ISO) property class rating is important to a community. Many insurance companies base the fire risk portion of property insurance premiums on the community's ISO rating. ISO uses a 1 to 10 rating scale, with Class 1 being the best level of service (and lowest fire insurance premium cost) and Class 10 representing no service at all. ISO last surveyed BFD in June 2001. At that time, ISO assigned Burbank a Class 2 rating. BFD will be pursuing a new ISO rating as part of its 2010-2015 Strategic Plan implementation. (City of Burbank 2011:11). The Bob Hope Airport Fire Department is the first responder to all airport emergencies, but the BFD has the ultimate responsibility for all incidents in the city.

16.1.2 POLICE PROTECTION

The Burbank Police Department (BPD) provides police protection services within the city limits of Burbank. BPD has 290 employees, including 252 full-time employees and 38 part-time employees. Of the total staff, 159 are sworn officers. BPD also has 80 volunteers working at the animal shelter and 20 volunteers working at the police station. Based on the number of sworn officers and the City's Census-estimated 2010 population of 103,340, BPD has a ratio of 1.54 sworn officers per 1,000 residents.

BPD operates five facilities, including Police Headquarters, located at 200 North Third Street, the City's animal shelter at 1150 North Victory Place, a police pistol range at 2244 Wildwood Canyon, the City Jail, and a heliport at the Bob Hope Airport. The BPD has a fleet of a total of 128 pieces of equipment, including 120 cars, trucks, SUVs, vans, and motorcycles, as well as one helicopter, one ambulance, one ATV, one command post, and four trailers.

BPD uses 11 patrol beats to provide services to all portions of the city and will respond to calls outside of Burbank, if needed. The BPD Communications Center received 168,376 calls in 2011, 27,510 of which were emergency 911 calls (Larson 2012). The average response time from the moment the call is answered to when an officer arrives at the scene for emergency calls in 2011 was 3 minutes and 48 seconds, while the average response time for non-emergency calls was 20 minutes.

BPD maintains mutual aid agreements with police departments throughout Los Angeles County, and as a result will share resources and receive assistance from those police departments, if needed. In addition, the Department is a part of the State Emergency Aid System, and will provide a specified number of officers and equipment to other jurisdictions in the event of an incident, if necessary. BPD can also request aid from the Los Angeles County Sheriff's Department or State Office of Emergency Services (City of Burbank 1997).

In 2011, there were 83 fewer reported crimes than were reported to BPD in 2010, a reduction of approximately 3%. In particular, the crime rate for nonviolent property-related crime went down from the previous year. The number of auto theft crimes went down 15%, and burglary went down 18%. However, there was an 40% increase in the number of violent crimes from 2010 levels. Overall, violent crime accounts for 6% of the reported crimes. BPD officers made 5,197 arrests in 2011.

As of the preparation of *Burbank2035*, BPD identified no improvements to facilities, staffing, or equipment that were necessary to maintain current levels of services.

BURBANK POLICE DEPARTMENT DIVISIONS

BPD operates five divisions: 1) Administrative Services, 2) Patrol, 3) Support Services, 4) Investigation, and 5) Budget and Finance. Each division of the BPD has several functions.

The Administrative Services Division includes the Office of Chief of Police and Professional Standards Bureau, which are responsible for support services, internal affairs, and departmental audits. In addition, the Administration Division houses the Community Outreach and Personnel Services (COPS) Bureau, which handles training, applicant backgrounds, community policing programs, and media relations (City of Burbank 2010d).

The Patrol Division provides police patrol services to residents 24 hours a day, seven days a week and includes the Traffic Bureau. The Division is responsible for enforcing traffic and parking laws, investigating observed or reported suspicious activities, investigating traffic collisions, and providing traffic education to the public. Most patrol assignments are uniformed and in marked police cars, but the Patrol Division includes specialty assignments for the Special Response Team, K-9 units, Park Patrol, Bicycle Detail, Air Support, Gang Enforcement Team, and Parking Control. Nearly half of all BPD's sworn officers are within the Patrol Division (City of Burbank 2010e).

The Support Services Division provides logistical and personnel services and support to the other divisions, which includes the Record Bureau, Animal Shelter, Property and Evidence Section, Communications, Jail, and Crime Analysis Unit. The Records Bureau gathers and provides information relating to arrests and detentions, dispatches criminal information to officers in the field, searches female prisoners, assists citizens at BPD's public counter, and provides data entry for the Department. The Animal Shelter enforces laws related to the regulation, care, treatment, and impounding of animals out of the City's animal shelter. This includes licensing of animals, inspection of animal facilities, investigation of complaints, and providing information to the public (City of Burbank 2010f). The Building Services/Property and Evidence Section ensure proper storage and disposal of all property in the Department's custody, documents the chain of custody for the court, and monitors building security and maintenance. The Communications Center operates and handles 911 calls. The Jail houses unsentenced prisoners, inmate workers, and some County inmates, who are housed at the City facility for a fee, rather than at the County Jail. The Crime Analysis Unit prepares data related to criminal activity and presents the information to administrative staff for decision-making purposes.

The Investigation Division provides follow-up investigation services and gathers evidence used for the prosecution of criminal offenses. The Division consists of two bureaus, the Detective Bureau and the Forensics Bureau. The Detective Bureau includes the Crimes Against Persons Bureau, the Crimes Against Property Bureau, the Vice/Narcotics Unit, and the Juvenile Unit. The Juvenile Unit provides investigation for juvenile crimes and child abuse, and provides education and outreach programs. The Gang Detail investigates gang-related activities and attempts to prevent gang violence by interacting with gangs. The Forensics Detail processes crime scenes to collect and preserve evidence, and identifies suspects by conducting fingerprint comparisons (City of Burbank 2010g).

The Budget and Finance Division is responsible for departmental fiscal operations, which fall into four main categories: budget management, payroll, purchasing, and grants management. The Division is required to prepare the annual budget and financial reports; process payroll; update hiring and promotional information; log, initiate, and administer contracts and agreements; and oversee Federal and State grants.

16.1.3 SCHOOLS

The Burbank Unified School District (BUSD) was established in 1936 and provides public education to students living in Burbank. The boundaries of BUSD coincide with the boundaries of the city. BUSD operates 19 schools: 11 elementary schools, 3 middle schools, 2 comprehensive high schools, 1 continuation high school, 2 alternative schools, and various home school and/or adult schooling programs, and had an enrollment of 16,593 students during the 2008-2009 school year (CDE 2009). Table 16-1 below shows the schools and their enrollments for the 2008-09 school year, the most recent enrollment data available from the California Department of Education (CDE).

The Burbank Community Day School provides an alternative program for a "self-centered classroom environment" for middle and high school curriculum where students can work on improving their behavior, attendance, and academic performance. Burbank Community Day School also houses the New Vista program, an alternative program for special education students. Magnolia Park School is a student and family focused educational program. Magnolia Park School provides mental health services to elementary, middle, and high school students and their families within a school-based program.

Table 16-1
School Enrollment for Burbank Unified School District (2008-2009 School Year)

School	Address	Enrollment
Elementary Schools (Grades K-5)		
Bret Harte Elementary	3200 West Jeffries Avenue Burbank, CA 91506	652
George Washington Elementary	2322 North Lincoln Street Burbank, CA 91504	498
Joaquin Miller Elementary	720 East Providencia Avenue Burbank, CA 91501	744
Providencia Elementary	1919 North Ontario Street Burbank, CA 91505	390
R.L. Stevenson Elementary	3333 Oak Street Burbank, CA 91505	446
Ralph Emerson Elementary	720 East Cypress Avenue Burbank, CA 91501	529
Theodore Roosevelt Elementary	850 North Cordova Street Burbank, CA 91505	535
Thomas Edison Elementary	2110 West Chestnut Street Burbank, CA 91506	570
Thomas Jefferson Elementary	1900 N. Sixth Street Burbank, CA 91504	725
Walt Disney Elementary	1220 West Orange Grove Avenue Burbank, CA 91506	352
William McKinley Elementary	349 West Valencia Avenue Burbank, CA 91506	438
Middle Schools (Grades 6–8)		
David Starr Jordan Middle School	420 South Mariposa Street Burbank, CA 91506	1,199
John Muir Middle School	1111 North Kenneth Road Burbank, CA 91504	1,416
Luther Burbank Middle School	3700 West Jeffries Avenue Burbank, CA 91505	1,000
High Schools (Grades 9–12)		
Burbank High School	902 N. Third Street Burbank, CA 91502	2,733
John Burroughs High School	1920 Clark Avenue Burbank, CA 91506	2,737
Monterey High School (Continuation)	1915 Monterey Avenue Burbank, CA 91506	165
Alternative / Other Schools		
Community Day School	223 E. Santa Anita Avenue Burbank, CA 91502	43
Magnolia Park School	827 North Avon Avenue Burbank, CA 91505	19
Other (home school programs and/or adult education programs)	n/a	1,402
Total		**16,593**
Source: CDE 2009		

BUSD also provides an adult education school serving nearly 2,100 students, with programs including English as a Second Language, adult basic and secondary education, career and technical education, parent education, and personal enrichment classes (BUSD 2010). Overall, BUSD has 1,708 employees, including 809 certified teachers and 809 support staff (BUSD 2009). Based on the total enrollment reported by CDE (16,593), there are approximately 20 students for every certified teacher.

In addition to public schools, the planning area contains 10 private schools:

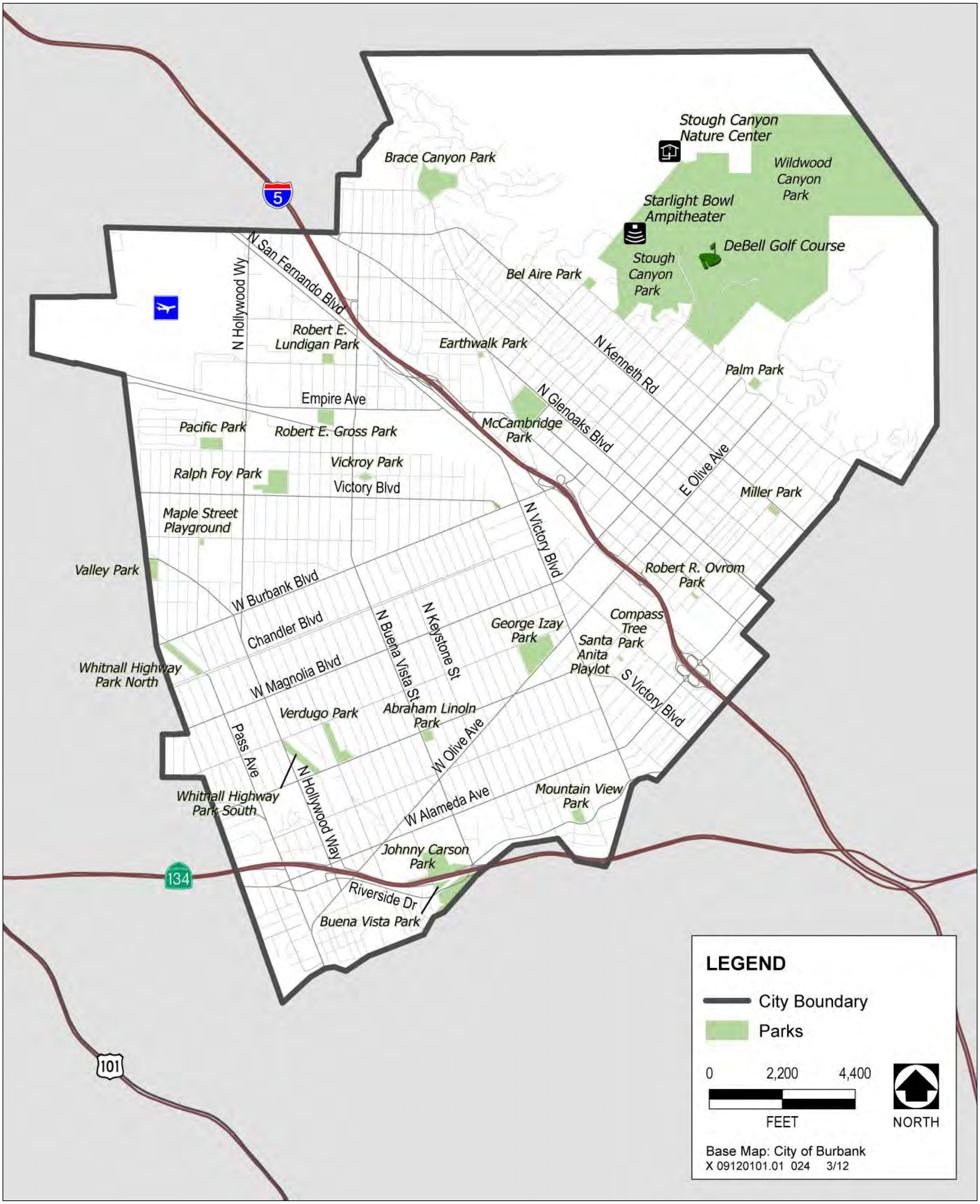
- Bellarmine-Jefferson High School
- Burbank Montessori Academy
- First Lutheran
- Innovative Concepts Academy
- Little Angels Academy, Inc.
- Music Box Preschool and Kindergarten
- Providence High School
- Saint Finbar Parish School
- Saint Francis Xavier School
- Saint Robert Bellarmine Elementary

These private schools may provide educational services to school-aged city residents, as well as students not living within Burbank. The City and the BUSD do not have regulatory authority over private schools.

16.1.4 PARKS AND RECREATION

The City of Burbank Park Services Division of the Park, Recreation, and Community Services Department (PRCS) is responsible for maintaining public park grounds, landscaped areas, and trees in public parkways and public grounds. The Park Services Division is separated into three programs: 1) Facility Planning and Development, 2) Forestry Services, and 3) Landscape Maintenance. The Facility Planning and Development Program plans and implements capital improvement projects, including building new parks and enabling improvements to parks and facilities. The Forestry Services Program provides tree services, while the Landscape Maintenance Program maintains public grounds and outdoor sports facilities (City of Burbank 2010h). In addition to these programs, PRCS provides volunteer opportunities and various recreation, leisure, and human services programs, including classes for special interests, sports programs for youth and adults, senior services, after-school programs, cultural arts programs, aquatic programs, holiday activities, and special events.

The City owns, operates, and maintains several developed park and recreation facilities. Figure 16-1 identifies locations of parks and recreational facilities in the planning area. In total, there are 26 parks, including two regional parks, four community parks, 15 neighborhood parks, and five pocket parks, as well as several additional recreational facilities such as the DeBell Golf Course, Burbank Tennis Center at McCambridge Park, Starlight Bowl Amphitheatre and Stough Canyon Nature Center, both located in



Source: Data provided by the City of Burbank in 2010

Parks and Recreation Facilities **Figure 16-1**

Stough Canyon Park, as well as community pools, recreation centers, a skate park, an arts center, and indoor gymnasiums located within several parks. In addition to these larger facilities, many parks contain, for example, ballfields, picnic areas, playgrounds, and tennis courts.

In total, there are more than 700 acres of parkland, although the bulk of that is the 500-acre Wildwood Canyon Park, a regional park that is primarily undeveloped. Table 16-2 below lists the parks, classifications, acreages, and locations, broken down by park classification. The classification system identifies parks greater than 50 acres as regional parks; parks between more than 10 acres and 50 acres are community parks; parks greater than 1 acre to 10 acres are neighborhood parks; and parks 1 acre or smaller are pocket parks.

As shown below in Table 16-3, based on the City's Census-estimated 2010 population of 103,340 and these park acreages, the city has a total parkland to resident ratio of 7.1 acres per 1,000 residents. The ratio for regional park land is 5.84 acres per 1,000 residents; 0.69 acres per 1,000 residents for community parks; 0.54 acres per 1,000 residents for neighborhood parks; and 0.02 acres per 1,000 residents for pocket parks. Nationally accepted standards are (in acres per 1,000 residents) 8/1,000 for regional parks, 2/1,000 for community parks, 1.5/1,000 for neighborhood parks, and 0.04/1,000 residents for pocket parks. The PRCSD does not have a locally adopted parkland standard.

In addition to these City-owned and maintained parks and recreational facilities identified in Table 16-2, there are 1,938 acres of open space in the city, primarily consisting of lands located in the Verdugo Mountains. These areas are comprised primarily of natural open space and miles of trails and fire roads that can be used for passive recreational purposes such as hiking, biking, and picnicking. Some are developed with active parkland uses, but the bulk of the open space acreage in the city is not developed, but is accessible for passive recreational purposes. In addition to passive recreation areas in the Verdugo Mountains, this open space acreage total also includes developed parkland and two private open space areas: the Lakeside Country Club, a private golf course located in the southern portion of the planning area, and Valhalla Cemetery south of Bob Hope Airport.

In many cases, school playgrounds can also be used for recreational purposes, although these facilities are owned, operated, and maintained by BUSD and are not included in this parkland analysis.

16.1.5 LIBRARY

The Burbank Library Services Department operates the Burbank Central Library, located at 110 North Glenoaks Boulevard downtown, and two branch libraries—the Buena Vista Branch, at 300 North Buena Vista Street in the southern portion of the planning area, and the Northwest Branch, at 3323 West Victory Boulevard near the Bob Hope Airport. The Buena Vista Branch is the newest facility, completed in 2002. The Library's mission is to "provide access to information, recreation, and education through a variety of media." The Library does this by offering residents access to a large collection of books, magazines, newspapers, CDs and DVDs, e-books, language materials, and more. The Library also offers Internet access, electronic database resources for research, children and teen services, as well as literacy services.

Table 16-2 Burbank Parks Inventory			
Park Name	**Address/Location**	**Park Type**	**Acreage**
Regional Parks			
Stough Canyon Park	1335 Lockheed View Drive	Regional	103.57
Wildwood Canyon Park	1701 Wildwood Canyon	Regional	500.00
Total Regional Parks			**603.57**
Community Parks			
Brace Canyon Park	2901 Haven Way	Community	20.05
George Izay Park	1111 West Olive Avenue	Community	15.36
Johnny Carson Park	400 South Bob Hope Drive	Community	17.62
McCambridge Park	1515 North Glenoaks Boulevard	Community	17.80
Total Community Parks			**70.83**
Neighborhood Parks			
Abraham Lincoln Park	300 North Buena Vista Street	Neighborhood	2.50
Bel Aire Ballfield	1750 Bel Aire Drive	Neighborhood	1.75
Miller Park*	720 East Providencia Avenue	Neighborhood	1.60
Mountain View Park	751 South Griffith Park Drive	Neighborhood	2.48
Larry L. Maxam Memorial Park	3715 Pacific Avenue	Neighborhood	5.29
Palm Ballfield	1125 East Orange Grove Avenue	Neighborhood	1.50
Ralph Foy Park	3211 West Victory Boulevard	Neighborhood	10.00
Robert E. Gross Park	2800 West Empire Avenue	Neighborhood	4.85
Robert E. Lundigan Park	2701 Thornton Avenue	Neighborhood	1.32
Robert R. Ovrom Park	601 South San Fernando Road	Neighborhood	1.40
Valley Park	1625 North Valley Street	Neighborhood	4.44
Verdugo Park	3201 West Verdugo Avenue	Neighborhood	8.00
Vickroy Park	2300 Monterey Place	Neighborhood	1.40
Whitnall Highway Park North	1202 North Whitnall Highway	Neighborhood	4.50
Whitnall Highway Park South	610 North Whitnall Highway	Neighborhood	4.40
Total Neighborhood Parks			**55.43**
Pocket Parks			
Compass Tree Park	601 South Lake Avenue	Pocket	<0.25
Earthwalk Park	1922 Grismer Street	Pocket	0.53
Maple Street Playground	3820 West Jeffries Avenue	Pocket	0.4
Santa Anita Playlot	250 West Santa Anita Avenue	Pocket	0.34
Five Points Plaza	1075 West Burbank Boulevard	Pocket	0.50
Total Pocket Parks			**2.02**
Total Developed Parks			**731.85**
Other Facilities			
DeBell Golf Course	1500 Walnut Avenue	Community/Public Golf Course	113

Note: * Indicates that this is a shared facility with Burbank Unified School District
Source: Data provided by the City of Burbank in 2010

Table 16-3 Current (2010) and Recommended Parkland Ratios				
	Parkland Acreage	Actual Ratio / Service Level (Acres/1,000 Residents)	Recommended Ratio / Service Level[1] (Acres/1,000 Residents)	Meeting Recommended Ratio / Service Level?
Regional	603.57	5.84	8	No
Community	70.83	0.69	2	No
Neighborhood	55.43	0.54	1.5	No
Pocket	2.02	0.02	0.04	No
Total	**731.85**	**7.1**		

Notes: Service levels recommended by National Recreation and Park Association.
Source: Data provided by the City of Burbank in 2010

16.1.6 OTHER SERVICES AND FACILITIES

Many other services are needed and used by Burbank residents, but not all are within the jurisdiction of the City. Examples of non-City services with increased demands as a result of increased population include medical services, such as hospitals and emergency care centers, child care services, and adult day care services. Although the allocation of these services is not within the control of the City, some brief descriptions of these services are provided below.

Providence St. Joseph's Medical Center is the only hospital in Burbank. The facility is privately operated by Providence Health and Services and is located in the southern portion of the planning area near several of the media studios. The hospital has 431 licensed patient beds and more than 2,300 employees. The facility treated more than 50,000 patients in its emergency room in 2009. Providence Health and Services also operates the Providence St. Joseph Health Center (also referred to as the Providence Urgent Care Center), which is located in the northern portion of the planning area near Bob Hope Airport (Providence Health and Services 2010). Rapid Care operates another urgent care facility located in central Burbank. In addition, there are several hospitals providing emergency services located outside of, but within 10 miles of Burbank, including but not limited to: Kaiser Foundation Hospital Los Angeles, Hollywood Community Hospital in Hollywood, Hollywood Presbyterian Hospital in Los Angeles, Glendale Memorial Hospital and Glendale Adventist Hospital in Glendale, Pacifica Hospital of the Valley in Sun Valley, Kaiser Foundation Hospital Panorama City, and Valley Presbyterian Hospital in Van Nuys, as well as many other medical facilities providing urgent care and non-emergency medical services.

Child care facilities are also needed to serve residents as population increases. Similar to hospital and medical facilities, the City does not have discretionary authority over these facilities, but they, along with adult care facilities, are required to be licensed by the California Department of Social Services, Community Care Licensing Division. There are a total of 87 child care facilities in Burbank, which include both public and private elementary schools. Of these facilities, 24 are registered with the state as

Large Family Child Care Homes (up to 14 children in a private home), 30 are Child Care Centers (located in commercial buildings), and 10 were not registered with the state as of August 2009. The City of Burbank owns the Mary Alice O'Connor Child Care and Family Center located at 401 N. Buena Vista St. In addition to these known child care facilities, there are four adult day care centers located in Burbank.

WATER

Water Supply

The South Coast Hydrologic Region uses imported water, water transfers, conservation, captured surface water, groundwater, recycled water, and desalination to meet consumer demand. Water is imported to the South Coast region from three major sources: the Sacramento–San Joaquin Delta (Delta) via the State Water Project (SWP), the Colorado River via the Colorado River Aqueduct (CRA), and the Owens Valley/Mono Basin via the Los Angeles Aqueducts. Local agencies have emphasized diversification of water sources given the level of uncertainty about future water supply from the Delta and Colorado River.

The South Coast region contains hundreds of water supply agencies. From 1972 to 2007, the Metropolitan Water District of Southern California (Metropolitan), the largest recipient of imported water in the region, imported an average of 703,000 acre-feet per year (afy) from the SWP and 680,000 afy or more from the CRA (depending on the availability of surplus water). Metropolitan wholesales the water to a consortium of 26 cities including Burbank, water districts, and a county authority that in total serve nearly 18 million people residing in the South Coast (DWR 2009:Vol 3, 10–12).

In Burbank, water is supplied by the BWP Water Division, which provides potable water, water for fire protection purposes, and recycled water to more than 26,000 service connections within the city. BWP received 44% of its potable water from Metropolitan supplies during the 2010 calendar year (BWP 2011:4-1). Burbank has five potable water connections to the Metropolitan system, with a maximum rated capacity of 115 cubic feet per second (51,610 gallons per minute) (BWP 2011:4-1). BWP's water supplies are supplemented locally from groundwater wells drawing from the San Fernando Groundwater Basin, which accounts for the remaining 56% of the City's water supply. In 2010, BWP used approximately 7,852 acre-feet (af) of treated water from Metropolitan and supplemented its potable supply with an additional 9,917 af from groundwater supplies (BWP 2011:Table 4-2). In addition, BWP is required to purchase additional untreated water supplies from Metropolitan to replenish local groundwater supplies. Recently the City completed a new Metropolitan connection (B-6) to deliver untreated imported water to the existing Pacoima and Lopez spreading grounds in the north San Fernando Valley for groundwater replenishment. In 2010 the City purchased 2,034 af (BWP 2011:4-2). Approximately 73% of the City's water is used by residential customers, 20% by commercial customers, and the remainder by industrial and other users (BWP 2011:Table3-1).

Although localized areas exist where groundwater levels have risen or remained relatively constant, in general groundwater storage in the San Fernando Basin has been steadily declining since the early 1980s because of heavy pumping, limited artificial recharge, and low precipitation. The San Fernando Basin is estimated to have approximately 3.2 million af of total groundwater storage capacity. The native safe yield, defined as the portion of safe yield derived from native waters, is 43,660 afy. The safe yield, which additionally includes return flows from imported waters, is 90,680 afy. The Los Angeles Regional Water Quality Control Board derived a regulatory storage requirement of 360,000 af for the San Fernando Basin, spanning the interval of 210,000 af above and 150,000 af below amount of water in storage in 1954 (2.99 million af). Despite the heavy rains of the 2004–2005 water year, the storage volume at the end of water year 2004–2005 was about 113,000 af below the lowest level of the regulatory storage requirement (Metropolitan 2007:Chapter IV, 2-5 through 2-10).

Burbank's UWMP (BWP 2011) was prepared as a result of the California Urban Water Management Planning Act, Water Code Sections 10610 through 10657 described below in Section 16.2.3, *Regional and Local Plans, Policies, Regulations, and Ordinances*. Pursuant to these regulatory requirements, the UWMP includes evaluations of expected water supplies and demands and of the reliability of the supplies and descriptions of water conservation and water management activities, including water recycling and preparation for water shortages. These supply and demand projections are summarized in Table 16-4. The UWMP concluded that the City would not be short any critical water during the 25-year planning period through 2030.

Table 16-4
City of Burbank Water Supply and Demand (in afy)

Source	2010	2015	2020	2025	2030	2035
Potable						
Purchased from MWD	7,852	6,750	7,481	8,141	8,779	9,391
Supplier-Produced Groundwater	9,917	11,000	11,000	11,000	11,000	11,000
Potable Total	**17,769**	**17,750**	**18,481**	**19,141**	**19,779**	**20,391**
Non Potable						
MWD Replenishment	2,034	2,100	500	300	200	100
Recycled Water	2,010	3,660	5,160	5,160	5,160	5,160
Non Potable Total	**4,044**	**5,760**	**5,660**	**5,460**	**5,360**	**5,260**
Total supplies	21,813	23,510	24,141	24,601	25,139	25,651
Total demand	21,813	23,511	24,141	24,601	25,139	N/A
Difference (supply minus demand)	0	-1	0	0	0	N/A

Notes: afy = acre-feet per year; BWP = Burbank Water and Power; MWD = Metropolitan Water District of Southern California.
Source: BWP 2011:3-7, 4-2

Water Rights

Burbank does not have groundwater rights to any native (derived from precipitation) water in the San Fernando, Sylmar, Verdugo, or Eagle Rock basins, per the Final Judgment in Superior Court Case No. 650079 (BWP 2011:4-3). The City of Los Angeles (Los Angeles) has sole rights to native groundwater in the San Fernando basin, which underlies the City of Burbank. However, according to the Judgment, Burbank has a right to import return water in the amount of 20% of all water delivered. This means that 20% of water delivered within Burbank's service area is considered to be returned to the groundwater by percolation and is credited to the City, including imported water, groundwater, recycled water (except power plant), and the irrigation water pumped from private wells by Valhalla Cemetery. Import return water not extracted in a given water year will carry over as a water credit for future years. The City can also purchase untreated Metropolitan water for groundwater replenishment through spreading, in order to increase its stored water credits (BWP 2011:4-3).

Capacity and reliability of the groundwater supply depends on the safe yield capacity of the aquifer, the physical well and pump capacity, treatment capacity, and water rights. Aquifer capacity is not an issue for Burbank because it lacks water rights for native groundwater extraction, and the basin is managed to stay within the established safe yield. According to the UWMP, even a three year drought would not reduce the amount of groundwater the city can extract within the limits of the treatment plants. The City also has more well capacity than it has water rights or treatment capacity. The lack of water for groundwater replenishment during a drought could limit the City's groundwater pumping. The City has plans to maintain a reserve of 10,000 af in groundwater credits for use during a prolonged drought (BWP 2011:6-3). This would allow three years of normal extraction without replenishment, assuming the purchase of 4,200 afy of physical solution water from LADWP, as permitted under Superior Court Case No. 650079. In the event that the reserved water is used, the City would need to negotiate the purchase of additional groundwater from the LADWP. (BWP 2011:6-3)

Recycled Water

Recycled water has been used in the city for decades for landscaping irrigation along I-5, at parks, the DeBell Golf Course, schools, and several commercial complexes as well as for industrial use, fire suppression, and commercial HVAC systems. Recycled water is also used at Burbank Landfill and at Magnolia Power Plant. Wastewater is treated at the Burbank Water Reclamation Plant (BWRP), with a design capacity of 12.5 million gallons per day (mgd) and an average daily flow of 8.5 mgd (BWP 2011:5-1). Recycled water is delivered to users via a separate recycled potable water system from the standard water delivery infrastructure. Overall, the Magnolia Power Plant uses approximately 1.2 mgd per year (1,350 afy) (BWP 2011:5-1). In 2010, 2,010 af of recycled water was delivered to customers (BWP 2011:5-3). The 2010 UWMP estimates that a total of 3,160 afy (2.8 mgd) of recycled water will be in use throughout the City by BWP power plants and other users, with another 2,000 afy delivered to LADWP by 2035 (BWP 2011:5-3).

Water Distribution System

BWP's potable water distribution system is made up of pipelines ranging in size from 1.5 to 30 inches in diameter, along with groundwater wells, booster pumps, and 21 storage tanks and reservoirs. The tanks and reservoirs range in capacity from 13,500 gallons to 25 million gallons, with a total storage capacity of 53 million gallons (BWP 2011:2-6). Daily water demands in Burbank are subject to wide fluctuations as a result of many factors, including climate, rainfall, and economic conditions, making this large amount of storage capacity necessary (BWP 2011:2-6). The storage capacity is large enough to allow for short interruptions (1 to 3 days at average flow) in the water supply (BWP 2011:2-6).

Water Use

Water use in Burbank is strictly for urban uses, including residential, commercial, and governmental uses; water is not provided for agricultural uses. In 2010, residential uses created the vast majority of the city's water demand, at 73.4% of the total water demand, followed by commercial uses (19.9%), industrial uses (3.8%), City departments (2.8%), and fire protection uses (0.1%) (BWP 2011:3-1). Water deliveries during 2010 totaled 17,591 af, (BWP 2011:3-3). Overall, daily water demands in Burbank have actually decreased from 1970 demands, while demand has remained fairly stable, despite population increases that have resulted in minor total demand increases, largely as a result of reduced per capita demand (BWP 2011).

According to the UWMP, BWP anticipates that the largest amount of growth in water demand in its service area to be in the commercial sector, as a result of intensification of commercial land use downtown and an increase in mixed-use development along major transportation corridors. In addition, BWP anticipates that future residential development will be predominantly multi-family, resulting in intensification of land uses and increased populations on the same amount of land (BWP 2011:2-4).

WASTEWATER

The City of Burbank provides wastewater collection and treatment services for the majority of the city, as well as a small area within the city limits of Los Angeles, adjacent to Burbank's northwestern border. A few small areas within Burbank's city limits are served by the City of Glendale or by the City of Los Angeles. Much of the background information found in this subsection is from the Sanitary Sewer Management Plan, prepared for the City of Burbank Public Works Department (PWD) in 2006.

The City's wastewater collection and conveyance infrastructure includes 230 miles of underground wastewater pipelines located throughout the city, conveying flows to the BWRP. Pipelines range in diameter from 8 to 30 inches and primarily consist of vitrified clay pipe, although more than 80% of the pipelines are 8 inches in diameter (City of Burbank 2006:3.3). In addition to the pipelines and associated man holes, the City owns and operates two wastewater pump stations, the Mariposa Pump Station and the Beachwood Pump Station. Both pump stations are located in the southeastern portion of the city. Under normal conditions, flows from the southeastern portion of the city flow to the Mariposa Pump

Station, located at the corner of Mariposa Avenue and Riverside Drive. When necessary, discharges from the Mariposa Pump Station are directed to a gravity sewer main in Mariposa Street, which terminates at the North Outfall Sewer (NOS). In normal conditions, discharges from the Mariposa Pump Station are directed to the Beachwood Pump Station, where they are ultimately pumped to the BWRP (City of Burbank 2006:3.4). The Mariposa Pump Station has an available capacity of 1.3 mgd (City of Burbank 2006:5.12).

Flows from the remainder of the southeastern portion of the city are sent directly to the Beachwood Pump Station, located at Beachwood Drive and Riverside Drive. The Beachwood Pump Station also receives flows from the southwestern and northeastern quadrants of the city, in addition to pumped flows from the Mariposa Pump Station. Flows from the Beachwood Pump Station are pumped north up Beachwood Drive until it intersects with Chandler Boulevard, where the force main turns east and flows to the BWRP (City of Burbank 2006:3.5). The Beachwood Pump Station has a capacity of 7.2 mgd. Existing average dry weather flows to the Beachwood Pump station are approximately 6.23 mgd and peak wet weather flows (i.e., peak flows during storm events) are 16.83 mgd (Cruz, pers. comm., 2012; City of Burbank 2006:5.10, 5.12).

A Sewer System Evaluation and Capacity Assurance Plan was prepared for the City in 2006, which estimated that future average dry weather flows to the Beachwood Pump Station would be 7.1 mgd. Although the facility has an available capacity of 7.2 mgd, the study determined that the facility would not be able to accommodate peak wet weather flows (i.e., peak flows during storm events), which were estimated to be 18.34 mgd in 2025 (City of Burbank 2006:5). The plan also found that peak wet weather flows (i.e., peak flows during storm events) in 2025 to the Mariposa Pump Station would be 1.33 mgd, which narrowly exceeds the 1.3 mgd of available capacity at that facility. The master plan concluded that a study was needed to determine whether a new pump station would be needed (City of Burbank 2006:5.12).

Once flows are transported from both the gravity mains and the force main/pump stations to the BWRP, the wastewater flows are treated to tertiary level standards. The BWRP has been treating 8.5 mgd to 9 mgd on average (City of Burbank 2010i). However, the BWRP completed the installation of an equalization basin (EQ basin) in late 2010, which now gives the plant a treatment capacity of 12.5 mgd (BWP 2011:5-1). Approximately 6 mgd of untreated wastewater flows directly via gravity to BWRP from the northern portion of the city, with the Beachwood Pumping Station sending 2.5 mgd to 3 mgd to the BWRP. Thus, the Beachwood Pump Station is not utilized to its full capacity (Kennedy/Jenks 2004).

Sludge from BWRP is conveyed out of the city via the NOS, a 48-inch pipeline owned and operated by the City of Los Angeles. The NOS also directly collects some wastewater flows in the northern portion of the city, which do not flow to the BWRP (City of Burbank 2006:3.3). Approximately 1 mgd of City wastewater flows directly to the NOS (City of Burbank 2006:5.12). Discharges from the Mariposa Pump Station can also be directed to the NOS (City of Burbank 2006:3.4). Wastewater not treated within the city is treated at the Hyperion Treatment Plant, owned and operated by the City of Los Angeles.

A recent evaluation of Burbank's wastewater collection system showed that overall, the condition of the system is considered to be good. However, portions of Burbank's wastewater system were installed around 1911, while other portions have been more recently improved. Older portions of the system may be nearing or have reached their useful life, which may indicate the need for upgrades. In general, the infrastructure within the mid-eastern portion of the city is the oldest, while the infrastructure in the hills in the northeastern portion of the city is the newest, and therefore the last priority for upgrades (City of Burbank 2006:3.6–3.7).

An inflow and infiltration (I/I) study of the city's wastewater pipelines, which monitored 25 areas located throughout the city showed that there was minimal response to three wet weather events. The rainfall-dependent I/I values showed that less than 1.5% of net rainfall penetrated the infrastructure system, and most areas had less than 0.5% of leakage. Typically, the guideline is that pipeline systems with less than 5% of rainfall leakage are considered a tight system. Based on this guideline, the study determined that the City's wastewater system is adequate and that the City should focus on pipeline capacity improvements (City of Burbank 2006:4.15).

The Sewer System Evaluation and Capacity Assurance Plan anticipated that redevelopment activity would be expected to have the greatest impact on future wastewater infrastructure needs, since there is very little vacant land in Burbank for major development projects (City of Burbank 2006:2.5).

STORM DRAINAGE

The PWD is responsible for the maintenance of City-owned stormwater drainage infrastructure and implementation of the City's Stormwater Pollution Prevention Program. Specifically, the PWD is tasked with cleaning up and maintaining City-owned drains, channels, catch basin inlets, gutters, storm drains, and storm drain easements (City of Burbank 2009:178–180). In addition, the PWD is responsible for inspecting and cleaning the City's sewer system, repairing and constructing sewer and drainage lines, and maintaining stormwater pump houses (City of Burbank 2009:307). The LACFCD owns, operates, and maintains several major stormwater facilities located in Burbank.

Burbank is located within the Los Angeles County Drainage Area (LACDA), which drains 1,460 square miles inhabited by more than eight million people. The LACDA is drained by the Los Angeles River and the San Gabriel River, both of which carry water to the Pacific Ocean (City of Burbank 1997:111). In Burbank, all stormwater flows generated in Burbank ultimately enter the Lockheed Channel, Burbank Western Channel, or the Los Angeles River (Cruz, pers. comm., 2010). These channels make up the major stormwater facilities in the city. The Lockheed Channel generally runs west-east from the western boundary with the city of Los Angeles toward the center of Burbank. The Burbank Western Channel is an open drainage channel that runs generally northwest-southeast through the city somewhat parallel to I-5. The Los Angeles River is also an open concrete channel that generally runs along the city's southern boundary. There are also several debris basins, primarily located along the Verdugo Mountain foothills. The major debris basin facilities include the Stough and Sunset Debris Basins, which are owned by

LACFCD, as well as another unnamed debris basin owned by the City located downstream from the Burbank Landfill. Other stormwater drainage infrastructure in the city includes a total of 429 catch basins and/or grates that are owned by the City, although there are other facilities located in the city where the ownership of the facility is unclear (Cruz, pers. comm., 2010).

The stormwater drainage system within the city is complicated and, as described above, many portions are owned by different entities, so there is a lack of clarity regarding the condition of the entire system and whether facilities are in adequate condition. The City is currently in the process of studying the system to determine the condition of the entire system and the need for new and/or updated facilities. A comprehensive storm drain master plan is currently being prepared by the City. The storm drain master plan will provide these details and determine whether any improvements to the stormwater drainage system are necessary to accommodate growth anticipated as a result of *Burbank2035*.

The City of Burbank contains several areas mapped by the FEMA as 100-year flood plains. Areas particularly susceptible to flooding include properties along the Lockheed Channel, Burbank Western Channel, along the Los Angeles River, as well as along several roadways and intersections. The Lockheed Channel can only accommodate 10-year flood events. In addition, the area surrounding BWRP could also experience flooding during heavy rainfall events if the sewer collection system were to become overcapacitated, since stormwater runoff can seep into the sewers and overload the wastewater treatment system (City of Burbank 1997:114).

Existing conditions regarding flooding and stormwater pollution are described in Chapter 11, *Hydrology and Water Quality*. This background report focuses on the presence of stormwater drainage infrastructure within the planning area, and whether projected growth will result in the need for additional or updated infrastructure, rather than water quality or large-scale flooding events.

SOLID WASTE

The City of Burbank Public Works Department provides solid waste collection, recycling, and green waste services for single-family residences and multi-family residences with four or fewer units. Businesses and larger multi-family residences can use City solid waste and recycling services as well, or hire a private waste collection and hauling company (City of Burbank 2010j). Overall, the City provides solid waste collection services to 50% of the multi-family residences and 10% of businesses located within the city (City of Burbank 2010k).

The City owns and operates the Burbank Landfill, located in the Verdugo Hills at the eastern edge of the planning area. The facility is located on 86 acres, 48 of which are used for disposal. The landfill has a maximum permitted capacity of 5,933,365 cubic yards and as of May 31, 2006, had a remaining capacity of 5,107,465 cubic yards (approximately 86% of the maximum permitted capacity). The maximum permitted throughput is 240 tons per day. Burbank Landfill has an expected closure date of January 1, 2053 (CalRecycle 2010a). Residential trash collected by the City is disposed of at this facility. Solid waste collected by private waste haulers, which typically provide municipal solid waste disposal service to multi-family residential units and commercial users, can be transported to any number of landfills, although the City has little control over which landfills private haulers may contract with to collect solid waste. As shown in Table 16-5, solid waste generated in the city was primarily hauled to eight landfills. In 2007, private haulers hauled municipal solid waste to Chiquita Canyon Sanitary Landfill, Sunshine Canyon City/County Landfill, Simi Valley Landfill and Recycling Center, Puente Hills Landfill, Lancaster Landfill and Recycling Center, Olinda Alpha Sanitary Landfill, and Azusa Land Reclamation Co. Landfill (CalRecycle 2012).

Table 16-5
Municipal Solid Waste Hauled to Landfills (2007)

Facility Name	Tons Burbank Hauled to Each Landfill (2007)	Percentage of Burbank's Annual Waste[1]	Remaining Landfill Capacity (cubic yards)[2]	Landfill Closure Date[2]
Burbank Landfill Site No. 3	37,676	44.20	5,107,465	2053
Chiquita Canyon Sanitary Landfill	25,882	30.40	29,300,000	2019
Sunshine Canyon City/County Landfill	9,737	11.40	112,300,000	2037
Simi Valley Landfill and Recycling Center	6,039	7.10	119,600,000	2052
Puente Hills Landfill	4,695	5.50	35,200,000	2013
Lancaster Landfill and Recycling Center	879	1.00	19,088,739	2012
Olinda Alpha Sanitary Landfill	195	0.20	38,578,383	2021
Azusa Land Reclamation Co. Landfill	147	0.20	N/A	2009
Total	**85,250**	**100.00**	**215,378,383**	

Sources: CalRecycle 2012a, CalRecycle 2012b.
Data compiled by AECOM 2012

The City also owns the Burbank Recycle Center, which houses a materials recovery facility and buyback/dropoff center. The facility also provides a used oil center, composting information, and a learning center. The Burbank Recycle Center is a private/public partnership with Burbank Recycling Inc (City of Burbank 2010l).

According to CalRecycle, the City of Burbank disposed of a total of 110,105 tons of solid waste in 2008. Of that, 109,965 tons were landfilled and 140 tons were burned. Residential waste accounted for 43% of all solid waste, while commercial waste made up 57% of the city's total waste stream (Cal Recycle 2010b). According to the most recent CalRecycle data available, the regional estimate for the amount of solid waste generated per capita was 0.41 tons per resident per year in 1999 (CalRecycle 2010c).

16.2 REGULATORY SETTING

16.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws pertaining to public utilities and services are applicable to the City of Burbank.

16.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

WATER SUPPLY AND MANAGEMENT

Senate Bill 610

Senate Bill (SB) 610 (Section 21151.9 of the Public Resources Code and Section 10910 et seq. of the Water Code) requires the preparation of "water supply assessments" (WSA) for large developments (e.g., for projects of 500 or more residential units; 500,000 square feet of retail commercial space; or 250,000 square feet of office commercial space). These assessments, prepared by "public water systems" responsible for service, address whether adequate existing or projected water supplies are available to serve proposed projects, in addition to urban and agricultural demands and other anticipated development in the service area in which the project is located.

Where a WSA concludes that insufficient supplies are available, the WSA must describe steps that would be required to obtain the necessary supply. The content requirements for the assessment include identification of the existing and future water suppliers and quantification of water demand and supply by source in 5-year increments over a 20-year projection. This information must be provided for average normal, single-dry, and multiple-dry years. The absence of an adequate current water supply does not preclude project approval, but does require a lead agency to address a water supply shortfall in its project approval findings.

Groundwater Management Act

The Groundwater Management Act, AB 3030, signed into law in 1992, provides a systematic procedure for, but does not require, an existing local agency to develop a groundwater management plan. This section of the code provides such an agency with the powers of a water replenishment district to raise revenue to pay for facilities to manage the basin (extraction, recharge, conveyance, and quality). In some basins, groundwater is managed under other statutory or juridical authority (such as adjudicated groundwater basins) and is not subject to the provisions of this act for groundwater management plans.

Urban Water Management Act

The California Urban Water Management Planning Act of 1983 requires that each urban water supplier, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, shall prepare, update, and adopt its UWMP at least once every five years on or before December 31, in years ending in 5 and 0. The plan describes and evaluates sources of water supply, projected water needs, conservation, implementation strategy and schedule. BWP, the City's water supplier, last prepared an UWMP in 2010.

WASTE MANAGEMENT

Sewer System Management Plan

The SWRCB adopted new policies in December 2004 requiring wastewater collection providers to report sanitary sewer overflows and to prepare and implement Sewer System Management Plans (SSMPs). SSMP requirements are modeled on proposed federal capacity, management, operations, and maintenance plans. The SSMP policy requires dischargers to provide adequate capacity in the sewer collection system, take feasible steps to stop sewer overflows, identify and prioritize system deficiencies, and develop a plan for disposal of grease, among other requirements. In addition, wastewater providers must now report sanitary sewer overflows to the Los Angeles Regional Water Quality Control Board, must keep internal records of these overflows, and must produce an annual report on overflows. Overflows from laterals on private property, if caused by an owner, are not required to be reported.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the California Legislature passed the California Integrated Waste Management Act (CIWMA) of 1989 (AB 939, Statutes of 1989), effective January 1990. According to the CIWMA, all cities and counties were required to divert 25% of all solid waste from landfill facilities by January 1, 1995, and 50% by January 1, 2000.

To help in the increase of diversion rates, each jurisdiction is required to create an integrated waste management plan. Each city plan must demonstrate integration with the relevant county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Elements of the plans must be updated every five years.

AB 939 established the California Integrated Waste Management Board (CIWMB) to oversee integrated waste management planning and compliance. Its passage led to the refinement of a statewide system of permitting, inspections, maintenance, and enforcement for waste facilities in California, and also required the CIWMB to adopt minimum standards for waste handling and disposal to protect public health and safety and the environment. CIWMB is responsible for approving permits for waste facilities, approving local agencies' diversion rates, and enforcing the planning requirements of the law through Local Enforcement Agencies (LEAs). LEAs are responsible for enforcing laws and regulations related to solid waste management, issuing permits to solid waste facilities, ensuring compliance with state-mandated requirements, coordinating with other government agencies on solid waste related issues, and overseeing corrective actions at solid waste facilities. LEAs inspect facilities, respond to complaints, and conduct investigations into various aspects of solid waste management.

SCHOOLS

California Department of Education Facilities and Planning Division

The California Education Code contains various provisions governing the siting, design, and construction of new public schools (e.g., Education Code Sections 17211, 17212, and 17212.5). In addition, to help focus and manage the site selection process, the CDE's School Facilities and Planning Division has developed screening and ranking procedures based on criteria commonly affecting school selection (Education Code Section 17251[b], Title 5 of the California Code of Regulations, Section 14001[c]). The foremost consideration in the selection of school sites is safety. Certain health and safety requirements are governed by state statute and CDE regulations. In selecting a school site, a school district should consider factors such as proximity to airports and railroads, proximity to high-voltage power transmission lines, presence of toxic and hazardous substances, and hazardous air emissions within one-quarter mile.

School Facility Fees

Education Code Section 17620 authorizes school districts to levy a fee, charge, dedication, or other requirement against any development project for the construction or reconstruction of school facilities, provided that the district can show justification for levying of fees. Government Code 65995 limits the fee to be collected to the statutory fee (Level I) unless a school district conducts a Facility Needs Assessment (Government Code Section 65995.6) and meets certain conditions; the Burbank Unified School District is currently preparing a Facility Needs Assessment. These fees are adjusted every 2 years in accordance with the statewide cost index for Class B construction, as determined by the State Allocation Board.

SB 50 (1998) instituted a new school facility program by which school districts can apply for state construction and modernization funds. This legislation imposed limitations on the power of cities and counties to require mitigation for school facility impacts as a condition of approving new development. Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property…" (Government Code Section 65996[b]). Additionally, a local agency cannot require participation in a Mello-Roos district for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos district. Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation."

State Service Standards Affecting All Districts

The California Education Code Section 41402 states that unified school districts are required to have eight administrative employees per 100 teachers.

State standards for the number of students per classroom pursuant to Chapter 407, Statutes of 1998 (loading standards), require a maximum of 25 students per classroom in elementary schools and 27 students per classroom in middle and high schools.

PARKS

Quimby Act

As part of approval of a final tract or parcel map, the California Quimby Act allows a city to require dedication of land, the payment of in-lieu fees, or a combination of both to be used for the provision of parks and recreational purposes. Cities can require land or in-lieu fees for a minimum of 3 acres per 1,000 residents, with the possibility of increasing the requirement to a maximum of 5 acres per 1,000 residents if the city already provides more than 3 acres per 1,000 residents.

16.2.3 REGIONAL AND LOCAL PLANS AND REGULATIONS

BURBANK MUNICIPAL CODE

Title 8, Chapter 1, Article 10 of the Burbank Municipal Code describes the City's stormwater and runoff pollution control requirements.

BURBANK URBAN WATER MANAGEMENT PLAN

The Burbank UWMP was adopted on June 7, 2011 (BWP 2011). The City is an "urban water supplier" as defined by Section 10617 of the California Water Code. The purpose of the 2010 UWMP is to serve as a foundational document and source of information for Water Supply Assessments and Written Verifications of Water Supply. The UWMP also serves as:

- A long-range planning document for water supply.
- Source data for development of a regional water plan.
- A source document for cities and counties as they prepare their General Plans.
- A key component to Integrated Regional Water Management Plans.

Pursuant to SB 610, described above, the UWMP provided estimates for population, water demand, and water supply with projections in five-year increments to 2035.

SEWER SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

The City had a Sewer System Evaluation and Capacity Assurance Plan prepared in 2009. The plan contains the following key objectives:

- To properly fund, manage, operate, and maintain all parts of the wastewater collection system.
- To provide adequate capacity to convey peak sewer flows.
- To minimize the frequency of sanitary sewer overflows (SSOs).

- To construct and maintain the collection system using trained staff (and/or contractors) possessing adequate knowledge, skills, and abilities as demonstrated through a validated program.

CITY OF BURBANK ZERO WASTE POLICY AND STRATEGIC PLAN

In 2008, the City of Burbank adopted a Zero Waste Policy setting a zero waste goal by 2040, and a Zero Waste Strategic Plan to implement the policy. This plan includes four basic strategies, with a priority placed on "upstream" solutions to eliminate waste before it is created. The plan also includes actions to build on the City's traditional "downstream" recycling programs to fully utilize the existing waste diversion infrastructure. A strong public outreach, education, and participation program is an important element of all the strategies. The plan states each strategy, identifies which specific Sustainability Action Plan action items are tied to it, further describes the strategy, discusses why the strategy is important, and outlines the next steps to be taken to implement the strategy.

This page intentionally left blank.

17 TRANSPORTATION

17.1 ENVIRONMENTAL SETTING

The city includes two major freeways, the Golden State (I-5) Freeway and the Ventura (State Route [SR] 134) Freeway; various local and regional transit systems; over 20 miles of existing bicycle facilities; and a multitude of developed pedestrian facilities, all supporting a fully functional multimodal transportation network connecting multiple neighborhoods to neighboring communities. In addition, the Bob Hope Airport is located in the northwest section of the city, which provides intrastate and national air travel between Burbank and various locations throughout California and the United States.

17.1.1 ROADWAY NETWORK

REGIONAL STREET SYSTEM

I-5, or the Golden State Freeway, is an eight-lane access freeway that operates in a north/south direction through California. The freeway provides regional access between the cities of Burbank, downtown Los Angeles, and Santa Clarita and extends from the Oregon border via Sacramento in the north and downtown Los Angeles, Orange County, and San Diego in the south.

SR 134, or the Ventura Freeway, is a 10-lane (including carpool lanes) limited access freeway that operates in an east/west direction and passes through the southern edge of Burbank. The freeway provides regional access between the cities of Burbank, Glendale, Pasadena, and Los Angeles. It extends from Los Angeles in the west to Pasadena in the east.

US Route 101 (US 101), also referred to as the Hollywood Freeway between downtown Los Angeles and SR 134/170 and the Ventura Freeway north of SR 134/170, is a north/south 10-lane limited access freeway that extends north from downtown Los Angeles through coastal California to San Francisco. Just south of the SR 134/170 junction downtown Los Angeles, the freeway joins with SR 170 and continues into downtown Los Angeles, where it intersects with I-5 and I-10. The freeway provides regional access from Burbank to the San Fernando Valley and Ventura County to the north, and to Hollywood and downtown Los Angeles to the south. This freeway does not operate within Burbank city limits.

LOCAL CITY STREETS

The following is a brief description of the streets serving the City of Burbank:

- Hollywood Way – Hollywood Way is a four lane Major Arterial roadway with a two-way center turn lane that operates in a north-south direction. It extends from the northern city limits to Olive Avenue. This arterial provides direct connection to I-5 and SR 134. North of Victory Boulevard, there are mostly commercial and industrial land uses along the roadway. The Bob Hope Airport is located on the west side of the street north of Vanowen Street. Along Hollywood Way, mostly residential land uses are located south of Victory Boulevard. Some commercial uses are concentrated around major intersections. The posted speed limit for this arterial is 35 miles per hour (mph) south of Vanowen and 40 mph north of Vanowen. There are bike lanes on Hollywood Way between Pacific Avenue and Tulare Street.

- Winona Avenue – Winona Avenue is a four- lane, east-west Collector Street that extends from Hollywood Way to San Fernando Boulevard. East of San Fernando Boulevard, Winona Street is a two-lane collector with no center turn lanes. The street terminates at Hollywood Way. There are mostly industrial land uses along Winona Avenue. The posted speed limit along Winona Avenue varies from 35 to 25 mph.

- Thornton Avenue – Thornton Avenue is a two- lane, east-west Collector Street with a center turn lane. It extends from Hollywood Way to Lincoln Street, just east of Buena Vista Street. At Holly wood Way, the street leads into the Bob Hope Airport. Near Hollywood Way, there are mostly industrial and commercial land uses, while the eastern end of the roadway, near Buena Vista Street, is predominantly residential. On-street parking is generally provided on both sides of the street. The posted speed limit along Thornton Avenue is 30 mph.

- Empire Avenue – Empire Avenue is a four-lane Major Arterial with a center turn lane between Victory Place and the southern Airport Driveway Access Road and is a three-lane major arterial with a center turn lane west of the airport access road. On-street parking is permitted east of North Ontario Street. This avenue borders the Bob Hope Airport to the south, and has mostly industrial and commercial land uses. The posted speed limit is 35 mph.

- Victory Boulevard – Victory Boulevard is a four-lane east-west Major Arterial with center turn lane between Burbank Boulevard and the western city limits, and is a four-lane north/south Major Arterial with center turn lane between Burbank Boulevard/Victory Place and the southern city limits. On-street parking is permitted on both sides of the street, with two-hour parking restrictions on most blocks. There are mostly mixed commercial, office, and industrial uses along the roadway, with some limited multi-family and mixed residential. The posted speed limit is 35 mph. There are bike lanes on Victory Boulevard between Clybourn Avenue and Burbank Boulevard.

- Burbank Boulevard – Burbank Boulevard is a four-lane east-west Secondary Arterial with center turn lane between Victory Boulevard and the western city limits, a five- and six-lane east-west major arterial with center turn lane between Victory Boulevard and San Fernando Boulevard, and a four-lane east-west collector street with center turn lane between San Fernando Boulevard and Third Street. On-street parking is permitted on both sides of the street, with two-hour parking restrictions on some blocks. There are mostly commercial land uses along the roadway. The posted speed limit ranges from 25 to 35 mph.

- San Fernando Boulevard – San Fernando Boulevard is a four-lane, north/south Secondary Arterial with a center turn lane between the northern city limits and First Street, Downtown Collector between Magnolia and Verdugo, and Secondary Arterial between Verdugo and the southern city limits. From the northern city limits to the I-5 interchange, there is a two-way left- turn center lane; and on-street parking is generally permitted on the southwest side of the street, opposite the railroad tracks. This segment of the roadway traverses through mainly industrial land uses. East of the I-5 interchange, the roadway runs through mostly commercial land uses, including a shopping center. Between San Fernando Boulevard and Verdugo Avenue, San Fernando Boulevard is a Local Street. On-street parking is permitted on some blocks, including some blocks that have angled parking. Most of the on-street parking is time restricted and limited to one or two hours. The posted speed limit ranges from 25 to 35 mph.

- Magnolia Boulevard – Magnolia Boulevard is a four-lane Secondary Arterial with center turn lane between the western city limits and Glenoaks Boulevard, and a two-lane Collector Street east of Glenoaks Boulevard. West of Glenoaks Boulevard, the four-lane roadway has a two-way left-turn median, and traverses through mainly commercial land uses, including a shopping center east of I-5. There is also unmetered two-hour on-street parking available on most blocks, and the posted speed limit ranges from 30 to 35 mph. East of Glenoaks Boulevard, the roadway narrows to two lanes and traverses through residential development, and there is unmetered on-street parking with no posted restrictions.

- Verdugo Avenue – Verdugo Avenue is a two- to three-lane Collector Street with a center turn lane between the western city limits and Flower Street, and a Downtown Collector between Front Street and Glenoaks Boulevard. There are bike lanes on Verdugo from Hollywood Way to Olive Avenue and from Front Street to Glenoaks Boulevard. East of Glenoaks Boulevard, Verdugo Avenue is a Local Street. The roadway traverses through mostly residential areas, with some commercial land uses near major intersections. The posted speed limit is 35 mph.

- Riverside Drive – Riverside Drive is a four-lane Secondary Arterial with a center turn lane between Alameda Avenue and Buena Vista Street and a two-lane Collector Street with a center turn lane between Buena Vista Street and the southern city limits. There are bike lanes on Riverside Drive between Bob Hope drive and the southern city limits. The posted speed limit is 30 mph. The roadway traverses through some commercial and industrial land uses, as well as some residential areas.

- Alameda Avenue – Alameda Avenue is a four-lane east/west Major Arterial with a center turn lane between Riverside Drive and Glenoaks Boulevard. There is no center turn lane between San Fernando Boulevard and Glenoaks Boulevard. The posted speed limit is 35 mph. The roadway traverses through mostly commercial and industrial land uses.

- Pass Avenue – Pass Avenue is a four-lane Collector Street between Toluca Park Drive and Olive Avenue. There is a center turn lane between Toluca Park Drive and Riverside Drive. North of Verdugo Avenue Pass Avenue is a Local Street. South of Verdugo Avenue, the roadway widens to four lanes, with a two-way left-turn center lane provided on some blocks, and runs through mostly commercial and industrial land uses. On-street parking is available, with time restrictions on some blocks. The posted speed limit ranges from 25 to 35 mph.

- Olive Avenue – Olive Avenue is a six-lane Major Arterial with a center turn lane between the southern city limits and Riverside Drive. There is an AM peak period parking restriction in the southbound direction between Riverside Drive and Maple Street. Olive Avenue is a four-lane Major Arterial with a center turn lane between Riverside Drive and Glenoaks Boulevard. East of Glenoaks Boulevard, Olive is a two- and four-lane Collector Street. The posted speed limit is 35 mph. The roadway traverses through mostly commercial land uses, including the City's commercial center. East of Glenoaks Boulevard, the roadway runs through mainly residential areas.

- Buena Vista Street – Buena Vista Street is a four-lane Secondary Arterial with a center turn lane between SR 134/Riverside Drive and the northbound I-5 ramps. Between the northbound I-5 ramps and Kenneth Road Buena Vista Street is a two-lane collector street. There is a center turn lane between the northbound I-5 ramps and Glenoaks Boulevard. North of Kenneth Road, Buena Vista Street is a local street. The roadway traverses through mostly residential areas, with some commercial uses near major intersections. The posted speed limit is 35 mph.

- Glenoaks Boulevard – Glenoaks Boulevard is a four-lane Major Arterial with a center turn lane between Providencia Avenue and the northern city limits, and is a six-lane major arterial with a center median between the southern city limits and Providencia Avenue. The roadway traverses through a mix of mostly residential and commercial land uses. The posted speed limit ranges from 30 to 35 mph.

- Vanowen Street – Vanowen Street is a two-lane Collector Street with center turn lane between the western city limits and Hollywood Way, and a four-lane Collector Street with a center turn lane between Hollywood Way and Buena Vista Street. The roadway traverses through mostly commercial and industrial land uses, as well as some residential areas. The posted speed limit is 40 mph.

- First Street – First Street is a four-lane, north/south, secondary Arterial Street with a center turn lane between San Fernando Boulevard and Verdugo Avenue. No parking is permitted. South of Verdugo Avenue, First Street is a Local Street. The roadway mostly traverses through the City's commercial and shopping center. The posted speed limit is 30 mph.

In addition to the streets listed above, the following streets are classified as Collector Streets:

- Clybourn Avenue between the northern city limits and Sherman Way, between Victory

- Boulevard and Verdugo Avenue, and between Riverside Drive and Warner Boulevard

- Lincoln Street between San Fernando Boulevard and Empire Avenue
- Pacific Avenue between Maple Street and Keystone Street
- Jeffries Avenue between Clybourn Avenue and Buena Vista Street
- Edison Boulevard between the western city limits and Hollywood Way
- Chandler Boulevard between the western city limits and Victory Boulevard
- Clark Avenue between the western city limits and Victory Boulevard
- Oak Street between Pass Avenue and Main Street
- Bob Hope Drive between Alameda Avenue and Riverside Drive
- Victory Place between San Fernando Boulevard and Burbank Boulevard
- Main Street between Victory Boulevard and Riverside Drive
- Lake Street between Magnolia Boulevard and the southern city limits
- Flower Street between Olive Avenue and the southern city limits
- Scott Road between the western city limits and San Fernando Boulevard
- Kenneth Road between Glenoaks Boulevard and the southern city limits
- Third Street between Amherst Drive and Delaware Road and between Verdugo Avenue and Providencia Avenue
- Amherst Drive between San Fernando Boulevard and Glenoaks Boulevard
- Bel Aire Drive between Cambridge Drive and the southern city limits
- Sixth Street between Scott Road and the southern city limits
- Harvard Road between Third Street and Bel Aire Drive
- Cypress Avenue between Glenoaks Boulevard and Kenneth Road
- Providencia Avenue between San Fernando Boulevard and Kenneth Road
- Cohasset Street between Hollywood Way and Glenoaks Boulevard

In addition to the streets listed above, the following streets are classified as Downtown Collector Streets:

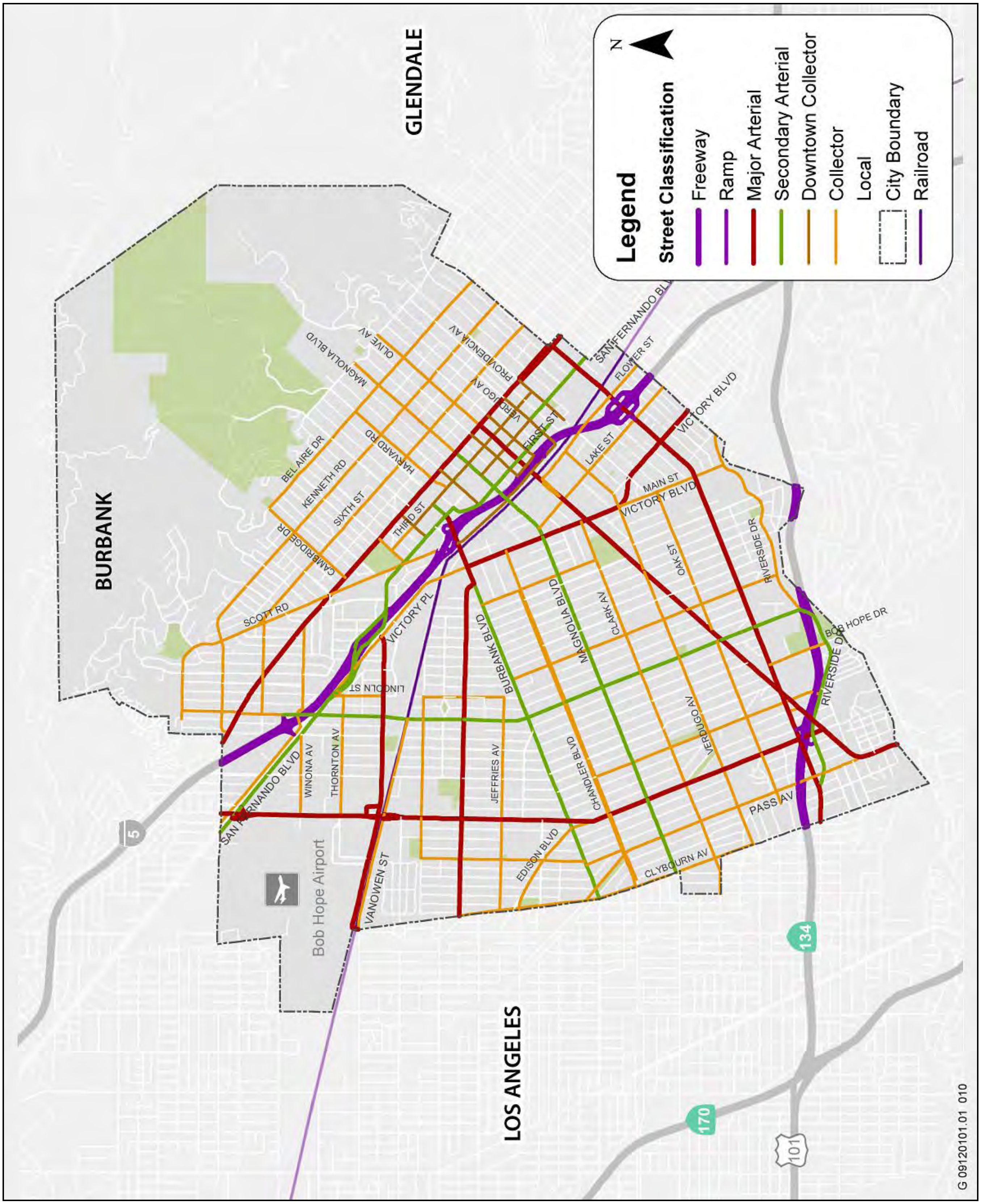
- Third Street between Delaware Road and Verdugo Avenue
- Cypress Avenue between Glenoaks Boulevard and First Street
- Orange Grove Avenue between Glenoaks Boulevard and Bonnywood Place
- Angeleno Avenue between Glenoaks Boulevard and Bonnywood Place
- Verdugo Avenue between Glenoaks Boulevard and Front Street
- Front Street between Burbank Boulevard and Verdugo Avenue
- Bonnywood Place between Angeleno Avenue and Orange Grove Avenue

All other streets in Burbank are classified as Local Streets. Figure 17-1 illustrates City of Burbank's existing street classification hierarchy.

17.1.2 STUDY INTERSECTIONS

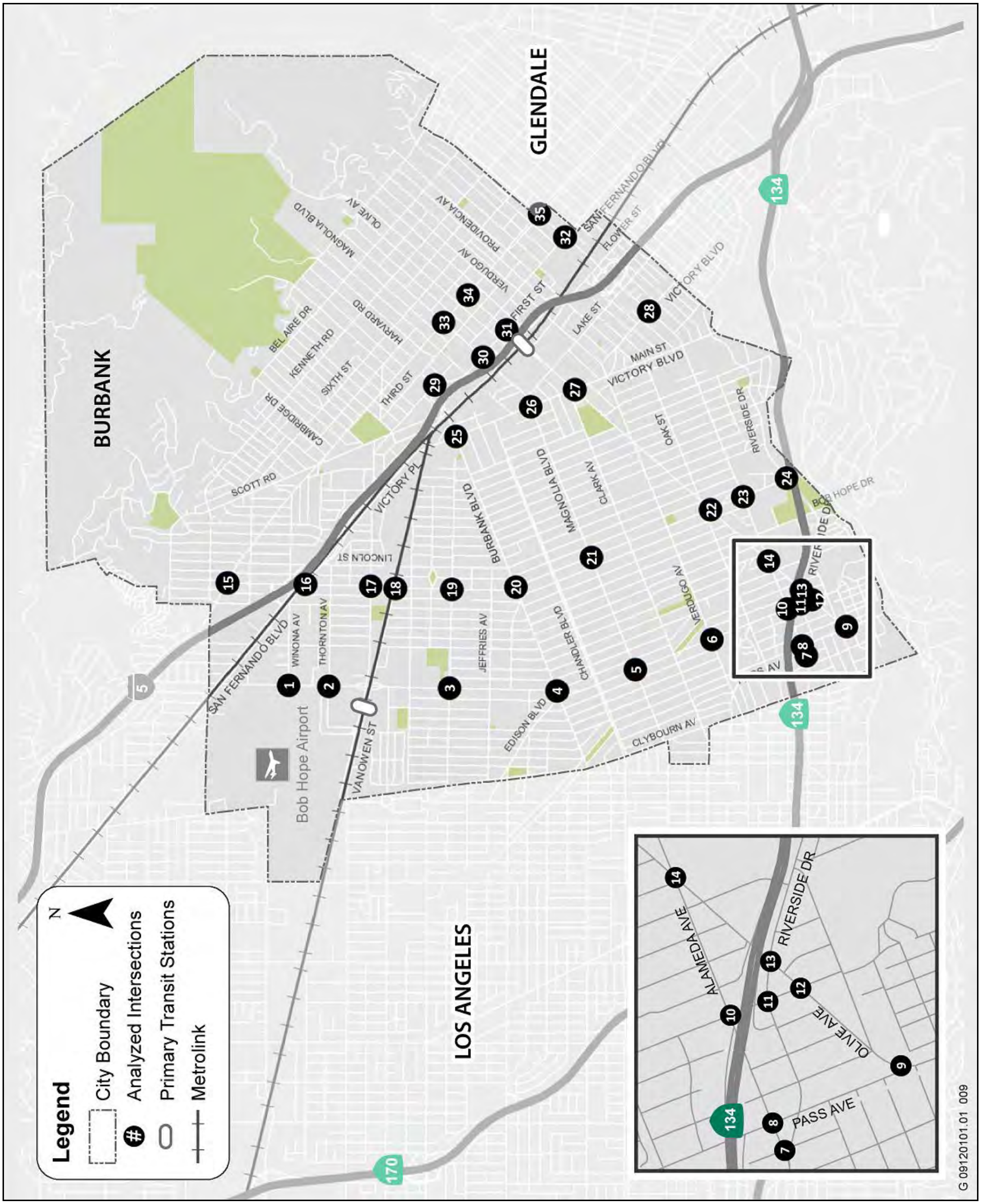
In conjunction with the City of Burbank Planning and Transportation Division staff, study intersections were indentified for *Burbank2035*. A total of 35 signalized intersections were analyzed. Intersection operating conditions and Measures of Effectiveness (MOEs) for existing traffic conditions were analyzed during the weekday morning peak hour (between 7:00 and 9:00 AM) and evening peak hour (between 4:00 and 6:00 PM). The study intersections are listed below and shown in Figure 17-2.

1. Hollywood Way & Winona Avenue
2. Hollywood Way & Thornton Avenue
3. Hollywood Way & Victory Boulevard
4. Hollywood Way & Burbank Boulevard
5. Hollywood Way & Magnolia Boulevard
6. Hollywood Way & Verdugo Avenue
7. Riverside Drive & Alameda Avenue
8. Pass Avenue & Alameda Avenue
9. Pass Avenue & Olive Avenue
10. Hollywood Way & Alameda Avenue
11. Hollywood Way & Riverside Drive
12. Hollywood Way & Olive Avenue
13. Olive Avenue & Riverside Drive
14. Olive Avenue & Alameda Avenue
15. Buena Vista Street & Glenoaks Boulevard
16. Buena Vista Street & San Fernando Boulevard
17. Buena Vista Street & Empire Avenue
18. Buena Vista Street & Vanowen Street
19. Buena Vista Street & Victory Boulevard
20. Buena Vista Street & Burbank Boulevard
21. Buena Vista Street & Magnolia Boulevard
22. Buena Vista Street & Olive Avenue



Source: Fehr & Peers 2011, adapted by AECOM

Street Classifications **Figure 17-1**



Source: Fehr & Peers 2011, adapted by AECOM

Analyzed Intersections **Figure 17-2**

23. Buena Vista Street & Alameda Avenue
24. Buena Vista Street/SR 134 & Riverside Drive
25. Victory Boulevard/Victory Place & Burbank Boulevard
26. Victory Boulevard & Magnolia Boulevard
27. Victory Boulevard & Olive Avenue
28. Victory Boulevard & Alameda Avenue
29. San Fernando Boulevard & Burbank Boulevard
30. First Street & Magnolia Boulevard
31. First Street & Olive Avenue
32. San Fernando Boulevard &Alameda Avenue
33. Glenoaks Boulevard & Magnolia Boulevard
34. Glenoaks Boulevard & Olive Avenue
35. Glenoaks Boulevard & Alameda Avenue

An analysis was conducted to comply with the Los Angeles County Congestion Management Program (CMP) requirements. This analysis quantifies the potential impacts of *Burbank2035* on the regional freeway system in the project area, including impacts on the I-5 CMP freeway monitoring locations. There are no CMP intersection monitoring locations within the city boundaries. The freeway mainline location of I-5 at Burbank Boulevard, CMP station number 1006, is analyzed below.

17.1.3 LEVEL OF SERVICE

INTERSECTIONS

Traffic congestion is typically described in terms of "level of service" (LOS). LOS rankings range from A to F, depending on the levels of congestion. According to City of Burbank policy, signalized intersection LOS was evaluated using Circular 212 Planning methodology, which calculates LOS based on the volume-to-capacity ratio. Table 17-1 presents definitions of each LOS threshold for signalized intersections.[1] The City's current policy is to maintain LOS D at all intersections to maintain acceptable levels of mobility during peak hours. Thus, any intersection operating worse than LOS D is considered to be operating at unacceptable conditions.

The City of Burbank requires the use of Critical Movement Analysis (CMA) methodology (*Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, Transportation Research Board, 1980) to evaluate the operations of intersections. The CMA method of intersection capacity analysis determines the intersection volume-to-capacity (V/C) ratio and corresponding LOS for turning movements and intersection characteristics at signalized intersections.

[1] No unsignalized intersections were analyzed in the analysis; therefore, the LOS threshold for unsignalized intersections was not included in the report.

Table 17-1 Level of Service Definitions for Signalized Intersections		
LOS	**Volume/Capacity Ratio**	**Definition**
A	0.000–0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601–0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701–0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801–0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901–1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.
Source: Transportation Research Board 1980		

Traffic volumes at the 35 study intersections were collected during the morning and afternoon peak hours, from 7:00 to 9:00 AM and from 4:00 to 6:00 PM, respectively. The peak one-hour time period for the morning and afternoon is found by identifying the four consecutive 15-minute periods with the highest traffic volumes.

Intersection traffic volumes were analyzed using the CMA analysis described above to determine the current operating conditions at the 35 analyzed intersections. At signalized intersections, the calculation is expressed in a V/C ratio for critical movements where the volumes at the intersection are compared to the actual capacity of the intersection.

Table 17-2 and Figure 17-3 summarize the results of this analysis indicating the existing morning and evening peak hour V/C ratio and corresponding LOS at each of the analyzed intersections. Appendix C contains the LOS worksheets. As indicated in the table, two of the 35 study intersections operate at LOS of E either in the AM or PM peak or in both peak hours:

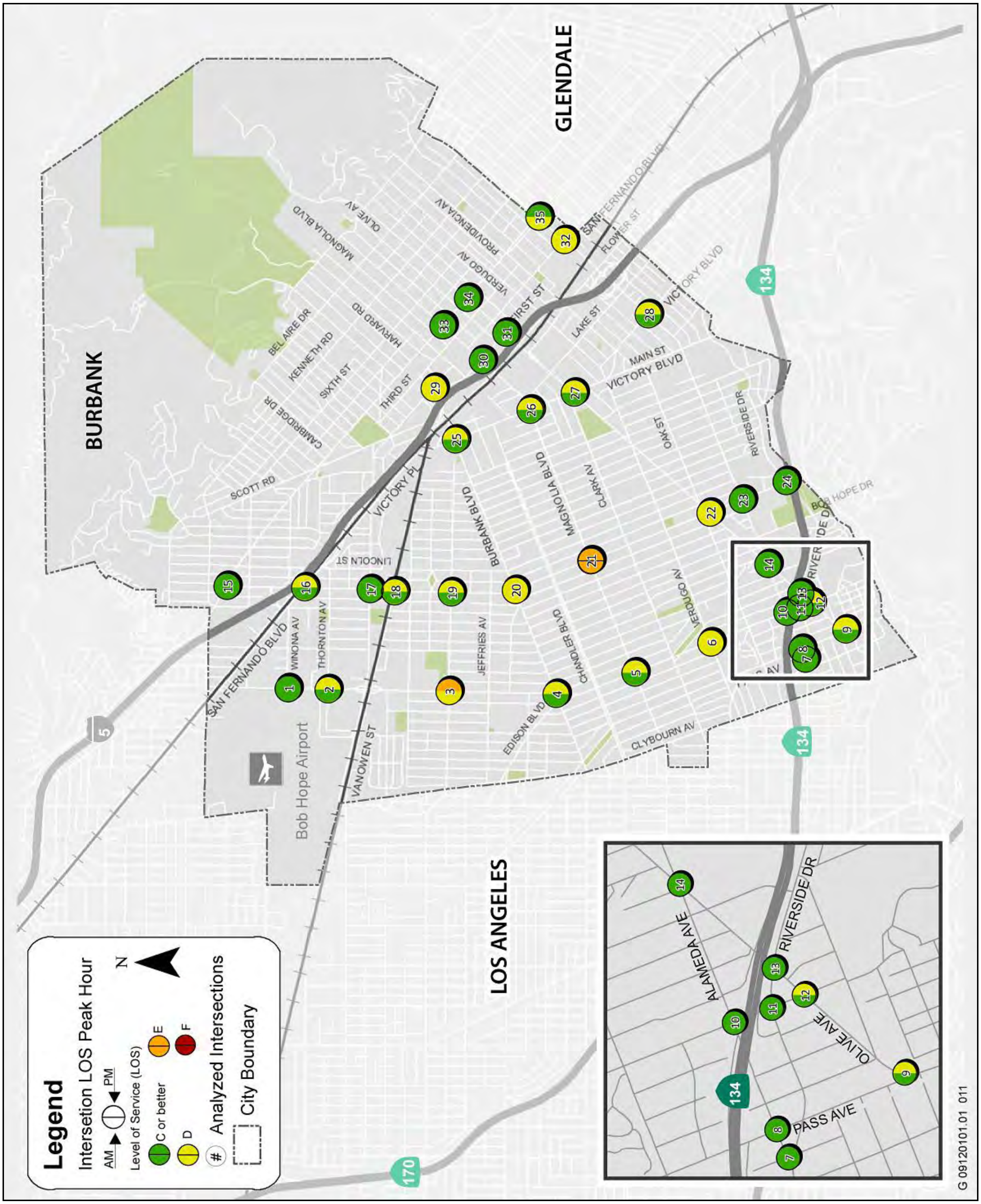
- Hollywood Way & Victory Boulevard
- Buena Vista Street & Magnolia Boulevard

The remaining 33 study intersections operate at LOS D or better under existing peak hour traffic conditions.

Table 17-2
Existing Intersection Level of Service

Intersection	Peak Hour	Existing V/C	Existing LOS	Intersection	Peak Hour	Existing V/C	Existing LOS
1. Hollywood Way Winona Ave	AM PM	0.426 0.583	A A	19. Buena Vista St Victory Blvd	AM PM	0.761 0.848	C D
2. Hollywood Way Thorton Ave	AM PM	0.731 0.813	C D	20. Buena Vista St Burbank Blvd	AM PM	0.826 0.839	D D
3. Hollywood Way Victory Blvd	AM PM	0.873 0.953	D E	21. Buena Vista St Magnolia Blvd	AM PM	0.954 0.984	E E
4. Hollywood Way Burbank Blvd	AM PM	0.721 0.850	C D	22. Buena Vista St Olive Ave	AM PM	0.873 0.896	D D
5. Hollywood Way Magnolia Blvd	AM PM	0.766 0.894	C D	23. Buena Vista St Alameda Ave	AM PM	0.572 0.696	A B
6. Hollywood Way Verdugo Ave	AM PM	0.805 0.893	D D	24. Buena Vista St Riverside Dr [a]	AM PM	0.758 0.720	C C
7. Riverside Dr Alameda Ave	AM PM	0.479 0.739	A C	25. Victory Blvd/Victory Pl Burbank Blvd	AM PM	0.693 0.831	B D
8. Pass Ave Alameda Ave	AM PM	0.672 0.559	B A	26. Victory Blvd Magnolia Blvd	AM PM	0.551 0.875	A D
9. Pass Ave Olive Ave	AM PM	0.761 0.815	C D	27. Victory Blvd Olive Ave	AM PM	0.742 0.883	C D
10. Hollywood Way Alameda Ave	AM PM	0.589 0.716	A C	28. Victory Blvd Alameda Ave	AM PM	0.674 0.839	B D
11. Hollywood Way Riverside Dr	AM PM	0.524 0.645	A B	29. San Fernando Blvd Burbank Blvd [a]	AM PM	0.888 0.873	D D
12. Hollywood Way Olive Ave	AM PM	0.601 0.807	B D	30. First St Magnolia Blvd [a]	AM PM	0.392 0.579	A A
13. Olive Ave Riverside Dr	AM PM	0.427 0.528	A A	31. First St Olive Ave [a]	AM PM	0.537 0.744	A C
14. Olive Ave Alameda Ave	AM PM	0.388 0.666	A B	32. San Fernando Blvd Alameda Blvd [a]	AM PM	0.839 0.843	D D
15. Buena Vista St Glenoaks Blvd	AM PM	0.588 0.627	A B	33. Glenoaks Blvd Magnolia Blvd	AM PM	0.452 0.641	A B
16. Buena Vista St San Fernando Blvd	AM PM	0.669 0.814	B D	34. Glenoaks Blvd Olive Ave	AM PM	0.606 0.701	B C
17. Buena Vista St Empire Ave	AM PM	0.616 0.663	B B	35. Glenoaks Blvd Alameda Ave	AM PM	0.866 0.790	D C
18. Buena Vista St Vanowen St	AM PM	0.620 0.827	B D				

Note: [a] No Computerized Signal Control System (CSCS) capacity credit applied.
Source: Fehr & Peers 2011



Source: Fehr & Peers 2011, adapted by AECOM

Existing (2010) Intersection Level of Service **Figure 17-3**

FREEWAYS

All of the study freeway locations along I-5, SR 134, and U.S. Highway 101 are part of the CMP network. The CMP is a state-mandated program administered by the Los Angeles County Metropolitan Transportation Authority (Metro) that provides a mechanism for coordinating land use and development decisions. CMP statute requires establishment of LOS standards to measure congestion on the system. Level of service ranges from LOS A to F, with LOS A representing free-flow conditions and LOS F representing a high level of congestion.

Data from the Performance Measurement System (PeMS) 2010 data was used for evaluating freeway mainline segments at the CMP location in Burbank. Morning and evening peak hour information and traffic volumes per direction were collected from the PeMS database and represent the 85th percentile values.

In accordance with the CMP guidelines, freeway (mainline) operating conditions during peak periods were evaluated using the general procedures established by the CMP. Freeway mainline LOS is estimated through calculation of the demand-to-capacity (D/C). Calculation of LOS based on D/C ratios is a surrogate for the speed-based LOS used by Caltrans for traffic operational analysis. The LOS criteria for freeway segments using D/C ratios as the performance measure are shown in Table 17-3. Capacity was determined based on the existing number of lanes and a single-lane capacity of 2,000 vehicles per hour per lane.

Table 17-3
Level of Service Threshold for CMP Freeway Segments

LOS	Demand-to-Capacity Ratio
A	0.00–0.35
B	> 0.35–0.54
C	> 0.54–0.77
D	> 0.77–0.93
E	> 0.93–1.00
F(0)	> 1.00–1.25
F(1)	> 1.25–1.35
F(2)	> 1.35–1.45
F(3)	> 1.45

Notes: LOS= level of service
In the range of A to F, LOS A represents free-flow conditions and LOS F represents a high level of congestion.
Source: Metro 2004:18

Highways and roadways designated in the CMP network are required to operate at LOS E, except where base year LOS is worse than LOS E. In such cases, the base year LOS is the standard (Metro 2004:18).

Freeway segment volumes based on PeMS data were used to establish the existing conditions during the AM and PM peak hours. Table 17-4 presents the freeway segment LOS for existing conditions. This analysis concluded that the CMP freeway segment in the City of Burbank operates at acceptable LOS (LOS E or better) during the AM and PM peak hours.

Table 17-4
Existing Freeway Segment Level of Service

CMP Fwy. Station	Dir	Lanes	Capacity	Daily Volume	AM Peak Hour			PM Peak Hour		
					Volume	D/C	LOS	Volume	D/C	LOS
I-5	NB	4	8,000	204,373	6,833	0.854	D	6,784	0.848	D
Burbank Blvd.	SB	4	8,000		6,598	0.825	D	5,299	0.662	C

Source: Fehr & Peers 2011

VEHICLE MILES OF TRAVEL

To estimate VMT, the locally-validated citywide travel demand model was used. VMT estimates were developed by isolating only those trips that start or end within the city boundaries, also known as the Origin-Destination (OD) Method. The speed and length of these trips (including the portion of the trip on roadways outside the City of Burbank) were used to develop the VMT estimates. Since this VMT estimate will be used for a greenhouse gas analysis, the data is stratified by five-mile speed bins.

The OD method used to compute VMT tracks the all vehicle trips generated by City of Burbank across the entire regional network. This method allows for the isolation of different types of VMT as follows:

- Internal-internal (I-I) VMT – Includes all trips that begin and end entirely within the geographic area of study.
- One-half of internal-external (I-X) VMT – Includes one-half of trips with an origin within the geographic area of study and a destination outside of this area. This assumes that the geographic area under study shares half the responsibility for trips traveling to other areas.
- One-half of external-internal (X-I) VMT – Includes one-half of trips with an origin outside of the geographic area of study and a destination within this area. Similar to the I-X trips, the geographic area of study shares the responsibility of trips traveling from other areas.
- External-external (X-X) VMT – Trips through the geographic area of study are not included. This approach is consistent with the concept used for the I-X and X-I trips. Therefore, the X-X VMT is not attributed to the City of Burbank.

Table 17-5 shows the existing VMT.

Table 17-5 Existing Vehicle Miles of Travel 2010 Daily VMT by 5mph Speed Stratification					
Speed (mph)	**Class**	**Burbank VMT [a]**	**I-X X-I VMT [b]**	**Total VMT**	**% per Speed Bin**
0	1	437	10,064	10,502	0.2%
5	2	1,963	64,534	66,496	1.5%
10	3	2,854	204,616	207,469	4.7%
15	4	64,140	384,914	449,054	10.2%
20	5	313,414	425,149	738,563	16.8%
25	6	505,971	421,648	927,618	21.1%
30	7	287,217	360,030	647,247	14.7%
35	8	64,805	196,231	261,037	5.9%
40	9	57,188	154,465	211,653	4.8%
45	10	27,631	240,485	268,115	6.1%
50	11	19,513	105,792	125,305	2.8%
55	12	15,285	301,138	316,423	7.2%
60	13	60,895	109,234	170,130	3.9%
65	14	8	8	16	0.0%
Total		**1,421,321**	**2,978,308**	**4,399,628**	**100%**

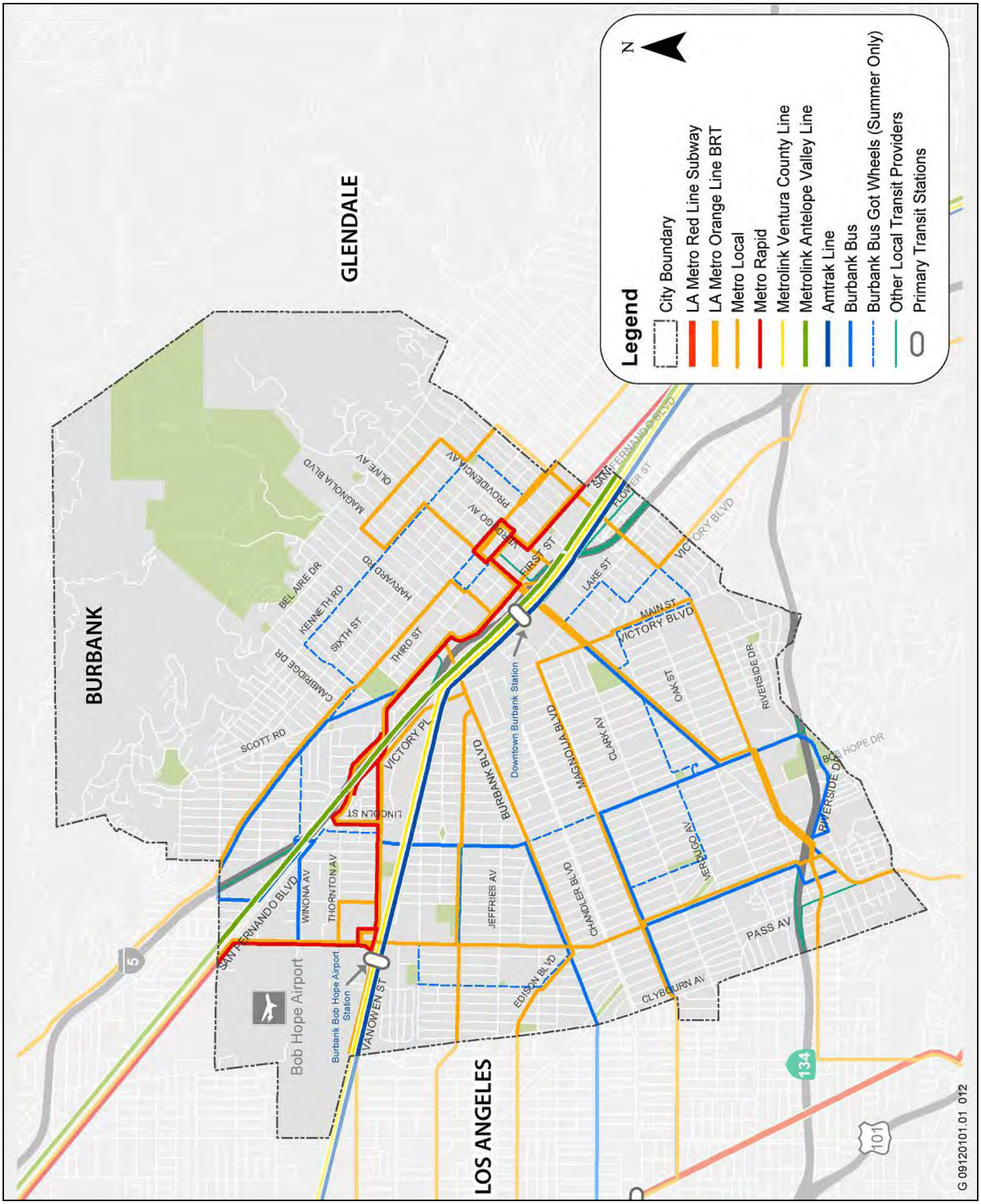
Notes:
[a] Internal Burbank VMT
[b] Fifty percent (50%) of External-Internal and Internal-External VMT
Source: Fehr & Peers 2011

17.1.4 TRANSIT NETWORK

The City of Burbank includes a comprehensive public transportation system (see Figure 17-4), with local shuttle services, regional bus routes, and commuter rail.

BurbankBus is the local transit service, which provides weekday and peak-hour service connecting the Downtown Burbank Metrolink Station to major destinations, including the Media District, Downtown Burbank, the North Hollywood Metro Rail Station, and the Golden State Area. Routes operated by BurbankBus are summarized in Table 17-6.

A paratransit service is available for senior and disabled passengers for travel in the City of Burbank. A special weekday bus service for youth, ages 10 to 18 years, is available during the summer months and provides service to schools, libraries, parks, and other youth-oriented destinations within the City.



Source: Fehr & Peers 2011, adapted by AECOM

Existing (2010) Transit Network **Figure 17-4**

Table 17-6 BurbankBus Routes		
From	**To**	**Peak Headway**
NoHo Station	Empire	16 min
Empire	Downtown	18 min
Metrolink Station	Media District	12 min
NoHo Station	Media District	12 min
Source: BurbankBus 2010		

Metro operates several bus routes that service local destinations in Burbank. Metro operates nine local bus routes and one rapid bus route that provide transit coverage in a general north-south and east-west orientation. In addition, Metro Local Bus routes #154 and #183 provide direct connection to the North Hollywood Metro Rail Station, which connects to the Metro Red and Orange lines. Routes operated by Metro that provide service to Burbank are summarized in Table 17-7.

Table 17-7 Metro Routes				
Route	**Type**	**Dir.**	**Service To/From**	**Peak Headway**
92	Local	N-S	Downtown Burbank, Glendale, Los Angeles via Glenoaks Blvd.	15 min
94	Local	N-S	Sun Valley, Downtown Burbank, Glendale, Los Angeles via San Fernando Blvd., Hollywood Way, and Empire Ave.	15 min
96	Local	N-S	Downtown Burbank, Griffith Park, Los Angeles via South Victory Blvd.	30 min
154	Local	E-W	Downtown Burbank, North Hollywood, Van Nuys, Tarzana via Burbank Blvd. and Edison Blvd.	60 min
155	Local	E-W	Downtown Burbank, Universal City, Sherman Oaks via Olive Ave. and Riverside Dr.	30 min
164	Local	E-W	Downtown Burbank, North Hollywood, Van Nuys, West Hills via West Victory Blvd.	15 min
165	Local	E-W	Downtown Burbank, North Hollywood, Van Nuys, West Hills via Vanowen St.	15 min
183	Local	E-W	Glendale, Downtown Burbank, North Hollywood, Sherman Oaks via Magnolia Blvd.	30 min
222	Local	N-S	Sun Valley, Burbank, Hollywood via Hollywood Way	30 min
292	Local	N-S	Sylmar, Sun Valley, Downtown Burbank via Glenoaks Blvd.	30 min
794	Rapid	E-W	Sylmar, Downtown Burbank, Glendale, Downtown Los Angeles via San Fernando Blvd., Hollywood Way, and Empire Ave. Sylmar	15 min
Source: Metro 2011				

The Los Angeles Department of Transportation's Commuter Express provides one bus route (Commuter Express Route 549) that connects Downtown Burbank to several neighborhoods within Los Angeles and surrounding communities.

Metrolink commuter rail service provides transit connections to several communities in central and southern California, including Ventura, Orange County, Santa Clarita, the Inland Empire, and the Antelope Valley. Two commuter routes serve the Greater Burbank Area. The Metrolink Commuter Rail Downtown Burbank Station is located along Front Street at Magnolia Boulevard, directly west of I-5. The station serves as a transfer point for the Metrolink Antelope Valley and Ventura County lines. The Ventura County line also provides service to Bob Hope Airport Station, which is located within walking distance of the airport terminal.

Amtrak provides passenger rail service across the entire U.S. and intraregional transit connectivity to several communities throughout California. Currently, the Amtrak "Pacific Surfliner" Route services the Bob Hope Airport, which is located in the western portion of Burbank, near North Hollywood Way at West Empire Avenue. Weekday and weekend service is provided along the Pacific Surfliner route. Metrolink, Burbank Bus, and several additional transit operators provide direct access to the Amtrak Pacific Surfliner route, as well as to the Bob Hope Airport.

17.1.5 BICYCLE NETWORK

The city of Burbank currently includes 18 designated bikeways, including Class I, II, and III facilities (see Table 17-8 and Figure 17-5). Existing bikeway mileage in Burbank comprises 2.88 miles of Class I, 4.50 miles of Class II, and 11.64 miles of Class III bikeways, for a total of 22.30 bikeway miles (City of Burbank 2009:9).

Brief descriptions of each bikeway class are as follows:

- **Class I Bikeway**—often referred to as a "bike path," this facility provides for bicycle travel on a paved right-of-way completely separated from any street or highway.
- **Class II Bikeway—**often referred to as a "bike lane," this facility provides a striped and stenciled lane for one-way travel on a street or highway.
- **Class III Bikeway**—often referred to as a "bike route," this facility provides for shared use with pedestrian or motor vehicle traffic and is identified only by signage.

A citywide bicycle parking program has been implemented to construct and manage bicycle parking facilities throughout Burbank. The program has installed 175 inverted "U-shaped" racks throughout the city in major employment centers, retail districts, commercial corridors, public institutions, transportation centers, and parks. Major corridors with bicycle racks are Olive Avenue, Magnolia Boulevard, Burbank Boulevard, Victory Boulevard, Glenoaks Boulevard, and Riverside Drive (City of Burbank 2009:15).

In an effort to promote multimodal connectivity, several transit providers have included bicycle racks on transit vehicles to encourage riders to utilize other modes of transportation. Currently, BurbankBus and

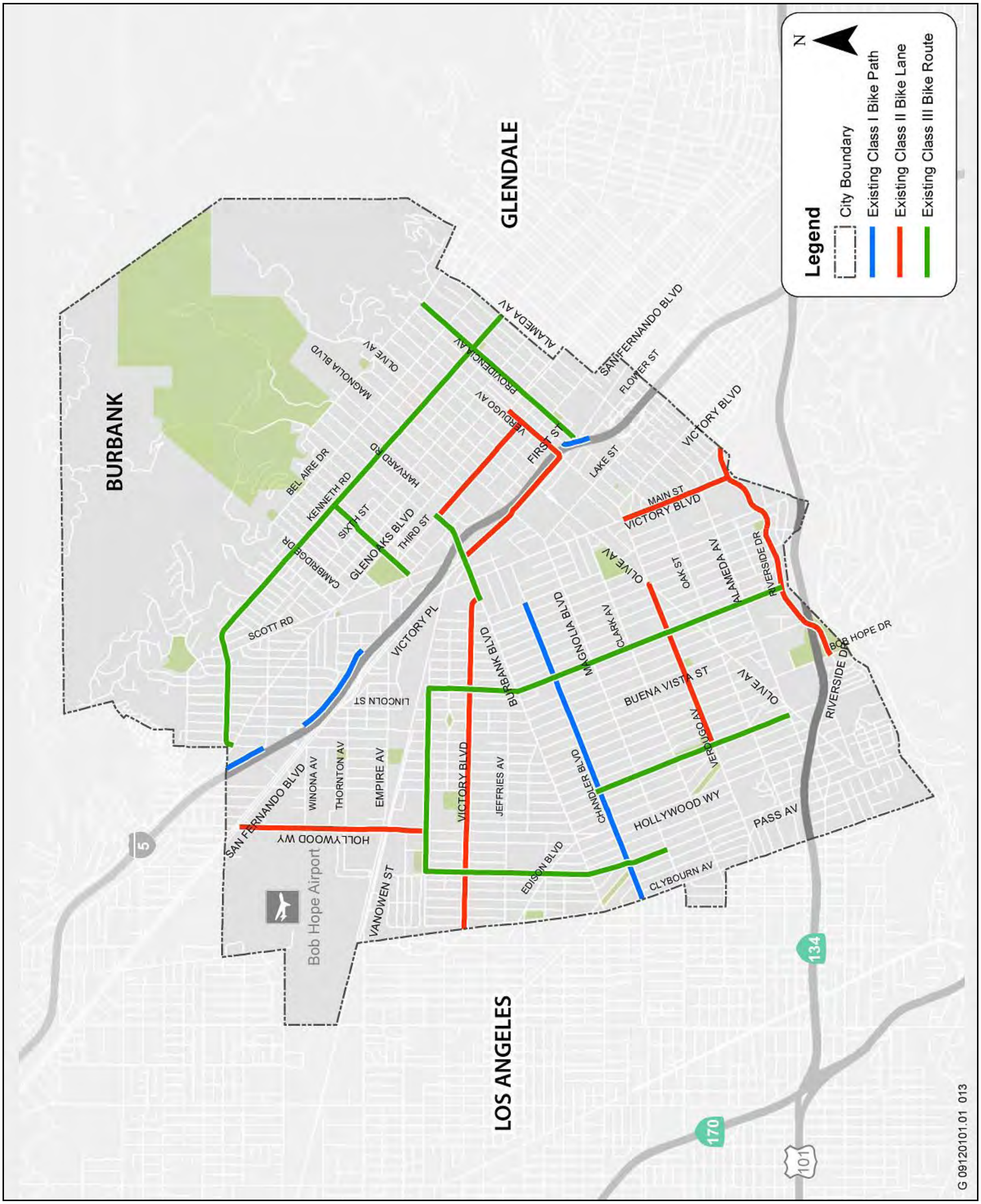
Table 17-8 Burbank Bicycle Facilities				
Class	**Street/Path**	**Origin**	**Destination**	**Length (mi)**
I	Chandler Bikeway	Clybourn Avenue	Mariposa Street	1.98
I	Burbank Channel Bike Path – North 1	Cohasset Street	Tulare Avenue	0.3
I	Burbank Channel Bike Path – North 2	Buena Vista Street/Winona Avenue	Jackson Street	0.6
II	Riverside Drive	Bob Hope Drive	Glendale City limit	1.6
II	Main Street	Alameda Drive	Riverside Drive	0.2
II	Third Street	Verdugo Avenue	Burbank Boulevard	0.79
II	Verdugo Avenue	First Street	Glenoaks Boulevard	0.41
		Hollywood Way	Olive Avenue	1.32
II	Hollywood Way	Pacific Avenue	Cohasset Street	1.01
II	Victory Boulevard	Clybourn Avenue	Burbank Boulevard	2.1
II	Front Street	Burbank Boulevard	Downtown Metrolink	0.64
III	Keystone Street	Pacific Avenue	Riverside Drive	2.32
III	California Street	Chandler Boulevard	Alameda Avenue	1.28
III	Maple Street/Pass Avenue	Pacific Avenue	Magnolia Avenue	1.53
III	Pacific Avenue	Maple Street	Keystone Street	1.14
III	Burbank boulevard	Victory boulevard	Third Street	0.54
III	Amherst Drive	Kenneth Road	San Fernando Road	0.64
III	Providencia Avenue	Bonnywood Place	Sunset Canyon Drive	1.33
III	Kenneth Road	Glenoaks Boulevard	Glendale City Limit	3.4
Source: Fehr & Peers 2011				

Metro buses have bicycle racks, commonly located in the front portion of the transit vehicle. Rail operators, including Metrolink, permit bicycles onboard and Amtrak vehicles include bicycle parking on their trains.

Burbank BikeStop at the Burbank Metrolink station is an indoor facility that provides secure bicycle parking for up to 50 bicycles (City of Burbank 2009:15).

17.1.6 PEDESTRIAN NETWORK

The majority of arterials and local streets include a developed pedestrian network, interconnected by a variety of paved sidewalks and painted crosswalks (see Table 17-9). Specific corridors, including Magnolia Boulevard, Burbank Boulevard, Victory Boulevard, Glenoaks Boulevard, and portions of Downtown Burbank, provide wide sidewalks to accommodate significant pedestrian activity.



Source: Fehr & Peers 2011, adapted by AECOM

Existing (2010) Bicycle Network **Figure 17-5**

Table 17-9
Burbank Pedestrian Facilities

Intersection	North-South			East-West			Intersection	North-South			East-West		
	Cross-walk	Ped Signal	Curb ramps	Cross-walk	Ped Signal	Curb ramps		Cross-walk	Ped Signal	Curb ramps	Cross-walk	Ped Signal	Curb ramps
1. Hollywood Way Winona Ave.	X	X	X	X	X	X	19. Buena Vista St. Victory Blvd.	X	X	X	X	X	X
2. Hollywood Way Thorton Ave.	X	X	X	X	X	X	20. Buena Vista St. Burbank Blvd.	X	X	X	X	X	X
3. Hollywood Way Victory Blvd.	X	X	X	X	X	X	21. Buena Vista St. Magnolia Blvd.	X	X	X	X	X	X
4. Hollywood Way Burbank Blvd.	X	X	X	X	X	X	22. Buena Vista St. Olive Ave.	X	X	X	X	X	X
5. Hollywood Way Magnolia Blvd.	X	X	X	X	X	X	23. Buena Vista St. Alameda Ave.	X	X	X	X	X	X
6. Hollywood Way Verdugo Ave.	X	X	X	X	X	X	24. Buena Vista St. Riverside Dr.	Southbound only			Westbound only		
7. Riverside Dr. Alameda Ave.	X	X	X	Westbound only			25. Victory Blvd./ Victory Pl. Burbank Blvd.	X	X	X	Eastbound only		
8. Pass Ave. Alameda Ave.	X	X	X	X	X	X	26. Victory Blvd. Magnolia Blvd.	X	X	X	X	X	X
9. Pass Ave. Olive Ave.	X	X	X	Westbound only			27. Victory Blvd. Olive Ave.	X	X	X	X	X	X
10. Hollywood Way Alameda Ave.	X	X	X	X	X	X	28. Victory Blvd. Alameda Ave.	X	X	X	X	X	X
11. Hollywood Way Riverside Dr.	X	X	X	X	X	X	29. San Fernando Blvd Burbank Blvd	X	X	X	X	X	X
12. Hollywood Way Olive Ave.	X	X	X	X	X	X	30. First St. Magnolia Blvd.	X	X	X	Westbound only		
13. Olive Ave Riversi.de Dr.	X	X	X	X	X	X	31. First St. Olive Ave.	X	X	X	X	X	X
14. Olive Ave. Alameda Ave.	X	X	X	Westbound only			32. San Fernando Blvd. Alameda Blvd.	X	X	X	X	X	X
15. Buena Vista St. Glenoaks Blvd.	X	X	X	X	X	X	33. Glenoaks Blvd. Magnolia Blvd.	X	X	X	X	X	X
16. Buena Vista St. San Fernando Blvd.	Northbound only			X	X	X	34. Glenoaks Blvd. Olive Ave.	X	X	X	X	X	X
17. Buena Vista St. Empire Ave.	X	X	X	X	X	X	35. Glenoaks Blvd. Alameda Ave.	X	X	X	X	X	X
18. Buena Vista St. Vanowen St.	X	X	X	Westbound only									

Source: Fehr & Peers 2011

This page intentionally left blank.

18 REFERENCES

Chapter 1, "Introduction"

No references are cited.

Chapter 2, "Aesthetics"

City of Burbank. 1997. *Burbank Center Plan*. Adopted June 10, 1997. Burbank, CA: Community Development Department.

———. 2010a. *The Burbank Media District: Specific Plan.* Adopted January 1991. Burbank, CA.

———. 2010b. Burbank Municipal Code. Available: http://www.ci.burbank.ca.us/Modules/ShowDocument.aspx?documentid=1884. Last updated June 22, 2010. Accessed June 25, 2010.

Chapter 3, "Agricultural Resources"

No references are cited.

Chapter 4, "Air Quality"

ARB. *See* California Air Resources Board.

California Air Resources Board. 2005 (March). *Air Quality and Land Use Handbook: A Community Health Perspective*. Sacramento, CA. Available: http://arb.ca.gov/ch/handbook.pdf. Accessed April 2010.

———. 2009a. *The California Almanac of Emissions and Air Quality 2008 Edition*. Sacramento, CA. Available: http://www.arb.ca.gov/aqd/almanac/almanac09/almanac09.htm. Accessed February 28, 2012.

———. 2009b. South Coast Air Quality Management Plans. Available: http://www.arb.ca.gov/planning/sip/planarea/scabsip.htm. Accessed April 2010.

———. 2010a. Air Resources Board Emissions Inventory. Available: http://www.arb.ca.gov/app/emsinv/emssumcat_query.php?F_YR=2008&F_DIV=-4&F_SEASON=A&SP=2009&F_AREA=CO&F_CO=19&F_COAB=. Accessed April 2010.

———. 2010b. Facility Search Database. City of Burbank. Available: http://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=&grp=1&sort=FacilityNameA&dbyr=2007&ab_=&dis_=&co_=&fname_=&city_=burbank&fzip_=&fsic_=&facid_=&displayit=Pollutant&showpol=&showpol2=. Accessed June 2010.

———. 2010c. CHAPIS - The Community Health Air Pollution Information System. City of Burbank. Available: http://www.arb.ca.gov/gismo2/chapis_v01_6_1_04/chapis_v02.asp. Accessed June 2010.

———. 2010d. Air Quality Data Statistics. Available: http://www.arb.ca.gov/adam/welcome.html. Accessed April 2010.

———. 2012a. Ozone Trends Summary: South Coast Air Basin. Available: http://www.arb.ca.gov/adam/trends/trends1.php. Accessed February 28, 2012.

———. 2012b. Highest 4 Daily PM_{10} Averages. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 28, 2012.

———. 2012c. Highest 4 Daily $PM_{2.5}$ Averages. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 28, 2012.

———. 2012d. Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 28, 2012.

California Department of Transportation. 2008. Traffic Counts. Available: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all.htm. Accessed April 2010.

Caltrans. *See* California Department of Transportation.

EPA. *See* U.S. Environmental Protection Agency.

Godish, T. 2004. Air Quality. Lewis Publishers. Boca Raton, FL.

New Hampshire Department of Environmental Services. 2007. CO Health Information Summary. Available: http://des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-ehp-20.pdf. Accessed March, 2010.

NHDES. *See* New Hampshire Department of Environmental Services.

OEHHA. *See* Office of Environmental Health Hazard Assessment.

Office of Environmental Health Hazard Assessment. 2010. Acute, 8-hour and Chronic Reference Exposure Level (REL) Summary. Available: http://oehha.ca.gov/air/allrels.html. Accessed April 2010.

SCAQMD. *See* South Coast Air Quality Management District.

South Coast Air Quality Management District. 1993 (April). *CEQA Air Quality Handbook*. Diamond Bar, CA.

———. 2005 (May). Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. Available: http://www.aqmd.gov/prdas/aqguide/doc/chapter01.pdf. Accessed June 2010.

———. 2006a. 2003 Air Quality Management Plan. Available: http://www.aqmd.gov/aqmp/ AQMD03AQMP.htm. Last updated December 29, 2005. Accessed April 2010.

———. 2006b. 2010. Public Workshops for the 2007 Air Quality Management Plan. Available: http://www.aqmd.gov/hb/2007/June/070637a.htm. Accessed May 2010.

———. 2006c. 2007 Air Quality Management Plan. Available: http://www.aqmd.gov/aqmp/ 07aqmp/index.html. Accessed April 2010.

U.S. Environmental Protection Agency. 2010a. Criteria Air Pollutant Information. Available: http://www.epa.gov/air/urbanair/. Accessed June 2010.

———. 2010b. EPA-452/P-10-004, Risk and Exposure Assessment to Support the Review of the Carbon Monoxide Primary National Ambient Air Quality Standards: Second External Review Draft:171. February. Available: http://www.epa.gov/ttn/naaqs/standards/co/data/ COREA2ndDraftFeb2010.pdf. Accessed April 2010.

———. 2010c. Envirofacts Warehouse (Burbank Query for SIC Codes beginning with "49"). Available: http://www.epa.gov/enviro/html/fii/fii_query_java.html. Accessed April 2010.

Chapter 5, "Greenhouse Gas Emissions"

ARB. *See* California Air Resources Board.

California Air Resources Board. 2006. On-Road Mobile-Source Emission Factor Model (EMFAC 2007 computer program), Version 2.3. Sacramento, CA.

———. 2008 (December). *Climate Change Scoping Plan*. Available: http://www.arb.ca.gov/cc/ scopingplan/document/scopingplandocument.htm. Last updated December 2008. Accessed May 2010.

———. 2010 (May). *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories Version 1.1*. Available: http://www.arb.ca.gov/cc/ protocols/localgov/pubs/lgo_protocol_v1_1_2010-05-03.pdf. Accessed 6/29/10.

California Climate Action Registry. 2009 (January). *California Climate Action Registry General Reporting Protocol, Version 3.1*. Available: http://www.climateregistry.org/resources/docs/ protocols/grp/GRP_3.1_January2009.pdf. Accessed April 2010.

California Energy Commission. 2005. *California Energy—Water Relationship Staff Report*, CEC-700-2005-011-SF. Sacramento, CA.

———. 2006a (July). *Our Changing Climate: Assessing the Risks to California*. Publication CEC-500-2006-077. Available: http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF. Accessed May 2010.

———. 2006b. *Inventory of California Greenhouse Gas Emissions and Sinks:1990 to 2004.* (Staff Final Report). Publication CEC-600-2006-013-SF. Available: http://www.climatechange.ca.gov/ inventory/index.html. Accessed May 2010.

California Natural Resources Agency. 2008 (March). *Delta Vision Blue Ribbon Task Force Letter to Governor Schwarzenegger on Sea Level Rise*. Available: http://deltavision.ca.gov/ BlueRibbonTaskForce/April2008/Item2_Attachment1.pdf. Accessed February 2010.

CCAR. *See* California Climate Action Registry.

CEC. *See* California Energy Commission.

EPA. *See* U.S. Environmental Protection Agency.

Intergovernmental Panel on Climate Change. 2000. IPCC Expert Meetings on Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, Energy Section, Aircraft Emissions. Available: http://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_5_Aircraft.pdf. Accessed April 2010.

———. 2001. *Climate Change 2001 IPCC Third Assessment Report*.

———. 2006. *IPCC Guidelines for National Greenhouse Gas Inventories; Chapter 6: Wastewater Treatment and Discharge*. Geneva, Switzerland. Available: http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_6_Ch6_Wastewater.pdf. Accessed May 2010.

———. 2007 (February). *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.* Geneva, Switzerland. Available: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html. Accessed May 2010.

IPCC. *See* Intergovernmental Panel on Climate Change.

SCAG. *See* Southern California Association of Governments.

SCAQMD. *See* South Coast Air Quality Management District.

South Coast Air Quality Management District. 2005 (May). Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning: A Reference for Local Governments Within the South Coast Air Quality Management District. Available: http://www.aqmd.gov/prdas/ aqguide/doc/aq_guidance.pdf. Accessed April 2010.

———. 2009 (November 19). *Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #14*. Diamond Bar, CA. Available: http://www.aqmd.gov/ceqa/handbook/GHG/2009/ nov19mtg/ ghgmtg14.pdf. Accessed March 2010

Southern California Association of Governments. 2011 (December). *Regional Transportation Plan: 2012-2035 RTP and Sustainable Communities Strategy*. Los Angeles, CA

Seinfeld, J. H., and S. N. Pandis. 1998. *Atmospheric Chemistry and Physics*. New York, NY: John Wiley & Sons, Inc.

USEIA. *See* U.S. Energy Information Administration.

U.S. Energy Information Administration. 2010. *Supplemental Tables to the Annual Energy Outlook, Pacific Region*. Available: http://www.eia.doe.gov/oiaf/aeo/supplement/supref.html. Accessed April 2010.

U.S. Environmental Protection Agency. November 2009. Waste Reduction Model (WARM), Version 10. Available: http://www.epa.gov/climatechange/waste/calculators/Model_History.html

———.2010a. Human-Related Sources and Sinks of Carbon Dioxide. Available: http://www.epa.gov/climatechange/emissions/co2_human.html. Accessed March 2010.

———. 2010b. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008. U.S. EPA # 430-R-10-006. Available: http://epa.gov/climatechange/emissions/usinventoryreport.html. Accessed May 2010.

Chapter 6, "Biology"

California Native Plant Society. 2010. Electronic Inventory of Rare and Endangered Vascular Plants of California. Available: http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi. Last updated March 21, 2010. Accessed March 30, 2009.

California Natural Diversity Database. 2010. (January). Results of electronic record search. Sacramento: California Department of Fish and Game, Biogeographic Data Branch.

CNDDB. *See* California Natural Diversity Database.

CNPS. *See* California Native Plant Society.

Consortium of California Herbaria. 2010. Online gateway for information from California vascular plant specimens that are housed in herbaria throughout the state. Regents of the University of California. Available: http://ucjeps.berkeley.edu/consortium. Accessed April–May, 2010.

Brylski, Philip. 1998. Los Angeles pocket mouse, *Perognathus longimembris brevinasus*. In Terrestrial Mammal Species of Special Concern in California, ed. B. C. Bolster, 111–113. Sacramento: California Department of Fish and Game, Nongame Wildlife Program. Available: http://www.dfg.ca.gov/wildlife/nongame/ssc/mammals.html. Accessed April 17, 2010.

Flora of North America. 2010. Online database to the flora of North America. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA. Available: http://www.efloras.org/browse.aspx?flora_id=1. Accessed: April–May, 2010.

Fotheringham, C.J., and Keeley, J.E. 1998. Ecology and Distribution of Braunton's milkvetch (*Astragalus brauntonil*) and Lyon's pentachaeta (*Pentachaeta lyonil*). Prepared for Mary E. Meyer, California Department of Fish and Game, Region 5. Long Beach, CA.

Hickman, J. C. (ed.). 1993. *The Jepson Manual of Higher Plants of California*. Berkeley: University of California Press.

Los Angeles Regional Water Quality Control Board. 1995. Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (LARWQCB Basin Plan). California Regional Water Quality Control Board, Los Angeles Region (4), Monterey Park, CA. Available: http://www.waterboards.ca.gov/losangeles/water_ issues/programs/basin_plan. Accessed June 2010.

Los Angeles RWQCB. *See* Los Angeles Regional Water Quality Control Board.

U.S. Department of Agriculture. 2010. USDA Plants Database. Natural Resource Conservation Service. Available: http://plants.usda.gov/index.html. Accessed April–May, 2010.

U.S. Forest Service. 2010. The Calveg System. Remote Sensing Lab, Ecosystem Planning. Available: http://www.fs.fed.us/r5/rsl/projects/classification/system.shtml#xwalk. Last Modified: March 25, 2008. Accessed April–May, 2010.

USDA. *See* U.S. Department of Agriculture.

USFS. *See* U.S. Forest Service.

Young, J.C., Zink, T., and Allen, M. 2000. Slender-horned Spineflower (*Dodecahema leptoceras*) Microhabitat Characterization of Mycorrhizal Associations. Prepared for the California Department of Fish and Game, Region 5. San Diego, CA.

Chapter 7, "Cultural"

Bean, Lowell John, and Charles R. Smith. 1978. Gabrielino. In *Handbook of North American Indians*, Volume 9, ed. Robert F. Heizer, 538–562. Washington, D.C.: Smithsonian Institution.

City of Burbank. 1926. *Rancho de los Santos.* Burbank, CA: Burbank Branch Security Trust and Savings Bank.

———. 1951. Zone Map of the City of Burbank. City of Burbank Planning Department. Burbank, California. Published by the City of Burbank.

———. 2010. Burbank History. Available: http://www.ci.burbank.ca.us/index.aspx?page=43. Accessed April 2010.

DOI. *See* U.S. Department of the Interior National Park Service.

Erlandson, Jon M. 1994. *Early Hunter-Gatherers of the California Coast.* New York, NY: Plenum Press.

Galvin Preservation Associates. 2009. *City of Burbank, Citywide Historic Context Report.* Prepared for City of Burbank Planning Division. Burbank, CA.

Guinn, James. 1915. A History of California and an Extended History of Los Angeles and Environs. New York, NY: Historic Record Co.

Jackson, Robert H. 1999. Agriculture, Drought & Chumash Congregation in the California Missions (1782-1834). *California Mission Studies Association*. May newsletter.

Los Angeles County Assessor. 1920. Parcel Maps. On file, Assessor's Office. Los Angeles, CA.

Los Angeles Times. 1888 (March 18). *Galaday At Burbank*, p. 8. Cited in City of Burbank Citywide Historic Context Report by GPA (2009).

———. 1912 (September 8). *News Briefs*, p. 10. Cited in City of Burbank Citywide Historic Context Report by GPA (2009).

———. 1919 (November 12). *Bible Will Be Filmed By Wells At Burbank*, p. 14. Cited in City of Burbank Citywide Historic Context Report by GPA (2009).

———. 1929 (July 24). *Boeing Airport Work to Start*, p. 2. Cited in City of Burbank Citywide Historic Context Report by GPA (2009).

———. 1939 (July 18). *Famed Compass Trees Recall Days of Padres at Burbank,* p. 8. Cited in City of Burbank Citywide Historic Context Report by GPA (2009).

———. 1966 (April 12). *Burbank's Mall: A Complex Task*, p. 10. Cited in City of Burbank Citywide Historic Context Report by GPA (2009).

Mayers, Jackson. 1975. *Burbank History.* Burbank, CA: James W. Anderson.

Perez, A. 1982. Grants of Land in California Made by Spanish and Mexican Authorities. Sacramento, CA: State Lands Commission.

Perry, Caswell. 1987. *Burbank, An Illustrated History.* Northridge, CA: Windsor Publications.

Reid, Hugo. [1852] 1939. Letters on the Los Angeles County Indians. In *A Scotch Paisano in Old Los Angeles*, ed. Susanna Bryant Dakin, 215–286. Berkeley: University of California Press.

San Buenaventura Research Associates. 1999 (November). *City of Burbank Historic Preservation Plan*. Santa Paula, CA. Prepared for the City of Burbank. On file at the City of Burbank, Burbank, CA

SCCIC. *See* South Central Coastal Information Center.

South Central Coastal Information Center. 2010. Record search #10386.7185.

Strickland, Mary Jane, and Theodore Garcia. 2000. *A History of Burbank: A Special Place in History.* Burbank, CA: Burbank Historical Society.

U.S. Department of the Interior National Park Service.1990. "National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation".

Wallace, William J. 1955. A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230.

Warren, Claude N. 1968. Cultural Traditions and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, ed. Cynthia Irwin-Williams, 1(3):1–14. Portales: Eastern New Mexico University, Contributions in Anthropology.

Chapter 8, "Energy"

Baldwin, Xavier. P.E., Interim Assistant General Manager, Power Supply. Burbank Water and Power, Burbank, CA. March 18, 2010—e-mail to Tracy Steinkruger, Senior Planner, City of Burbank.

Burbank Water and Power. 2006. *2006 Integrated Resource Plan Electric System*. Available: http://www.burbankwaterandpower.com/download/2006-IRP-for-BWP-Final-Report.pdf. Accessed June 28, 2010.

———. 2007. *Burbank Water and Power Renewable Portfolio Standard*. Available: http://www.burbankwaterandpower.com/environment/bwp-renewables-portfolio-standard. Accesses June 28, 2010.

———. 2010a. Landfill Gas Microturbine Generators. Available: http://www.burbankwaterandpower.com/news/landfill-gas-microturbine-generators. Accessed February 19, 2010.

———. 2010b. *2009-2010 Annual Report*. Burbank, CA.

BWP. *See* Burbank Water and Power.

California Energy Commission. 2005a (April). *California Geothermal Resources*. Staff Paper. Publication # CEC-500-2005-070.

———. 2005b. California Known Geothermal Resource Areas. Available: http://www.energy.ca.gov/maps/GEOTHERMAL_AREAS.PDF. Accessed June 28, 2010.

———. 2007. *2007 Integrated Energy Policy Report*. CEC-100-2007-008-CMF. Sacramento, CA.

———. 2009. State of California Energy Action Plan. Available: http://www.energy.ca.gov/energy_action_plan/index.html. Updated November 16, 2009. Accessed February 22, 2010.

———. 2010. California's Major Energy Sources. Available: http://energyalmanac.ca.gov/overview/energy_sources.html. Accessed May 20, 2010.

CEC. *See* California Energy Commission.

DOE. *See* U.S. Department of Energy.

EIA. *See* Energy Information Administration.

Energy Information Administration. 2007. Table R2, Energy Consumption by Source and Total Consumption per Capita, Ranked by State, 2007. Available: http://www.eia.doe.gov/states/sep_sum/plain_html/rank_use_per_cap.html. Accessed May 20, 2010.

———. 2010. State Energy Profiles, California. Available: http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CA. Last updated May 13, 2010. Accessed May 20, 2010.

Federal Energy Regulatory Commission. 2009. About FERC, What FERC Does. Available: http://www.ferc.gov/about/ferc-does.asp. Last updated October 1, 2009. Accessed February 22, 2010.

FERC. *See* Federal Energy Regulatory Commission.

Go Solar California. 2010. *The California Solar Initiative*. Available: http://www.gosolarcalifornia.org/csi/index.html. Accessed May 25, 2010.

Los Angeles County. 2008. Open Space and Conservation Element of the *Los Angeles County Draft General Plan*. Department of Regional Planning.

SCPPA. *See* Southern California Public Power Authority.

Sempra Energy. 2008. Sempra Energy 2008 Annual Financial Report. San Diego, CA.

Southern California Public Power Authority. 2008. Magnolia Power Project. Available: http://www.scppa.org/pages/projects/magnolia.html. Accessed February 19, 2010.

Tou, Chauncy. Customer Programs. Southern California Gas Company. June 17, 2010—email to Tracy Steinkruger, Senior Planner, City of Burbank regarding natural gas consumption.

U.S. Department of Energy. 2010. Energy Efficiency and Renewable Energy. Federal Energy Management Program. Laws and Regulations, Energy Policy Act of 2005. Available: http://www1.eere.energy.gov/femp/regulations/epact2005.html. Last updated February 3, 2010. Accessed February 22, 2010.

Chapter 9, "Geology and Soils"

California Geological Survey. 1999. Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of May 1, 1999. California Department of Conservation. Available: http://www.consrv.ca.gov/cgs/rghm/ap/Pages/affected.aspx. Accessed April 28, 2010.

CGS. See California Geological Survey.

City of Burbank. 1997. Safety Element of *The City of Burbank General Plan.* Adopted July 1, 1997. Prepared by the City of Burbank Community Development Department, Advanced Planning Section, Burbank, CA.

———. 2010 (March). *All Hazard Mitigation Plan.* Burbank, CA.

ESCI EnviroServices. 2007 (September). *Hazardous Materials Area Plan for the City of Burbank*. Long Beach, CA.

U.S. Geological Survey. National Earthquake Information Center, Magnitude/Intensity Comparison. Available: http://earthquake.usgs.gov/learn/topics/mag_vs_int.php. Accessed May 6, 2010.

USGS. *See* U.S. Geological Survey.

Chapter 10, “Hazards”

Bob Hope Airport. 2010. Facts About the Bob Hope Airport. Available: http://www.bobhopeairport.com/airportauthority/about-airport/airport-facts.html. Accessed June 2, 2010.

City of Burbank. 1997. Safety Element of *The City of Burbank General Plan.* Adopted July 1, 1997. Prepared by the City of Burbank Community Development Department, Advanced Planning Section, Burbank, CA.

———. 2007. *Hazardous Materials Area Plan for the City of Burbank*. Prepared by ESCI EnviroServices, Inc. September 2007.

EnviroStor. 2010. Results of an electronic search for the City of Burbank. California Department of Toxic Substance Control. Available: http://www.envirostor.dtsc.ca.gov/public/. Accessed June 2, 2010.

GeoTracker. 2010. Results of an electronic search for the City of Burbank. State Water Resources Control Board. Available: http://geotracker.swrcb.ca.gov/map/?CMD=runreport&myaddress= burbank. Accessed June 2, 2010.

Superfund. 2010. Results of an electronic search for the City of Burbank. U.S. Environmental Protection Agency. Available: http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm. Accessed June 2, 2010.

Chapter 11, “Hydrology and Water Resources”

Burbank Water and Power. 2005 (November 22). *Urban Water Management Plan 2005*. Burbank, CA.

———. 2007 (October). *Recycled Water Master Plan*. Burbank, CA.

———. 2009 (October 20). *Burbank Water Overview*. Ron Davis, General Manager, Burbank Water and Power, CA. Letter memorandum to Michael S. Flad, City Manager, Burbank, CA.

———. 2010a (June). *2010Urban Water Management Plan*. Burbank, CA.

———. 2010b (October). *2010 Recycled Water Master Plan*. Burbank, CA.

BWP. *See* Burbank Water and Power.

California Department of Public Health. 2001 (June). California Health Laws Related to Recycled Water. “*The Purple Book.” Excerpts from the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations*

California Department of Water Resources. 2004 (February). San Fernando Valley Groundwater Basin (Basin Number 4-12). *California Groundwater* Bulletin 118.

———. 2009. *California Water Plan Update 2009, Volume 3 Regional Reports.* Bulletin 160-09

CDPH. *See* California Department of Public Health

City of Burbank. 2008 (June 24). *Water Conserving Fixtures and Fittings Ordinance for New Construction*. City of Burbank Community Development Department, CA. Letter memorandum to Mary J. Alvord, City Manager, Burbank, CA

Cities of Los Angeles and Burbank. 2008 (June 25). Los Angeles River Watershed Monitoring Program. Los Angeles and Burbank, CA. Submitted to the Los Angeles Regional Water Quality Control Board.

DWR. *See* California Department of Water Resources.

FLPF. *See* Fond Land Preservation Foundation.

Fond Land Preservation Foundation. 2009. Geology, Topography and Hydrology. Available: http://www.flpf.org/verdugo.htm. Accessed February 2010.

LACDPW. *See* Los Angeles County Department of Public Works.

Los Angeles County Department of Public Works. 2002 (September). A Manual for the Standard Urban Storm Water Mitigation Plan (SUSMP) Los Angeles County Department of Public Works. Los Angeles, CA.

———. 2009. *Los Angeles County 2008-2009 Stormwater Monitoring Report*. Los Angeles Stormwater Quality Management Program. Los Angeles, CA.

Los Angeles County DPW. *See* Los Angeles County Department of Public Works.

Los Angeles RWQCB. *See* Los Angeles Regional Water Quality Control Board.

Los Angeles Regional Water Quality Control Board. 1995. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Los Angeles Region 4. Amended in 2008.

———. 2009. *2008 CWA Section 303(d) List of Water Quality Limited Sections*. Approved by the Los Angeles Region 4 Board in July 16, 2009.

———. 2010 (February 18). Notice of CEQA TMDL Scoping Meeting. From L. B. Nye, Ph.D, Chief, TMDLs and Standards. Los Angeles, CA. Memorandum to interested persons.

Metropolitan. *See* Metropolitan Water District of Southern California.

Metropolitan Water District of Southern California. 2007 (September). *A Status Report on the Use of Groundwater in the Service Area of the Metropolitan Water District of Southern California*. Report Number 1308. Chapter 4.

Chapter 12, "Land Use and Planning"

California Department of Transportation. 2002 (January). *California Airport Land Use Planning Handbook.* Prepared by Shutt Moen Associates, Santa Rosa, California.

Caltrans. *See* California Department of Transportation.

City of Burbank. 2005 (March). Development Agreement Between the City of Burbank and the Burbank-Glendale-Pasadena Airport Authority Relating to the Bob Hope Airport, City of Burbank and Burbank-Glendale-Pasadena Airport Authority. Burbank, CA.

Los Angeles County Department of Regional Planning. 2004. *Los Angeles County Airport Land Use Plan*. Adopted in 1991. Los Angeles, CA: Los Angeles County Airport Land Use Commission.

SCAG. *See* Southern California Association of Governments.

Southern California Association of Governments. 2011. Regional Transportation Plan: 2012-2035 RTP and Sustainable Communities Strategy. Los Angeles, CASCAG.

Chapter 13, "Mineral Resources"

California Department of Conservation. 2010. *Guidelines for Classification and Designation of Mineral Lands.* State Mining and Geology Board. Available: http://www.conservation.ca.gov/smgb/Guidelines/Pages/guidelines.aspx. Accessed May 6, 2010.

Miller, Russell V. 1994. Designated Areas Urbanized, Mineral Land Classification of the Greater Los Angeles Area, San Fernando Valley Production-Consumption Region, Mineral Resource Classification Zones and Resource Sectors. Open-file report 94-14, 1:24,000 scale, Plate 4. Prepared in cooperation with the California Department of Conservation, Division of Mines and Geology. Sacramento: California Geological Survey.

Chapter 14, "Noise"

Airport Authority. *See* Burbank-Glendale-Pasadena Airport Authority.

Bies and Hansen. 1988. Engineering Noise Control.

Burbank-Glendale-Pasadena Airport Authority. 2009a (February). *Aviation Demand Forecasts Bob Hope Airport: Supplemental Technical Report 1 FAR Part 161 Application.* Burbank, CA. Prepared by Jacobs Consultancy.

———. 2009b (April). Revised Document in Support of a NEPA Categorical Exclusion Determination for a Proposed Curfew at Bob Hope Airport. Burbank, CA. Prepared by Jacobs Consultancy.

California Department of Transportation. 2004 (June). *Transportation- and Construction-Induced Vibration Guidance Manual.* Sacramento, CA.

———. 2009 (September). 2008 Annual Average Daily Truck Traffic on the California State Highway System. Sacramento, CA.

———. 2010. Traffic and Vehicle Data Systems Unit 2008: All Traffic Volumes on California State Highway System. Available: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all.htm. Accessed April 15, 2010.

Caltrans. *See* California Department of Transportation.

Egan, D. M. 1988. *Architectural Acoustics*. New York, NY: McGraw-Hill, Inc.

Federal Transit Administration. 2006 (May). *Transit Noise and Vibration Impact Assessment.* Washington, DC. Prepared by: Harris Miller Miller & Hanson Inc., Burlington, MA.

FTA. *See* Federal Transit Administration.

Governor's Office of Planning and Research. 2003. *State of California General Plan Guidelines*. Sacramento, CA.

Los Angeles County Airport Land Use Commission. 2004 (December). *Los Angeles County Airport Land Use Plan*. Los Angeles, CA.

Los Angeles County ALUC. *See* Los Angeles County Airport Land Use Commission.

OPR. *See* Governor's Office of Planning and Research.

Chapter 15, "Population and Housing"

California Department of Finance. 2010. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010. Sacramento, California.

California Department of Housing and Community Development. 2010. Building Blocks for Effective Housing Elements. Available: http://www.hcd.ca.gov/hpd/housing_element/index.html. Accessed July 1, 2010.

City of Burbank. 1988. Land Use Element of *The City of Burbank General Plan*. Burbank, CA.

———. 2010. City of Burbank Economic Development Annual Report Fiscal Year 2010-2011. Burbank, CA.

Census. *See* U.S. Census Bureau.

DOF. *See* California Department of Finance.

HCD. *See* California Department of Housing and Community Development.

SCAG. *See* Southern California Association of Governments.

Southern California Association of Governments. 2007. Final Regional Housing Needs Allocation Plan, Planning Period (January 1, 2006 – June 30, 2014) for Jurisdictions within the Six-County SCAG Region. July 12, 207.

———. 2010. Regional Housing Needs Assessment. Available: http://www.scag.ca.gov/housing/rhna/ index.htm. Accessed July 1, 2010.

———. 2011 (May). *Profile of the City of Burbank*. Available: http://www.scag.ca.gov/resources/pdfs/ 2011LP/LosAngeles/Burbank.pdf. Accessed February 23, 2012.

U.S. Census Bureau. 2010a. 2010 Census Interactive Population Search. Available: http://2010.census.gov/2010census/popmap/ipmtext.php?fl=06. Accessed February 23, 2012.

———. 2010b. DP-1 Profile of General Population and Housing Characteristics: 2010. Available: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1&prodType=table. Accessed February 26, 2012.

———. 2011a. State & County QuickFacts for Burbank City. Available: http://quickfacts.census.gov/qfd/states/06/0608954.html. Accessed February 23, 2012.

———. 2011b. State & County QuickFacts for Los Angeles County. Available: http://quickfacts.census.gov/qfd/states/06/06037.html. Accessed February 23, 2012.

Chapter 16, "Public Services, Utilities, and Recreation"

Arakelian, Sana. 2012 (February 7). City of Burbank Fire Department. Administrative Officer. Written communication. Burbank, CA.

Burbank Unified School District. 2009. District Facts 2009/10. Available: http://www.burbank.k12.ca.us/Modules/ ShowDocument.aspx?documentid=2298. Accessed April 30, 2010.

———. 2010. Burbank Adult School. Available: http://www.burbank.k12.ca.us/index.aspx?page=561. Accessed April 30, 2010.

Burbank Water and Power. 2011 (June). *2010 Urban Water Management Plan*. Approved June 7, 2011. Burbank, CA.

BUSD. *See* Burbank Unified School District.

BWP. *See* Burbank Water and Power.

California Department of Education. 2009. Educational Demographics Unit, District Level Enrollment Reports – Data Quest, 2008-09 District and School Enrollment by Grade, Burbank Unified School District. Available: http://dq.cde.ca.gov/dataquest/DistEnr2.asp?TheName=Burbank&cSelec...-09&cLevel=District&cTopic=Enrollment&myTimeFrame=S&submit1= Submit. Accessed April 30, 2010.

California Department of Resources Recycling and Recovery. 2010a. Solid Waste Information System (SWIS) database, Facility Profile for Burbank Landfill Site No. 3 (19-AA00040). Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0040/Detail/. Accessed April 20, 2010.

———. 2010b. Jurisdiction Profile for City of Burbank. Available: http://www.calrecycle.ca.gov/profiles/Juris/JurProfile1.asp?RG=C&JURID=57&JUR=Burbank. Accessed April 22, 2010.

———. 2010c. Solid Waste Characterization Database, Overall Residential Waste Stream by Material Type, Burbank. Available: http://www.calrecycle.ca.gov/wastechar/rescomp.asp?J= 129&SortBy=Disposal. Accessed April 22, 2010.

———. 2012a. Disposal Reporting System (DRS) : Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility. Available: http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/ JurDspFa.aspx. Accessed: July 9, 2012.

———. 2012b. Solid Waste Information System (SWIS) Database. Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/Search.aspx. Accessed: July 9, 2012.

California Department of Water Resources. 2009 (October). California Water Plan Update 2009 Pre-final Draft. South Coast Hydrologic Region. Sacramento, CA.

CalRecycle. *See* California Department of Resources Recycling and Recovery.

CDE. *See* California Department of Education.

City of Burbank. 1997. Safety Element of *The City of Burbank General Plan.* Adopted July 1, 1997. Prepared by the City of Burbank Community Development Department, Advanced Planning Section, Burbank, CA.

———. 2006 (April). *Sanitary Sewer Management Plan,* Final Report, Volume 1 of 2. Department of Public Works, Burbank, CA. Prepared by Kennedy/Jenks Consultants, Irvine, CA.

———. 2009. Fiscal Year 2009-10, Adopted Annual Budget. Burbank, CA.

———. 2010a. Fire Prevention. Available: http://www.ci.burbank.ca.us/index.aspx?page=157. Accessed February 19, 2010.

———. 2010b. Emergency Medical Services. Available: http://www.ci.burbank.ca.us/index.aspx?page=154. Accessed February 19, 2010.

———. 2010c. Fire Stations. Available: http://www.ci.burbank.ca.us/index.aspx?page=152. Accessed February 19, 2010.

———. 2010d. Police Department, Administrative Services. Available: http://www.burbankusa.com/ index.aspx?page=372. Accessed February 19, 2010.

———. 2010e. Police Department, Patrol. Available: http://www.burbankusa.com/ index.aspx?page=370. Accessed February 19, 2010

———. 2010f. Police Department, Special Operations Division. Available: http://www.burbankusa.com/index.aspx?page=374. Accessed February 19, 2010.

———. 2010g. Police Department, Investigation. Available: http://www.burbankusa.com/ index.aspx?page=371. Accessed February 19, 2010.

———. 2010h. Parks Services Division. Available: http://www.ci.burbank.ca.us/index.aspx?page=830. Accessed February 19, 2010.

———. 2010i. Public Works, Water Reclamation and Sewer. Sewer Maintenance and Emergency Overflows. Available: http://www.ci.burbank.ca.us/index.aspx?page=458. Accessed February 19, 2010.

———. 2010j. Public Works, Street and Sanitation. Automatic Collection. Available: http://www.ci.burbank.ca.us/index.aspx?page=484. Accessed April 20, 2010.

———. 2010k. Public Works, Street and Sanitation. Available: http://www.ci.burbank.ca.us/index.aspx?page=483. Accessed February 19, 2010.

———. 2010l. Public Works, Burbank Recycle Center. Available: http://www.ci.burbank.ca.us/index.aspx?page=469. Accessed February 19, 2010.

———. 2011. Burbank Fire Department. *Standards of Cover 2011*. Burbank, CA.

Cruz, Alvin. Senior civil engineer. Department of Public Works, City of Burbank, CA, April 22, 2010—e-mail to Jessica Heuer of AECOM providing stormwater infrastructure information.

Cruz, Alvin. Senior civil engineer. Department of Public Works, City of Burbank, CA, February 6, 2012—e-mail to Tracy Steinkruger of City of Burbank providing wastewater infrastructure information.

DWR. *See* California Department of Water Resources

Insurance Services Office. 2001 (July 1). Public Fire Protection, City of Burbank, Los Angeles County, CA. Chicago, IL. Letter to Bill Wiggins, Mayor. Burbank, CA.

ISO. *See* Insurance Services Office, Inc.

Kennedy/Jenks. *See* Kennedy/Jenks Consultants.

Kennedy/Jenks Consultants. 2004 (February 23). *Final Report Evaluation of Primary Effluent Equalization*. Prepared for City of Burbank. Ventura, CA.

Larson, Michele. 2012 (July 10). Burbank Police Department. Crime Analyst. Written communication. Burbank, CA.

Metropolitan Water District of Southern California. 2007 (September). *A Status Report on the Use of Groundwater in the Service Area of the Metropolitan Water District of Southern California*. Report Number 1308. Available: http://www.mwdh2o.com/mwdh2o/pages/yourwater/supply/groundwater/gwas.html#1. Accessed February 25, 2010.

Metropolitan. *See* Metropolitan Water District of Southern California.

Providence Health and Services. 2010. Providence Saint Joseph Medical Center. Available: http://www.providence.org/losangeles/facilities/providence_saint_joseph/default.htm. Accessed April 22, 2010.

Verdugo Fire Communications Center. 2009. Verdugo Fire Communications Center, Fiscal Year 2008-9 Annual Report. Glendale, CA.

———. 2010a. Home page. Available: http://verdugofire.com/. Accessed April 22, 2010.

———. 2010b. Verdugo Fire Communications Center History. Available: http://verdugofire.com/ history.asp. Accessed April 22, 2010.

Chapter 17, "Transportation"

BurbankBus. 2010. Maps and Schedules. Available: http://www.burbankbus.org/index.aspx?page=866

City of Burbank. 2009 (December 15). *Bicycle Master Plan.* Burbank, CA.

Fehr & Peers. 2011. (November). Final Existing Conditions Report – Burbank General Plan. Santa Monica, CA.

Los Angeles County Metropolitan Transportation Authority. 2004 (July 22). *Congestion Management Program for Los Angeles County*. Los Angeles, CA.

Metro. *See* Los Angeles County Metropolitan Transportation Authority.

Transportation Research Board. 1980. *Interim Materials on Highway Capacity,* Circular No. 212, Washington, DC.

This page intentionally left blank.

19 LIST OF PREPARERS

AECOM

Jeff Goldman, AICP .... Principal in Charge

Jeff Henderson, AICP .... Project Manager

Josh Lathan .... Assistant Project Manager, Aesthetics, Land Use, Population and Housing

Jessica Heuer .... Agricultural Resources, Energy, Public Services and Utilities

Pete Choi .... Geology and Soils, Hazards, Mineral Resources, Transportation

Whitney Leeman, Ph.D., George Lu .... Air Quality, Climate Change

Chris Shields, Chris Mundhenk .... Noise

Ted Daum .... Hydrology and Water

Angel Tomes, Charlane Gross, Madeline Bowen .... Cultural Resources

Charles Battaglia .... Biological Resources

Fehr & Peers, Christina Erwin .... Transportation

Christina Erwin .... Document Coordination

LorrieJo Williams, Brian Perry .... Graphics

Eryn Pimentel .... GIS

Gayiety Lane, Charisse Case, Kristine Olsen .... Publishing

This page intentionally left blank.

APPENDIX A

Greenhouse Gas Emissions Inventory and Projections
Supplemental Tables

Table A-1
Burbank Baseline (2010) and Projected (2020 and 2035) Communitywide GHG Emissions Under Proposed Project Scenario

Community Sector	Baseline 2010 Emissions [1]		Projected 2020 Emissions [1]		Projected 2030 Emissions [1]	
	MT CO_2e	Percent	MT CO_2e	Percent	MT CO_2e	Percent
Electricity	***564,719***	28%	***619,634***	28%	***710,592***	28%
Residential	137,581	7%	151,090	7%	173,270	7%
Commercial	160,612	8%	176,181	8%	202,043	8%
Industrial	266,526	13%	292,364	13%	335,279	13%
Natural Gas	***164,146***	8%	***182,853***	8%	***203,561***	8%
Residential	88,690	4%	98,827	4%	110,049	4%
Non-Residential	74,147	4%	82,621	4%	92,003	4%
Municipal	1,308	0%	1,405	0%	1,509	0%
Transportation	***1,206,090***	61%	***1,348,510***	61%	***1,561,209***	61%
Mobile Sources	896,421	45%	995,517	45%	1,143,229	45%
Airport (LTO)	309,668	16%	352,993	16%	417,980	16%
Waste	***24,021***	1%	***26,766***	1%	***29,806***	1%
Wastewater	***13,307***	1%	***14,853***	1%	***17,859***	1%
Water	***19,880***	1%	***20,275***	1%	***22,453***	1%
Total	***1,992,162***	100%	***2,212,892***	100%	***2,545,480***	100%
Per Capita	19.3		19.5		21.1	
Per Service Population	10.0		10.0		10.4	

Notes: MT CO_2e/yr = metric tons of carbon dioxide equivalent per year; LTO = landing and take-offs.

[1] Totals may not appear to add exactly due to rounding.

Source: AECOM 2012.

Table A-2
Burbank Baseline (2010) and Projected (2020 and 2035) Communitywide GHG Emissions Under No Project Scenario

Community Sector	Baseline 2010 Emissions		Projected 2020 Emissions		Projected 2030 Emissions	
	MT CO_2e	Percent	MT CO_2e	Percent	MT CO_2e	Percent
Electricity	***564,719***	28%	***619,634***	28%	***710,592***	27%
Residential	137,581	7%	151,090	7%	173,270	7%
Commercial	160,612	8%	176,181	8%	202,043	8%
Industrial	266,526	13%	292,364	13%	335,279	13%
Natural Gas	***164,146***	8%	***188,696***	8%	***225,135***	9%
Residential	88,690	4%	101,992	5%	121,741	5%
Non-Residential	74,147	4%	85,268	4%	101,778	4%
Municipal	1,308	0%	1,436	0%	1,616	0%
Transportation	***1,206,090***	61%	***1,377,978***	61%	***1,634,919***	62%
Mobile Sources	896,421	45%	1,024,985	46%	1,216,939	46%
Airport (LTO)	309,668	16%	352,993	16%	417,980	16%
Waste	***24,021***	1%	***27,624***	1%	***32,972***	1%
Wastewater	***13,307***	1%	***14,853***	1%	***17,859***	1%
Water	***19,880***	1%	***20,275***	1%	***22,453***	1%
Total	***1,992,162***	100%	***2,249,060***	100%	***2,643,931***	100%
Per Capita	19.3		19.8		21.9	
Per Service Population	10.7		9.9		10.0	

Notes: MT CO_2e/yr = metric tons of carbon dioxide equivalent per year; LTO = landing and take-offs.

[1] Totals may not appear to add exactly due to rounding.

Source: AECOM 2012.

Table A-3
Burbank Baseline (2010) GHG Emission Factors, Activity Levels, and Emissions

Community Sector	2010 Emission Inventory Parameters			
	EF	GWP [1]	Activity	Emissions ($MT\ CO_2e/yr$)
Electricity – Residential			277,000 MWh	137,581
CO_2 Emissions	1,095.00 (lb/MWh)	1		
CH_4 Emissions	0.007 (lb/MWh)	23		
N_2O Emissions	0.004 (lb/MWh)	296		
Electricity – Commercial	See Residential		323,000 MWh	160,612
Electricity – Industrial	See Residential		536,000 MWh	266,526
Natural Gas – Residential			16,669,699 therms	88,690
CO_2 Emissions	53.06 (kg/MMBtu)	1		
CH_4 Emissions	0.005 (kg/MMBtu)	23		
N_2O Emissions	0.0001 (kg/MMBtu)	296		
Natural Gas – Non-Residential	See Residential		13,936,235 therms	74,147
Natural Gas – Municipal	See Residential		245,866 therms	1,308
Transportation – On-Road			4,399,628 DVMT [2]	875,317
CO_2 Emissions [3]	548.1 g/mile	1		857,733
CH_4 Emissions [4]	0.037 g/mile	23		1,350
N_2O Emissions [4]	0.034 g/mile	296		16,234
Transportation – Vehicle Starts [5]	121.25 g CO_2/trip		476,859 trips/day	21,104
Wastewater	0.12 kg CH_4/kg BOD	23	BOD: 275 mg/L Throughput: 12.69MGD	13,307
Water				
Groundwater	594 kWh/af/yr	See Electricity EFs and GWPs	8,796 af	2,599
Water Distribution	4,138 kWh/af/yr	See Electricity EFs and GWPs	8,796 af	17,281
Waste	WARM Model	Various	141,239 tons disposed	24,021

Notes: EF= emission factor; GWP = global warming potential; MT CO_2e/yr = metric tons carbon dioxide equivalent year; MWh = megawatt-hour; CO_2 = carbon dioxide; lb/MWh = pounds per megawatt-hour; CH_4 = methane; N_2O = nitrous oxide; kg/MMBtu = kilograms per million British thermal unit; DVMT = daily vehicle miles traveled; g/mile = grams per mile; g/trip = grams per trip; kg CH_4/kg BOD = kilogram of methane per kilogram of biological oxygen demand; mg/L = milligrams per liter; MGD = million gallons per day; kWh/af/yr = kilowatt-hours per acre-feet per year.

[1] GWP values are 100-year warming potentials from IPCC's Third Assessment Report (IPCC 2001).

[2] Daily VMT data were obtained from Fehr and Peers' City of Burbank Travel Demand Model.

[3] On-Road CO_2 emission factor represents the average emission factor for all speed bins.

[4] On-Road CH_4 and N_2O emission factors represent the average emission factor for the communitywide fleet.

[5] Vehicle Starts CO_2 emission factor represents the average emission factor for all soak times.

Source: Data compiled by AECOM 2012.

Table A-4
Burbank Projected (2035) GHG Emission Factors, Activity Levels, and Emissions Under the Proposed Project Scenario

Community Sector	2035 Emission Inventory Parameters			
	EF	GWP [1]	Activity	Emissions ($MT\ CO_2e/yr$)
Electricity – Residential			348,456 MWh	173,270
CO_2 Emissions	1,095.00 (lb/MWh)	1		
CH_4 Emissions	0.007 (lb/MWh)	23		
N_2O Emissions	0.004 (lb/MWh)	296		
Electricity – Commercial	See Residential		406,321 MWh	202,043
Electricity – Industrial	See Residential		674,266 MWh	335,279
Natural Gas – Residential			20,684,107 therms	110,049
CO_2 Emissions	53.06 (kg/MMBtu)	1		
CH_4 Emissions	0.005 (kg/MMBtu)	23		
N_2O Emissions	0.0001 (kg/MMBtu)	296		
Natural Gas – Non-Residential	See Residential		17,292,369 therms	92,003
Natural Gas – Municipal	See Residential		283,626 therms	1,509
Transportation – On-Road			5,311,263 DVMT [2]	1,119,120
CO_2 Emissions [3]	566.8 g/mile			1,097,893
CH_4 Emissions [4]	0.037 g/mile			1,629
N_2O Emissions [4]	0.034 g/mile			19,598
Transportation – Vehicle Starts [5]	117.33 g/trip		562,938 trips/day	24,109
Wastewater	0.12 kg CH_4/kg BOD	23	BOD: 275 mg/L Throughput: 17.03 MGD	17,859
Water				
Groundwater	594 kWh/af/yr	See Electricity EFs and GWPs	9,889 af	2,923
Water Distribution	4,138 kWh/af/yr	See Electricity EFs and GWPs	9,889 af	19,531
Waste	WARM Model	Various	175,252 tons disposed	29,806

Notes: EF= emission factor; GWP = global warming potential; MT CO_2e/yr = metric tons carbon dioxide equivalent year; MWh = megawatt-hour; CO_2 = carbon dioxide; lb/MWh = pounds per megawatt-hour; CH_4 = methane; N_2O = nitrous oxide; kg/MMBtu = kilograms per million British thermal unit; DVMT = daily vehicle miles traveled; g/mile = grams per mile; g/trip = grams per trip; kg CH_4/kg BOD = kilogram of methane per kilogram of biological oxygen demand; mg/L = milligrams per liter; MGD = million gallons per day; kWh/af/yr = kilowatt-hours per acre-feet per year.

[1] GWP values are 100-year warming potentials from IPCC's Third Assessment Report (IPCC 2001).

[2] Daily VMT data were obtained from Fehr and Peers' City of Burbank Travel Demand Model.

[3] On-Road CO_2 emission factor represents the average emission factor for all speed bins.

[4] On-Road CH_4 and N_2O emission factors represent the average emission factor for the communitywide fleet.

[5] Vehicle Starts CO_2 emission factor represents the average emission factor for all soak times.

Source: Data compiled by AECOM 2012.

Table A-5
Burbank Projected (2035) GHG Emission Factors, Activity Levels, and Emissions Under the No Project Scenario

Community Sector	2035 Emission Inventory Parameters			
	EF	GWP [1]	Activity	Emissions (MT CO_2e/yr)
Electricity – Residential			348,456 MWh	173,270
CO_2 Emissions	1,095.00 (lb/MWh)	1		
CH_4 Emissions	0.007 (lb/MWh)	23		
N_2O Emissions	0.004 (lb/MWh)	296		
Electricity – Commercial	See Residential		406,321 MWh	202,043
Electricity – Industrial	See Residential		674,266 MWh	335,279
Natural Gas – Residential			22,881,659 therms	121,741
CO_2 Emissions	53.06 (kg/MMBtu)	1		
CH_4 Emissions	0.005 (kg/MMBtu)	23		
N_2O Emissions	0.0001 (kg/MMBtu)	296		
Natural Gas – Non-Residential	See Residential		19,129,570 therms	101,778
Natural Gas – Municipal	See Residential		303,796 therms	1,616
Transportation – On-Road			5,624,570 DVMT [2]	1,191,205
CO_2 Emissions [3]	566.8 g/mile			1,168,725
CH_4 Emissions [4]	0.037 g/mile			1,725
N_2O Emissions [4]	0.034 g/mile			20,754
Transportation – Vehicle Starts [5]	117.33 g/trip		600,902 trips/day	25,735
Wastewater	0.12 kg CH_4/kg BOD	23	BOD: 275 mg/L Throughput: 17.03 MGD	17,859
Water				
Groundwater	594 kWh/af/yr	See Electricity EFs and GWPs	9,889 af	2,923
Water Distribution	4,138 kWh/af/yr	See Electricity EFs and GWPs	9,889 af	19,531
Waste	WARM Model	Various	193,872 tons disposed	32,972

Notes: EF= emission factor; GWP = global warming potential; MT CO_2e/yr = metric tons carbon dioxide equivalent year; MWh = megawatt-hour; CO_2 = carbon dioxide; lb/MWh = pounds per megawatt-hour; CH_4 = methane; N_2O = nitrous oxide; kg/MMBtu = kilograms per million British thermal unit; DVMT = daily vehicle miles traveled; g/mile = grams per mile; g/trip = grams per trip; kg CH_4/kg BOD = kilogram of methane per kilogram of biological oxygen demand; mg/L = milligrams per liter; MGD = million gallons per day; kWh/af/yr = kilowatt-hours per acre-feet per year.

[1] GWP values are 100-year warming potentials from IPCC's Third Assessment Report (IPCC 2001).

[2] Daily VMT data were obtained from Fehr and Peers' City of Burbank Travel Demand Model.

[3] On-Road CO_2 emission factor represents the average emission factor for all speed bins.

[4] On-Road CH_4 and N_2O emission factors represent the average emission factor for the communitywide fleet.

[5] Vehicle Starts CO_2 emission factor represents the average emission factor for all soak times.

Source: Data compiled by AECOM 2012.

APPENDIX B

Noise Data

Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

AECOM

Project: **Burbank GP - 09120101.02**

Date: **4/6/10 - 4/7/10**

Site: **Site 1**

Hour	Leq	Lmax	L50	L90
12:00	56.4	81.4	51	48
13:00	57.6	84.2	52	49
14:00	53.2	69.5	52	49
15:00	63.9	86.4	51	48
16:00	65.3	87.5	52	48
17:00	63.1	87.1	53	50
18:00	60.3	85.2	52	48
19:00	61.0	81.6	51	48
20:00	61.5	88.0	50	47
21:00	59.3	84.2	49	46
22:00	71.3	98.5	49	46
23:00	47.3	60.6	46	42
0:00	49.9	68.9	48	46
1:00	64.0	91.1	51	48
2:00	52.8	76.5	48	46
3:00	66.5	91.1	49	46
4:00	50.3	66.7	49	47
5:00	60.0	86.2	54	52
6:00	58.9	84.1	55	52
7:00	64.2	85.6	56	53
8:00	66.0	88.6	52	49
9:00	71.3	103.3	50	46
10:00	62.5	88.1	49	45
11:00	63.0	84.8	49	45

Averages

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	64.0	85.7	51.3	47.9
Nighttime (10 p.m. - 7 a.m.)	64.0	80.4	49.9	47.2

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	71.3	103.3	55.8	52.9
Nighttime (10 p.m. - 7 a.m.)	71.3	98.5	54.9	52.1

Percentage of Energy

Daytime	62%
Nighttime	38%

Calculated L_{dn}, dBA

70.4

Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

Project: Burbank GP - 09120101.02

Date: 4/6/10 - 4/7/10

Site: Site 2

Hour	Leq	Lmax	L50	L90
12:00	66.9	78.8	65	62
13:00	67.5	89.3	66	62
14:00	68.9	93.0	64	60
15:00	66.5	90.8	63	57
16:00	65.2	87.5	63	57
17:00	64.5	79.8	63	56
18:00	65.2	84.1	63	57
19:00	65.2	81.9	64	59
20:00	64.8	82.1	63	59
21:00	64.9	84.8	61	57
22:00	63.3	83.4	60	57
23:00	65.6	89.1	58	54
0:00	62.0	86.0	57	53
1:00	60.5	86.9	56	53
2:00	59.1	75.2	57	54
3:00	61.0	84.6	59	55
4:00	62.6	76.7	61	57
5:00	65.4	80.6	64	61
6:00	67.2	81.7	66	63
7:00	67.4	84.6	66	62
8:00	66.4	79.5	65	59
9:00	66.5	83.9	64	58
10:00	66.5	85.2	63	56
11:00	66.3	82.6	64	57

Averages

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	66.3	84.5	63.7	58.5
Nighttime (10 p.m. - 7 a.m.)	63.7	82.7	59.7	56.4

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	68.9	93.0	65.8	62.3
Nighttime (10 p.m. - 7 a.m.)	67.2	89.1	65.8	63.2

Percentage of Energy

Daytime	75%
Nighttime	25%

Calculated L_{dn}, dBA

70.6

Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

AECOM

Project: Burbank GP - 09120101.02

Date: 4/7/10 - 4/8/10

Site: Site 3

Hour	Leq	Lmax	L50	L90
13:00	60.3	66.9	60	58
14:00	60.1	67.8	60	58
15:00	59.3	72.4	59	56
16:00	57.0	69.4	56	53
17:00	55.6	67.8	55	53
18:00	59.8	77.6	58	55
19:00	62.6	77.5	62	60
20:00	61.5	76.1	61	60
21:00	60.9	75.6	60	58
22:00	59.5	71.8	59	57
23:00	59.2	72.7	58	56
0:00	58.2	69.2	58	55
1:00	56.4	64.8	56	53
2:00	55.7	66.9	55	52
3:00	56.3	66.5	56	52
4:00	59.5	66.3	59	56
5:00	61.5	70.7	61	59
6:00	63.0	77.0	63	61
7:00	61.3	67.5	61	60
8:00	59.3	68.9	59	56
9:00	61.1	74.3	61	59
10:00	61.5	73.1	61	59
11:00	61.3	69.3	61	59
12:00	59.7	69.3	59	57

Averages

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	60.4	71.6	59.5	57.5
Nighttime (10 p.m. - 7 a.m.)	59.4	69.5	58.3	55.7

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	62.6	77.6	61.9	60.3
Nighttime (10 p.m. - 7 a.m.)	63.0	77.0	62.7	61.3

Percentage of Energy

Daytime	67%
Nighttime	33%

Calculated L_{dn}, dBA

66.0

-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

AECOM

Project:
Burbank GP - 09120101.02

Date: **4/8/10 - 4/9/10** **Site 4**

Site:

Hour	Leq	Lmax	L50	L90
14:00	76.1	88.6	76	74
15:00	76.0	87.9	76	74
16:00	75.4	82.6	75	73
17:00	70.1	78.3	68	65
18:00	69.9	77.8	69	65
19:00	76.0	86.0	76	74
20:00	75.3	85.2	75	73
21:00	75.0	86.9	75	73
22:00	74.5	79.7	74	72
23:00	72.8	78.9	73	70
0:00	71.2	81.7	71	67
1:00	69.7	80.4	69	64
2:00	69.0	80.0	68	62
3:00	68.9	79.8	68	61
4:00	70.1	82.3	69	63
5:00	74.0	82.7	74	70
6:00	76.8	88.3	77	74
7:00	78.9	86.6	79	76
8:00	78.0	86.9	78	76
9:00	76.6	89.1	76	74
10:00	76.3	81.9	76	74
11:00	76.3	81.6	76	75
12:00	76.3	83.7	76	75
13:00	76.3	81.1	76	74

Averages

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	76.0	84.3	75.2	73.1
Nighttime (10 p.m. - 7 a.m.)	72.7	81.5	71.2	66.9

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	78.9	89.1	79.0	76.3
Nighttime (10 p.m. - 7 a.m.)	76.8	88.3	76.6	74.4

Percentage of Energy

Daytime	78%
Nighttime	22%

Calculated L_{dn}, dBA
79.8

Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

AECOM

Project: Burbank GP - 09120101.02

Date: 4/6/10 - 4/7/10

Site: Site 5

Hour	Leq	Lmax	L50	L90
10:00	71.2	97.7	60	54
11:00	67.5	90.2	61	56
12:00	67.0	82.2	62	59
13:00	67.7	87.6	62	59
14:00	67.5	90.2	62	58
15:00	68.8	88.1	64	58
16:00	68.8	92.8	63	58
17:00	69.0	91.1	64	58
18:00	67.9	93.6	62	58
19:00	66.9	89.7	62	60
20:00	63.0	77.7	60	57
21:00	69.0	93.9	60	56
22:00	63.0	84.1	60	57
23:00	61.2	83.2	57	54
0:00	69.0	96.0	56	53
1:00	59.4	78.0	57	54
2:00	59.8	78.3	59	56
3:00	61.8	82.7	60	57
4:00	64.2	82.7	62	60
5:00	67.4	87.8	65	62
6:00	69.2	89.8	67	64
7:00	69.7	93.3	66	61
8:00	70.9	94.5	65	60
9:00	68.5	92.5	62	57

Averages

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	68.6	90.3	62.4	58.0
Nighttime (10 p.m. - 7 a.m.)	65.3	84.7	60.3	57.5

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	71.2	97.7	65.7	60.9
Nighttime (10 p.m. - 7 a.m.)	69.2	96.0	66.7	64.4

Percentage of Energy

Daytime	78%
Nighttime	22%

Calculated L_{dn}, dBA

72.4

Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

AECOM

Project: Burbank GP - 09120101.02

Date: 4/7/10 - 4/8/10

Site: Site 6

Hour	Leq	Lmax	L50	L90
14:00	62.7	91.7	58	56
15:00	68.3	93.3	57	56
16:00	67.8	90.0	58	55
17:00	67.0	93.3	56	54
18:00	65.5	92.0	52	50
19:00	64.7	90.9	52	51
20:00	62.1	88.1	52	51
21:00	64.3	94.8	57	55
22:00	73.5	100.4	59	56
23:00	69.2	93.2	58	54
0:00	70.0	96.0	57	54
1:00	58.8	64.1	59	56
2:00	58.0	69.4	58	55
3:00	57.8	64.8	57	55
4:00	57.4	63.0	57	55
5:00	65.5	90.2	62	60
6:00	67.7	91.9	63	59
7:00	69.0	93.9	61	60
8:00	70.3	96.9	58	56
9:00	67.2	91.0	56	54
10:00	69.2	93.0	53	51
11:00	70.6	98.0	52	50
12:00	60.9	88.5	52	51
13:00	69.7	96.0	54	51

Averages

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	67.5	92.8	55.0	53.3
Nighttime (10 p.m. - 7 a.m.)	67.7	81.5	58.8	56.1

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 10 p.m.)	70.6	98.0	61.0	59.6
Nighttime (10 p.m. - 7 a.m.)	73.5	100.4	62.6	60.0

Percentage of Energy

Daytime	62%
Nighttime	38%

Calculated L_{dn}, dBA

74.0

Traffic Noise Prediction Model, (FHWA RD-77-108)
Model Input Sheet

AECOM

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn
K Factor :
Traffic Desc. (Peak or ADT) : ADT

Segment	Roadway	Segment From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	W Alameda Ave	Riverside	City boundary	26,000	40	100	98	1.5	0.5	80		20	
2	W Alameda Ave	Pass	Olive	20,900	40	100	98	1.5	0.5	80		20	
3	W Alameda Ave	Olive	Buena Vista	24,000	40	100	98	1.5	0.5	80		20	
4	W Alameda Ave	Buena Vista	Victory	26,600	40	100	98	1.5	0.5	70		30	
5	W Alameda Ave	Victory	San Fernando	30,600	40	100	97	2	1	70		30	
6	W Alameda Ave	San Fernando	Glenoaks	21,500	40	100	97	2	1	60		40	
7	Olive	Glenoaks	northeast	7,100	40	100	98	1.5	0.5	60		40	
8	Olive	First	Glenoaks	18,300	40	100	97	2	1	60		40	
9	Olive	Victory	First	20,800	40	100	97	2	1	70		30	
10	Olive	Buena Vista	Victory	29,400	40	100	98	1.5	0.5	70		30	
11	Olive	Alameda	Buena Vista	26,000	40	100	98	1.5	0.5	70		30	
12	Olive	Riverside	Alameda	27,000	40	100	98	1.5	0.5	70		30	
13	Olive	Hollywood	Riverside	20,800	40	100	98	1.5	0.5	70		30	
14	Olive	Pass	Hollywood	50,700	40	100	98	1.5	0.5	80		20	
15	Olive	Pass	City boundary	50,300	40	100	98	1.5	0.5	80		20	
16	Magnolia	Hollywood	City boundary	20,500	40	100	98	1.5	0.5	70		30	
17	Magnolia	Hollywood	Buena Vista	18,900	40	100	98	1.5	0.5	70		30	
18	Magnolia	Buena Vista	Victory	20,800	40	100	98	1.5	0.5	70		30	
19	Magnolia	Victory	First	30,600	40	100	97	2	1	70		30	
20	Magnolia	First	Glenoaks	15,700	40	100	97	2	1	60		40	
21	Magnolia	Glenoaks	east	4500	40	100	98	1.5	0.5	60		40	
22	Burbank	Hollywood	City boundary	19,200	40	100	98	1.5	0.5	70		30	
23	Burbank	Hollywood	Buena Vista	17,300	40	100	98	1.5	0.5	70		30	
24	Burbank	Buena Vista	Victory	12000	40	100	98	1.5	0.5	70		30	
25	Burbank	Victory	San Fernando	56200	40	100	97	2	1	70		30	
26	Burbank	San Fernando	3rd	10300	40	100	97	2	1	70		30	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

AECOM

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	W Alameda Ave	Riverside	City boundary	67.7	58.5	58.5	68.6	73	230	727	2300	7274
2	W Alameda Ave	Pass	Olive	66.7	57.5	57.6	67.7	58	185	585	1849	5847
3	W Alameda Ave	Olive	Buena Vista	67.3	58.1	58.2	68.3	67	212	671	2123	6714
4	W Alameda Ave	Buena Vista	Victory	69.0	59.8	59.8	69.9	98	311	983	3110	9834
5	W Alameda Ave	Victory	San Fernando	69.6	61.6	63.4	71.0	127	401	1269	4012	12686
6	W Alameda Ave	San Fernando	Glenoaks	69.0	61.0	62.8	70.4	111	350	1108	3504	11081
7	Olive	Glenoaks	northeast	64.2	55.0	55.0	65.1	33	103	326	1032	3263
8	Olive	First	Glenoaks	68.3	60.3	62.1	69.7	94	298	943	2983	9432
9	Olive	Victory	First	67.9	59.9	61.8	69.4	86	273	862	2727	8623
10	Olive	Buena Vista	Victory	69.4	60.2	60.3	70.4	109	344	1087	3437	10869
11	Olive	Alameda	Buena Vista	68.9	59.7	59.7	69.8	96	304	961	3040	9612
12	Olive	Riverside	Alameda	69.1	59.8	59.9	70.0	100	316	998	3156	9982
13	Olive	Hollywood	Riverside	67.9	58.7	58.8	68.9	77	243	769	2432	7690
14	Olive	Pass	Hollywood	70.6	61.4	61.4	71.5	142	449	1418	4485	14184
15	Olive	Pass	City boundary	70.5	61.3	61.4	71.5	141	445	1407	4450	14072
16	Magnolia	Hollywood	City boundary	67.9	58.6	58.7	68.8	76	240	758	2397	7579
17	Magnolia	Hollywood	Buena Vista	67.5	58.3	58.3	68.4	70	221	699	2210	6987
18	Magnolia	Buena Vista	Victory	67.9	58.7	58.8	68.9	77	243	769	2432	7690
19	Magnolia	Victory	First	69.6	61.6	63.4	71.0	127	401	1269	4012	12686
20	Magnolia	First	Glenoaks	67.6	59.7	61.5	69.1	81	256	809	2559	8092
21	Magnolia	Glenoaks	east	62.2	53.0	53.0	63.2	21	65	207	654	2068
22	Burbank	Hollywood	City boundary	67.6	58.3	58.4	68.5	71	224	710	2245	7098
23	Burbank	Hollywood	Buena Vista	67.1	57.9	57.9	68.1	64	202	640	2022	6396
24	Burbank	Buena Vista	Victory	65.5	56.3	56.4	66.5	44	140	444	1403	4436
25	Burbank	Victory	San Fernando	72.2	64.3	66.1	73.7	233	737	2330	7368	23299
26	Burbank	San Fernando	3rd	64.8	56.9	58.7	66.3	43	135	427	1350	4270

Traffic Noise Prediction Model, (FHWA RD-77-108)
Model Input Sheet

AECOM

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn

K Factor :
Traffic Desc. (Peak or ADT) : ADT

Segment	Roadway	Segment From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	Victory	Hollywood	City boundary	24900	40	100	98	1.5	0.5	80		20	
2	Victory	Hollywood	Buena Vista	26300	40	100	98	1.5	0.5	80		20	
3	Victory	Buena Vista	Burbank	19800	40	100	98	1.5	0.5	80		20	
4	Victory	Burbank	Magnolia	23300	40	100	97	2	1	70		30	
5	Victory	Magnolia	Olive	24500	40	100	97	2	1	70		30	
6	Victory	Olive	Alameda	18800	40	100	97	2	1	70		30	
7	Victory	Alameda	City boundary	15800	40	100	97	2	1	70		30	
8	Vanowen	Buena Vista	Hollywood	11400	40	100	97	2	1	60		40	
9	Empire	Buena Vista	Victory	17900	40	100	97	2	1	60		40	
10	Empire	Buena Vista	Hollywood	10600	40	100	97	2	1	60		40	
11	Thornton	Hollywood	east	7700	40	100	97	2	1	75		25	
12	Winona	Hollywood	east	2000	40	100	97	2	1	75		25	
13	N Hollywood Way	Winona	Thornton	33600	40	100	97	2	1	60		40	
14	N Hollywood Way	Thornton	Victory	34500	40	100	97	2	1	60		40	
15	N Hollywood Way	Victory	Burbank	29800	35	100	98	1.5	0.5	60		40	
16	N Hollywood Way	Burbank	Magnolia	24300	35	100	98	1.5	0.5	60		40	
17	N Hollywood Way	Magnolia	Verdugo	30000	35	100	98	1.5	0.5	60		40	
18	N Hollywood Way	Verdugo	Olive	28400	35	100	98	1.5	0.5	80		20	
19	N Hollywood Way	Olive	South	20800	35	100	98	1.5	0.5	80		20	
20	Pass	Alameda	Verdugo	15200	35	100	98	1.5	0.5	80		20	
21	Pass	Alameda	Olive	900	35	100	98	1.5	0.5	80		20	

Traffic Noise Prediction Model, (FHWA RD-77-108)
Predicted Noise Levels

AECOM

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Victory	Hollywood	City boundary	67.5	58.3	58.3	68.4	70	220	697	2203	6966
2	Victory	Hollywood	Buena Vista	67.7	58.5	58.6	68.7	74	233	736	2327	7358
3	Victory	Buena Vista	Burbank	66.5	57.3	57.3	67.4	55	175	554	1752	5539
4	Victory	Burbank	Magnolia	68.4	60.4	62.3	69.8	97	305	966	3055	9660
5	Victory	Magnolia	Olive	68.6	60.7	62.5	70.1	102	321	1016	3212	10157
6	Victory	Olive	Alameda	67.4	59.5	61.3	68.9	78	246	779	2465	7794
7	Victory	Alameda	City boundary	66.7	58.8	60.6	68.2	66	207	655	2071	6550
8	Vanowen	Buena Vista	Hollywood	66.2	58.3	60.1	67.7	59	186	588	1858	5876
9	Empire	Buena Vista	Victory	68.2	60.2	62.1	69.7	92	292	923	2918	9226
10	Empire	Buena Vista	Hollywood	65.9	58.0	59.8	67.4	55	173	546	1728	5463
11	Thornton	Hollywood	east	63.0	55.1	56.9	64.5	28	89	280	887	2804
12	Winona	Hollywood	east	57.1	49.2	51.0	58.6	7	23	73	230	728
13	N Hollywood Way	Winona	Thornton	70.9	63.0	64.8	72.4	173	548	1732	5476	17318
14	N Hollywood Way	Thornton	Victory	71.0	63.1	64.9	72.5	178	562	1778	5623	17782
15	N Hollywood Way	Victory	Burbank	68.8	60.3	60.7	69.9	98	309	977	3089	9769
16	N Hollywood Way	Burbank	Magnolia	67.9	59.4	59.8	69.0	80	252	797	2519	7966
17	N Hollywood Way	Magnolia	Verdugo	68.8	60.3	60.8	69.9	98	311	983	3110	9835
18	N Hollywood Way	Verdugo	Olive	66.4	57.9	58.4	67.5	57	179	567	1792	5667
19	N Hollywood Way	Olive	South	65.0	56.6	57.0	66.2	42	131	415	1312	4150
20	Pass	Alameda	Verdugo	63.7	55.2	55.6	64.8	30	96	303	959	3033
21	Pass	Alameda	Olive	51.4	42.9	43.4	52.5	2	6	18	57	180

Traffic Noise Prediction Model, (FHWA RD-77-108)
Model Input Sheet

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn

K Factor :
Traffic Desc. (Peak or ADT) : ADT

Segment	Roadway	Segment From	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	Buena Vista	Glenoaks	San Fernando	9700	35	100	98	1.5	0.5	80		20	
2	Buena Vista	San Fernando	Empire	26000	35	100	98	1.5	0.5	75		25	
3	Buena Vista	Empire	Vanowen	27300	35	100	98	1.5	0.5	75		25	
4	Buena Vista	Vanowen	Victory	27300	35	100	98	1.5	0.5	60		40	
5	Buena Vista	Victory	Burbank	24400	35	100	98	1.5	0.5	60		40	
6	Buena Vista	Burbank	Magnolia	21700	35	100	98	1.5	0.5	60		40	
7	Buena Vista	Magnolia	Olive	20800	35	100	98	1.5	0.5	80		20	
8	Buena Vista	Olive	Alameda	20600	35	100	97	2	1	80		20	
9	Buena Vista	Alameda	Riverside	23500	35	100	97	2	1	80		20	
10	Buena Vista	Riverside	South	10100	35	100	98	1.5	0.5	80		20	
11	San Fernando	Burbank	Amherst	13200	35	100	97	2	1	75		25	
12	San Fernando	Burbank	San Jose	17600	35	100	97	2	1	70		30	
13	San Fernando	Alameda	Olive	18500	35	100	97	2	1	70		30	
14	San Fernando	Alameda	City boundary	11300	35	100	97	2	1	70		30	
15	First	Magnolia	San Fernando	10000	35	100	97	2	1	70		30	
16	First	Olive	Magnolia	9900	35	100	97	2	1	70		30	
17	First	Olive	Santa Anita	9000	35	100	97	2	1	70		30	
18	Glenoaks	Buena Vista	City boundary	15000	40	100	98	1.5	0.5	60		40	
19	Glenoaks	Buena Vista	Scott	13300	40	100	98	1.5	0.5	60		40	
20	Glenoaks	Magnolia	Scott	25400	40	100	98	1.5	0.5	60		40	
21	Glenoaks	Olive	Magnolia	28500	35	100	98	1.5	0.5	60		40	
22	Glenoaks	Alameda	Olive	30100	35	100	98	1.5	0.5	60		40	
23	Glenoaks	Alameda	City boundary	28400	35	100	98	1.5	0.5	60		40	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Buena Vista	Glenoaks	San Fernando	61.7	53.3	53.7	62.9	19	61	194	612	1936
2	Buena Vista	San Fernando	Empire	66.7	58.2	58.6	67.8	60	190	602	1904	6022
3	Buena Vista	Empire	Vanowen	66.9	58.4	58.8	68.0	63	200	632	2000	6323
4	Buena Vista	Vanowen	Victory	68.4	59.9	60.3	69.5	89	283	895	2830	8949
5	Buena Vista	Victory	Burbank	67.9	59.4	59.9	69.0	80	253	800	2529	7999
6	Buena Vista	Burbank	Magnolia	67.4	58.9	59.3	68.5	71	225	711	2250	7114
7	Buena Vista	Magnolia	Olive	65.0	56.6	57.0	66.2	42	131	415	1312	4150
8	Buena Vista	Olive	Alameda	65.0	57.8	60.0	66.7	47	149	473	1494	4726
9	Buena Vista	Alameda	Riverside	65.5	58.4	60.5	67.3	54	170	539	1705	5391
10	Buena Vista	Riverside	South	61.9	53.4	53.9	63.0	20	64	202	637	2015
11	San Fernando	Burbank	Amherst	63.7	56.5	58.7	65.5	35	111	351	1111	3515
12	San Fernando	Burbank	San Jose	65.5	58.3	60.5	67.3	53	169	534	1687	5335
13	San Fernando	Alameda	Olive	65.7	58.5	60.7	67.5	56	177	561	1773	5608
14	San Fernando	Alameda	City boundary	63.6	56.4	58.6	65.3	34	108	343	1083	3425
15	First	Magnolia	San Fernando	63.0	55.9	58.0	64.8	30	96	303	959	3031
16	First	Olive	Magnolia	63.0	55.8	58.0	64.8	30	95	300	949	3001
17	First	Olive	Santa Anita	62.6	55.4	57.6	64.4	27	86	273	863	2728
18	Glenoaks	Buena Vista	City boundary	67.4	58.2	58.3	68.4	69	218	689	2180	6894
19	Glenoaks	Buena Vista	Scott	66.9	57.7	57.8	67.9	61	193	611	1933	6113
20	Glenoaks	Magnolia	Scott	69.7	60.5	60.6	70.7	117	369	1167	3692	11674
21	Glenoaks	Olive	Magnolia	68.6	60.1	60.5	69.7	93	295	934	2954	9343
22	Glenoaks	Alameda	Olive	68.8	60.3	60.8	69.9	99	312	987	3120	9867
23	Glenoaks	Alameda	City boundary	68.6	60.1	60.5	69.7	93	294	931	2944	9310

Railroad Operation Noise Calculation

Input Sheet

	Individual Train Events
1	88.44
2	91.53
3	87.8
4	90.59
5	90.04
6	93.43
7	78.52
8	90.69
9	90.26
10	92.2
11	88.1
12	92.94
13	93.36
14	85.52
15	85.2
16	93.41
17	93.19
18	87.46
19	90.23
20	88.87
21	87.82
22	82.92
23	106.53
24	101.91
25	93.76
26	90.83
27	91.83
28	83.03
29	90.45
30	89.03
31	92.08
32	83.72
33	92.78
34	93.24
35	89.23
36	93.76
37	106.31
38	79.97
39	91.92
40	86.13
41	90.46
42	91.71
43	83.58
44	87.01
45	90.5

Number of Events	Average SEL	Reference Distance
45	95 dBA	69 feet

# Trains / day	**45**	
Neq	196.9	
Ldn	68.8	dBA
Ref. Distance	**69**	feet
60 dB Contour	265	feet
65 dB Contour	123	feet
70 dB Contour	57	feet

Date: April 6-7, 2010
City of Burbank GP Update
Site LT1

Railroad Operation Noise Calculation

Input Sheet

	Individual Train Events
1	87.02
2	104.68
3	94.91
4	88.56
5	92.02
6	92.68
7	95.16
8	95.12
9	92.51
10	89.65
11	90.35
12	96.91
13	86.29
14	85.96
15	89.37
16	89.98
17	95.16
18	95.01
19	93.87
20	93.97
21	97.15
22	101.6
23	103.98
24	91.68
25	94.19
26	93.8
27	90.67
28	89.42
29	85.87
30	84.77
31	91.15
32	87.1
33	91.83
34	88.68
35	96.1
36	94.61
37	106.3
38	87.65

Number of Events	Average SEL	Reference Distance
38	97 dBA	50 feet

# Trains / day	**38**	
Neq	166.3	
Ldn	69.4	dBA
Ref. Distance	**50**	feet
60 dB Contour	213	feet
65 dB Contour	99	feet
70 dB Contour	46	feet

Date: April 6-7, 2010
City of Burbank GP Update
Site LT5

Railroad Operation Noise Calculation

Input Sheet

	Individual Train Events
1	93.62
2	95.22
3	96.11
4	92.27
5	88.31
6	94.5
7	96.4
8	94.6
9	93.9
10	91.99
11	94.24
12	92.9
13	93.72
14	94.32
15	96.03
16	92.34
17	95.12
18	97.34
19	94.33
20	91.19
21	95.38
22	96.26
23	88.59
24	95.41
25	95.31
26	92.48
27	92.4
28	95.52
29	94.25
30	98.01
31	92.25
32	103.18
33	106.72
34	103.25
35	105.26
36	94.92
37	96.18
38	94.62
39	93.29
40	96.32
41	90.11
42	96.47
43	98.76
44	94.96
45	96.19
46	94.08
47	90.52
48	94.48
49	94.01
50	95.03
51	93.18
52	101.29
53	92.83
54	100.73
55	93.25
56	91.36
57	96.69
58	95.81
59	95.03
60	83.5
61	91.92
62	95.44
63	91.2
64	102.18
65	99.19
66	94.15
67	95.51
68	99.97
69	100.53
70	101.44
71	93.06
72	95.62
73	81.39
74	93.48
75	91.24
76	104.55
77	95.37

Number of Events	Average SEL	Reference Distance
77	97 dBA	50 feet

# Trains / day	**77**	
Neq	336.9	
Ldn	73.2	dBA
Ref. Distance	**50**	feet
60 dB Contour	380	feet
65 dB Contour	176	feet
70 dB Contour	82	feet

Date: April 7-8, 2010
City of Burbank GP Update
Site LT6

EIR APPENDIX B

Notice of Preparation

NOTICE OF PREPARATION

Date: February 1, 2010

To: Interested Parties

Subject: **NOTICE OF PREPARATION OF A DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT**

Lead Agency: City of Burbank
150 North Third Street
Burbank, CA 91502

Contact: Tracy Steinkruger, Senior Planner

The City of Burbank publicly announces the initiation of the preparation of a Program Environmental Impact Report (EIR) for the following project, as defined by the California Environmental Quality Act (CEQA) and set forth in Public Resources Code 21065.

The City of Burbank is the Lead Agency for the preparation of the EIR. A description of the proposed project, as well as an explanation of the potential environmental effects, is provided in this Notice of Preparation (NOP). The City will prepare a comprehensive EIR addressing all topics required by CEQA. Thus, no Initial Study has been prepared.

A scoping meeting for agency representatives and the public will be held on February 10, 2010 at 6:00 P.M. at City Hall, Council Chambers, 275 East Olive Avenue Burbank, CA 91502.

Please provide your written comments, including specific statutory responsibilities of your agency, as applicable. Written comments must be received at the earliest possible date, but no later than 30 days after the receipt of this notice. The NOP comment period runs from February 1, 2010 through March 3, 2010. Please send your responses and the name of the contact person to:

Tracy Steinkruger, Senior Planner
City of Burbank
Community Development Department
150 North Third Street
Burbank, CA 91502

tsteinkruger@ci.burbank.ca.us
Fax: 818-238-5150

Project Title: **Burbank 2035 General Plan Update**

Project Location: City of Burbank, Los Angeles County, California

Project Description: The City of Burbank has initiated a comprehensive program to update the City's General Plan. State law requires each city to adopt a comprehensive, long-term general plan for its physical development. The General Plan update addresses land use; mobility; parks, recreation and open space; air quality/climate change; and noise; as well as other issues that are important to the community. Please refer to the attached project description for further information.

Date: February 1, 2010

____
Tracy Steinkruger, Senior Planner

THE PROJECT

The proposed project consists of the adoption and implementation of the updated City of Burbank General Plan. The 2035 General Plan update addresses five state-mandated general plan elements (land use; mobility; parks, recreation and open space; and noise), as well as other important issues such as air quality/climate change. The City has undertaken an update to numerous elements of the General Plan to reflect a new vision for the community and to address issues relevant to Burbank today. The updated General Plan establishes an overall development capacity for the city, and serves as a policy guide for determining the appropriate physical development and character of Burbank. Draft versions of several updated General Plan elements are available at the following website:

http://www.ci.burbank.ca.us/index.aspx?page=654

The General Plan applies to all properties within the City of Burbank. An Air Quality Element will be included in this General Plan update as an optional element. The Land Use Element was comprehensively updated in 1988. Since that time, there have been numerous amendments to the Land Use Element. The City of Burbank has not updated its citywide Transportation Element since 1964. The Parks, Recreation and Open Space Element was adopted in 1972 and has not been updated since that time. The updated Housing Element, which was recently adopted (in October 2008), is not part of the proposed project.

Project Location and Setting

The City of Burbank is located in the central portion of Los Angeles County approximately 12 miles north of downtown Los Angeles. The northern part of the city is located along the foothills of the Verdugo Mountains and the western edge of the city is located near the eastern part of the San Fernando Valley. Burbank is bisected by Interstate 5 and adjacent to the Cities of Los Angeles and Glendale (see Figure 1, Regional Location Map). The corporate limits of the City of Burbank encompass approximately 17.4 square miles. The planning area, shown on Figure 2, includes the entire corporate limits of Burbank.

Project Goals and Objectives

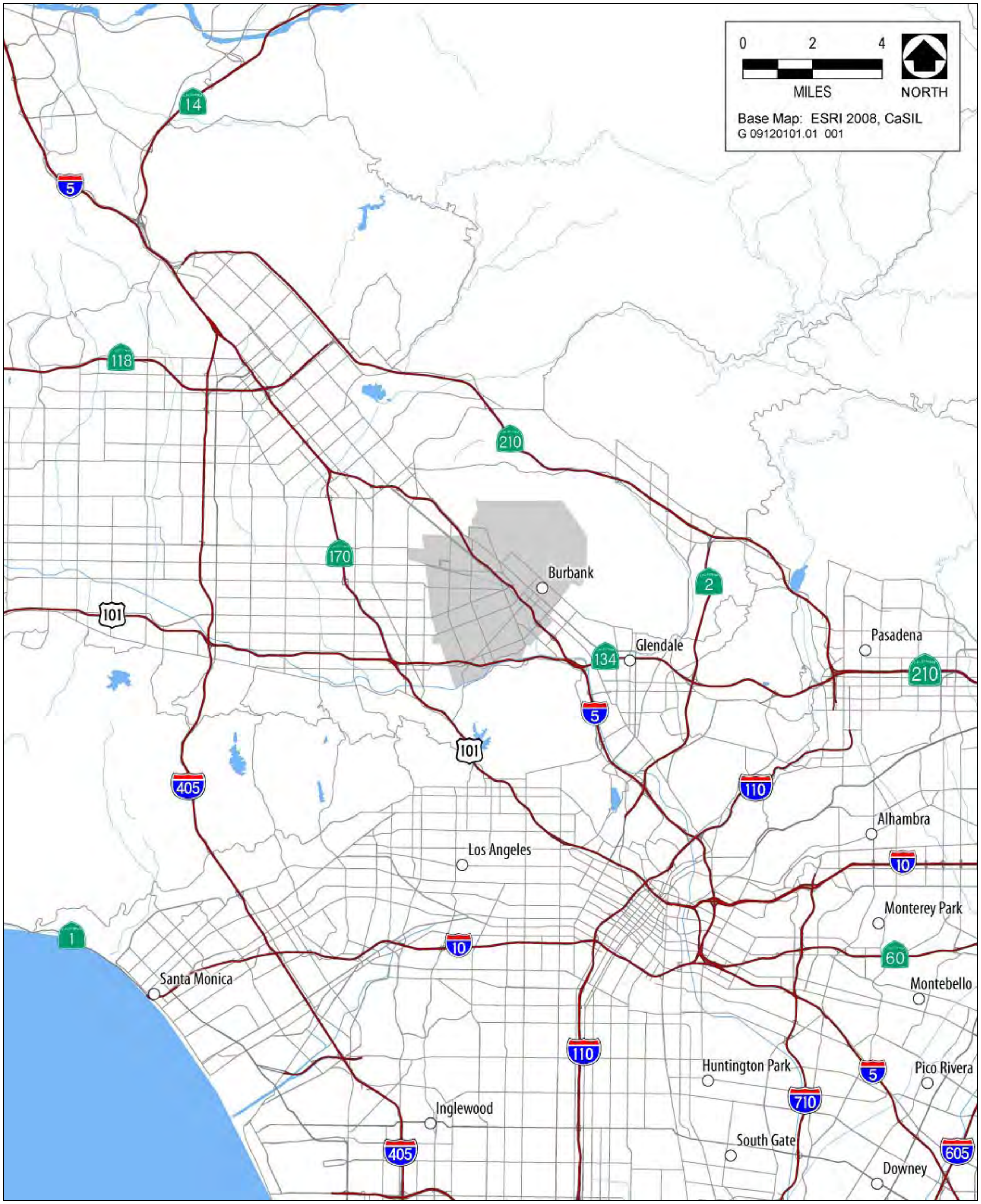
The General Plan serves as the blueprint for future growth and development. As a blueprint for the future, the Plan must contain policies and programs designed to provide decision-makers with a solid basis for decisions related to land use and development. The General Plan includes the community's long-term goals.

Vision. The General Plan is built upon the vision of Burbank as both a small town and a big city. While this vision may seem contradictory, these ideas are not incompatible. They support the concept of balance in the community – a careful, planned balance that will allow for an increase in urban conveniences and opportunities while preserving and enhancing the small town quality of life for the community they serve.

Core Values. Burbank's vision of balance includes a set of core values identified through the public input process. These values are what have shaped Burbank into a community where over 108,000 people have chosen to live, work, play, and raise their families. The following values have been utilized as the guiding principles for the General Plan update and project objectives for the EIR.

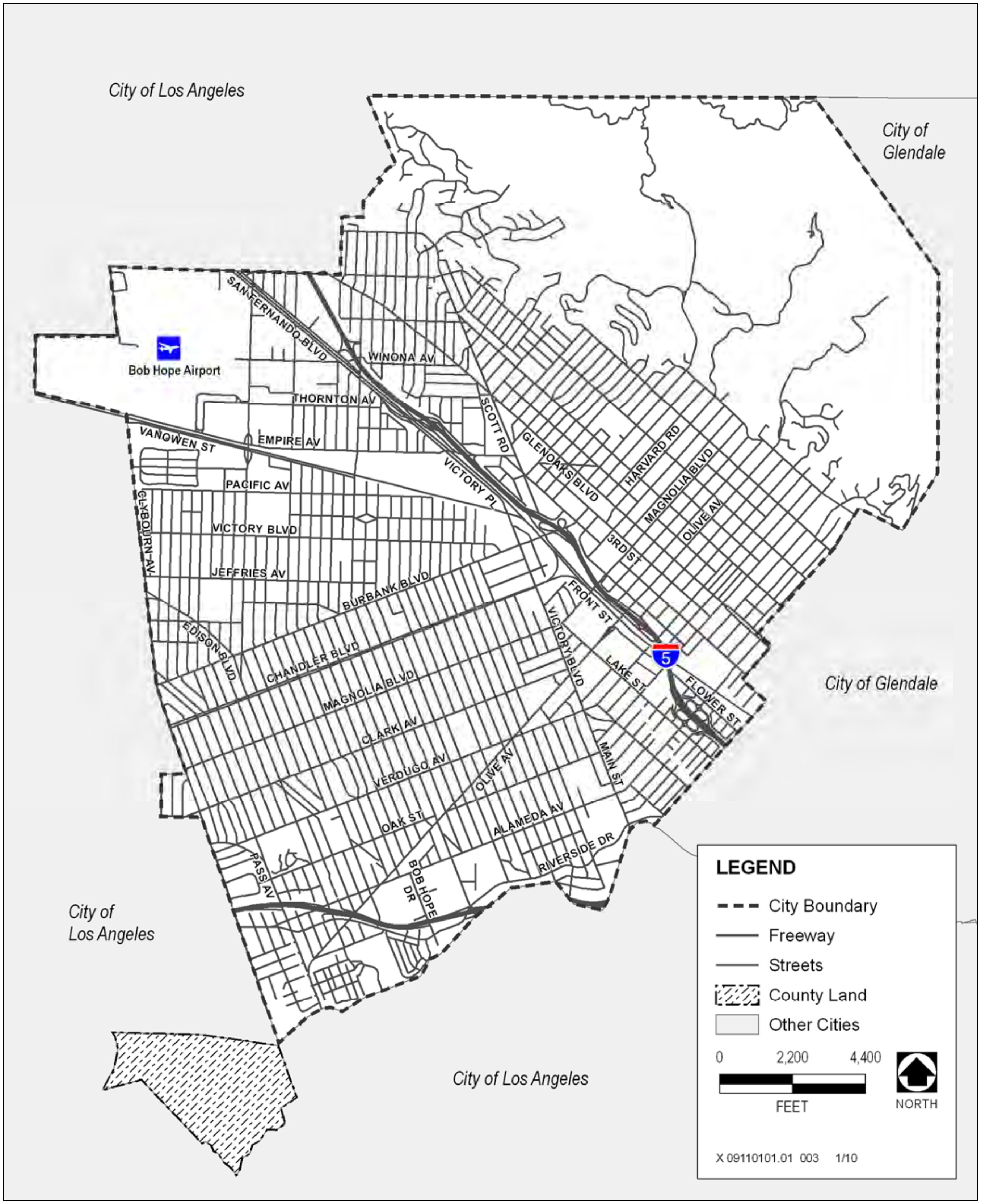
Small Town Character. Burbank treasures its small town character that gives residents a sense of belonging and community.

Balanced Development. Burbank strives to maintain a delicate balance of land uses to best serve its residents and protect the small town feeling of the community while maintaining its economic vitality.



Source: Adapted by AECOM 2010

Regional Location Map **Figure 1**



Source: City of Burbank 2010, CASIL 1990

Planning Area **Figure 2**

Community Image and Character. The architecture, design, and density of new development identifies and further characterizes Burbank as a unique destination.

Quality Neighborhoods. Neighborhoods are a basic building block of Burbank's small town atmosphere. Burbank has a commitment to maintain and protect its quality residential neighborhoods.

Housing Variety. Burbank has a wide range of housing opportunities aimed at meeting the housing needs of all age groups, family types, and income levels as well as those with special housing needs.

Ease of Mobility. Burbank prioritizes streets that are safe and efficient. Parking facilities are planned to meet the needs of both residents and visitors. Convenient public transportation provides mobility within the City and links Burbank to the regional transit system.

Safety. Burbank provides a safe and healthy environment and protects all people in the community. The City is prepared to manage and recover from emergencies.

Economic Vitality. Burbank has a vibrant, healthy, and diverse economy. The City supports the media businesses that are a vital part of Burbank's economy and seeks to capitalize on this unique aspect of its economic base.

Open Space and Recreation. The Verdugo Mountains are a unique natural resource in an urban environment that Burbank is fortunate to enjoy. The preservation of this valuable asset is a priority. Burbank's parks and recreational facilities are valuable resources for the community and are carefully maintained, preserved, and expanded wherever possible.

Sustainability. The City makes prudent decisions regarding the amount and location of growth to ensure a high quality of life for present and future generations. Environmentally sound development is encouraged with special attention given to issues such as water and energy conservation, recycling, and public transit.

Quality Schools. Burbank schools are a source of pride for the community and a resource to be supported and protected.

Proactive and Responsive Government. The City of Burbank listens and responds to the needs and concerns of those in the community. The City provides services and public facilities that support safe, convenient, and attractive neighborhoods; high quality educational, recreational, and social programs; and reliable public utilities.

Project Characteristics

The proposed project includes of updates to the following four required General Plan elements:

Land Use Element. The Land Use Element is the cornerstone of the General Plan and is the City's fundamental land use and development policy document. The goals, policies, and actions of the Land Use Element provide a blueprint for the physical development of the community and serve as the basis for decision-making by the Planning Board and City Council. More specifically, the Land Use Element does the following:

- Defines a realistic long-term vision for Burbank through the year 2035
- Expresses the desires of Burbank residents regarding the physical, social, economic, cultural, and environmental character of the city
- Serves as a comprehensive guide for making decisions about land use, urban design, economic development, and other related topics such as public facilities and services and parks and open space

- Serves as the City’s framework for land use and community development decisions and provides the legal foundation for all zoning, subdivisions, development plans, and facilities plans

The Land Use Designations Map, which is updated within the Draft Land Use Element, establishes the general pattern of uses in the city and identifies maximum permitted land use densities and intensities. These policy parameters can be used to identify the anticipated level of development within the city over the long term, at so-called “build out”. The land use designations discussed in the Land Use Element are not specific to geographic areas of the city and apply to numerous parcels at different locations throughout Burbank. This approach provides simplicity and consistency throughout the community, but can sometimes overlook the unique character and needs of certain areas of the city. The Media District, Rancho, and Downtown areas were previously identified as areas that would benefit from unique policies and standards that would be applicable only to those areas and not to the city at large. This recognition resulted in the adoption of the Media District Specific Plan, the Rancho Master Plan, and the Burbank Center Plan. Each of these documents is maintained separately from the Land Use Element; however, the portions of these documents that address land use goals, policies, and plans are nonetheless considered part of the Land Use Element and are incorporated by reference.

Appendix A to this Notice of Preparation provides a discussion of the residential dwelling units and square feet of non-residential uses that would be anticipated with implementation of the updated General Plan. Appendix B provides a copy of the revised citywide Land Use Designations Map and updated land use maps for the Media District Specific Plan, the Rancho Master Plan, and the Burbank Center Plan. Appendix C provides a map and table of proposed land use designation changes introduced within the General Plan update.

Mobility Element. Burbank’s Mobility Element (commonly known as circulation or transportation elements in other jurisdictions) provides a framework for the ongoing development of an efficient transportation system that meets the City’s mobility goals. The Mobility Element outlines a transportation system needed to support the planned local growth outlined in the Land Use Element of the General Plan and the regional growth identified in County and region-wide plans. Street classifications identified in the Mobility Element are provided as Appendix D to this Notice of Preparation.

The Mobility Element addresses the continued need to manage and plan for new transportation systems that are constructed in a context-sensitive manner that preserve the City’s vision and objectives. In particular, the Mobility Element outlines policies and recommendations to expand a core transportation system that supports all necessary forms of transportation. These alternative modes, including bicycle, pedestrian, and transit modes, have traditionally been underserved by prior transportation policy documents and programs. The Mobility Element seeks to achieve balance in the transportation system by making biking, walking, and transit just as viable as traditional automobile transportation. The Mobility Element allows the community to evaluate the community’s transportation needs in light of the City’s Vision and Core Values so that the efficient movement of people and goods can be achieved while minimizing effects on the community.

Noise Element. The Noise Element identifies goals, objectives, and policies addressing major noise sources, existing and future noise levels, and the location and noise exposure of existing and proposed sensitive receptors. The Noise Element describes implementation of noise reduction methods and measures that employ current and innovative practices.

Parks, Recreation and Open Space Element. The Parks, Recreation and Open Space Element identifies goals, objectives, and policies that encourage resource protection, preservation of natural and human resources, health, welfare and public well being, and public safety. The Element also addresses provision of parks and recreation opportunities in the city.

The proposed project also includes preparation and adoption of the following optional General Plan element and related implementation plan:

Air Quality Element. The Air Quality Element, as an optional element of the General Plan, integrates relationships between land use, transportation and mobility, public health and safety, and energy issues. The Air Quality Element will additionally focus on climate change and greenhouse gas (GHG) emissions.

Climate Action Plan. A stand-alone Climate Action Plan will be prepared to establish a community-wide GHG reduction target and present implementation measures necessary to achieve the target.

The proposed project does not include updates to the City's Safety Element, Community Facilities Element, or Housing Element.

Implementation of the General Plan Update

The General Plan update will be implemented through the City's Zoning Ordinance and other City laws, policies, and programs. In some cases, the policies contained General Plan update will stand alone and can be used to guide decisions about land use and mobility issues and projects. In other cases, the policies require further implementation actions.

Potential Environmental Effects of the Project

The Draft Program EIR will evaluate the General Plan update's potential direct, indirect, and cumulative environmental impacts on the following issues.

Aesthetics. The EIR will analyze visual changes that could occur as a result of the land use changes in the General Plan update.

Agricultural Resources. The EIR will describe any existing agricultural resources located within the planning area and analyze potential impacts from land use changes in the General Plan update on the agricultural resources in the planning area.

Air Quality and Climate Change. The EIR will analyze air quality impacts in accordance with South Coast Air Quality Management District-recommended methodologies and significance criteria for the General Plan. As required by the CEQA Guidelines, as amended December 31, 2009, the EIR analysis will include a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from implementation of the General Plan. The EIR will evaluate whether the estimated GHG emissions generated by the proposed project constitute a substantial contribution to the significant adverse cumulative impact of climate change. Later project-specific environmental documents may tier from and/or incorporate by reference this programmatic review.

Biological Resources. The EIR will disclose and analyze all potentially significant direct, indirect, and cumulative impacts on biological resources potentially resulting from implementation of the proposed General Plan update.

Cultural Resources. The EIR will discuss potential cultural resource impacts on known cultural resources including traditional cultural properties, cultural landscapes, architectural properties, and early Native American and historic-era sites, features, and artifacts known to exist in the planning area.

Geology and Soils. The EIR will describe citywide geologic conditions and hazards, and how they may potentially affect build out of the General Plan.

Hazards and Hazardous Materials. The EIR will describe known hazardous waste sites and potential generators of hazardous materials, and how they may potentially affect build out of the General Plan.

Hydrology/Water Quality. The EIR will evaluate the General Plan's impact on the existing drainage and water quality conditions of the planning area.

Land Use and Planning. The EIR will analyze land use changes that would occur within the General Plan update and identify potential conflicts between existing and proposed uses.

Mineral Resources. The EIR will evaluate the General Plan's impact on any designated mineral resource zones or active mineral resource areas that may located within the planning area.

Noise. The EIR will indentify sensitive receptors and evaluate their relative exposure to short-term noise impacts. The compatibility of the proposed sensitive land uses in terms of both exterior and interior noise levels for both existing and future conditions will be addressed in the EIR.

Population and Housing. The EIR will analyze the housing, population, and employment growth opportunities created by the General Plan and compare them to local and regional projections.

Public Services and Facilities. The EIR will compare existing demand for police, fire, schools, parks, and other public facilities at baseline to proposed demand under build out of the General Plan.

Recreation. The EIR will provide an assessment of the existing parks per 1,000 ratio and compare this to established local, state and national standards, while considering the build out of the General Plan update.

Transportation/Traffic. The EIR will document changes to traffic operating conditions due to the General Plan update and evaluate any potential impacts. The EIR will require necessary mitigation measures for identified direct and cumulative traffic impacts associated with the General Plan update.

Utilities. The EIR will compare existing demands for water, wastewater, energy, and landfill capacity to anticipated needs at build out of the General Plan.

APPENDIX A

General Plan Capacity:
Public Review Draft Land Use Element (October 2008)

APPENDIX A | GENERAL PLAN CAPACITY

RESIDENTIAL UNIT CAPACITY AND POPULATION

The Land Use Element does not directly specify a maximum population for Burbank. The maximum possible number of residential units is determined by the different maximum densities allowed for each land use designation and the amount of land area with that designation. However, it is highly unlikely that this maximum number of units would ever be reached, since it would assume that every residential parcel in Burbank is developed to its maximum potential. Forecasting assumptions are used to determine the realistic expected number of residential units that Burbank will have when all of the parcels that are reasonably expected to redevelop have already redeveloped.

As part of the Housing Element update, planners examined all of the multifamily residential parcels in Burbank to determine which ones were likely to recycle to higher densities and which parcels were likely to be assembled with other parcels to achieve maximum densities. The following table shows the expected number of dwelling units, households, and residents that would result from the expected build out of the General Plan, based on the land use designations and policies in this Land Use Element and the 2008 Housing Element. A full discussion of the assumptions that were used to calculate the estimated additional dwelling units is included in the Housing Element.[2] Although the numbers in the table appear to be exact, all of the numbers shown are estimates and should not be considered precise numbers.

Table A.1 | Residential Unit Capacity and Population

Land Use Designation	Estimated Existing Dwelling Units	Additional Expected Dwelling Units	Total Estimated Dwelling Units	Estimated Vacancy Rate*	Number of Households	Estimated Persons Per Household*	Population
Low Density Residential (single family)	17,547	51**	17,598	2.89%	17,089	2.506	42,826
Medium and High Density Residential (multifamily) and Duplex Residential (R-2 zone in Low Density designation)	23,464	2,070	25,534	2.89%	24,796	2.506	62,139
Commercial and Other Non-Residential	4,361	1,470	5,831	2.89%	5,662	2.506	14,190
Total	**45,372**	**3,591**	**48,963**		**47,548**		**119,155**

*California Department of Finance 2008 estimates

**51 additional units in Low Density Residential designation are second dwelling units

[2] In the Housing Element, Very Low Density Residential is used to describe the single family residential designation which is reflected in the R-1 zone. Low Density Residential is used to describe the duplex/small lot residential designation, which is reflected in the R-2 zone. In the Land Use Element and in the table above, these two land use designations from the Housing Element have been consolidated into a single Low Density Residential Land Use Designation that includes both the R-1 and R-2 zones.

MEASURE ONE CONSISTENCY

On February 28, 1989, Burbank voters approved Measure One, a residential growth management measure. Among other requirements, Measure One prohibits the City from increasing maximum allowed number of residential units in Burbank beyond that approved under the 1988 Land Use Element. As originally adopted, Measure One would have expired on January 1, 2000. However, it was extended by the City Council for ten years, and is now in effect until January 1, 2010.

The maximum residential unit capacity provided under the 1988 Land Use Element is 63,704 units, assuming maximum build out of all parcels. The effective build out provides a more realistic build out expectation, was estimated to be 55,707 units. The following table shows the maximum and expected number of residential units provided under this Land Use Element. Both the maximum possible build out and estimated actual build out numbers are well below the limits established under Measure One.

Table A.2 | Residential Unit Capacity and Measure One Consistency

<table>
<tr><th>Land Use Designation</th><th>Acres</th><th>Maximum Density (dwelling units per acre)</th><th>Maximum Build Out</th><th>Estimated Build Out</th></tr>
<tr><td>Low Density Residential</td><td>3,170</td><td>7</td><td>22,190</td><td>17,598</td></tr>
<tr><td>Medium Density Residential</td><td>426</td><td>27</td><td>11,502</td><td rowspan="2">25,534</td></tr>
<tr><td>High Density Residential</td><td>370</td><td>43</td><td>15,910</td></tr>
<tr><td>Various Commercial</td><td>673</td><td>27-58</td><td>8,682*</td><td>5,831</td></tr>
<tr><td>Total</td><td></td><td></td><td>58,284</td><td>48,963</td></tr>
</table>

*Assumes that 30% of all commercial land area citywide would develop at an average density of 43 units per acre

NON-RESIDENTIAL CAPACITY AND EMPLOYMENT

The maximum amount of non-residential development that could be achieved under the Land Use Element is determined by multiplying the OE-FAR by the land area within each OE-FAR area. However, as with residential units, it is highly unlikely that this maximum amount of development would ever be reached because it assumes that every non-residential parcel in Burbank would be recycled and developed to its maximum potential under the assigned FAR. Development forecast assumptions are used to determine the realistic expected amount of additional development based upon projects that have already been approved but not yet constructed and additional projects on properties that are reasonably expected to redevelop within the time frame covered by the Land Use Element.

As discussed in Chapter 3, the OE-FAR values apply only to office development. To determine the equivalent square footage for land uses other than office, a conversion factor must be used. Table A.3 lists conversion factors for several common uses. *(The conversion factors shown in Table A.3 are included in this Public Review Draft as estimates to provide owners of non-residential properties with an understanding of how the OE-FAR system will affect the future development of their properties. These numbers will be revised prior to adoption of the Land Use Element to better reflect actual traffic conditions in Burbank and in different areas of the City.)*

The maximum amount of development allowed on a single property is calculated as follows:

property size x OE-FAR (see Chapter 3) x conversion factor = maximum square footage

Example: Retail development on 10,000 square foot parcel:

10,000 square feet of land x 1.0 OE-FAR x 0.70 retail conversion factor =
7,000 square feet maximum of retail development

Table A.3 | OE-FAR Conversion Factors / FARs for Other Uses

Land Use	Conversion Factor (FAR equivalent at 1.0 FAR)
Office (OE baseline)	1.00
Retail	0.70
Medical office	0.49
Low turnover restaurant (sit down full service)	0.65
High turnover restaurant (self service)	0.23
Light industrial	1.60

Table A.4 | Non-Residential Development Capacity

OE-FAR Area	Acres with commercial or industrial land use designation	Estimated Existing OE Development*	OE-FAR	Maximum OE Build Out*	Estimated OE Build Out by 2035*
City Center	100	4,104,000	2.0	8,716,000	5,486,000
City Center West	127	1,735,000	1.0	5,532,000	2,104,000
Olive Gateway	50	1,233,000	1.5	3,247,000	1,750,000
South San Fernando	107	1,174,000	1.0	4,645,000	2,965,000
Media District	106	4,877,000	1.1	5,069,000	5,415,000
Golden State	280	3,028,000	0.75	9,142,000	3,540,000
Empire	79	1,538,000	1.0	3,435,000	2,441,000
Rancho	62	1,104,000	0.45	1,218,000	1,104,000
Other Areas	341	7,057,000	1.0	14,850,000	7,359,000
Special Generators (certain major project s)	318	5,340,000	Determined through planning entitlement process	10,913,000 (based on current entitlements)	10,913,000
Total**	1,568	31,190,000		66,768,000	43,075,000***

* Rounded to nearest 1,000 square feet
**Math discrepancies due to rounding
*** Estimated equivalent of non-OE building square footage is 51,968,000 square feet

This page intentionally left blank

APPENDIX B

Land Use Designation Maps:
Public Review Draft Land Use Element (October 2008)

FIGURE 3.2 | Land Use Designations

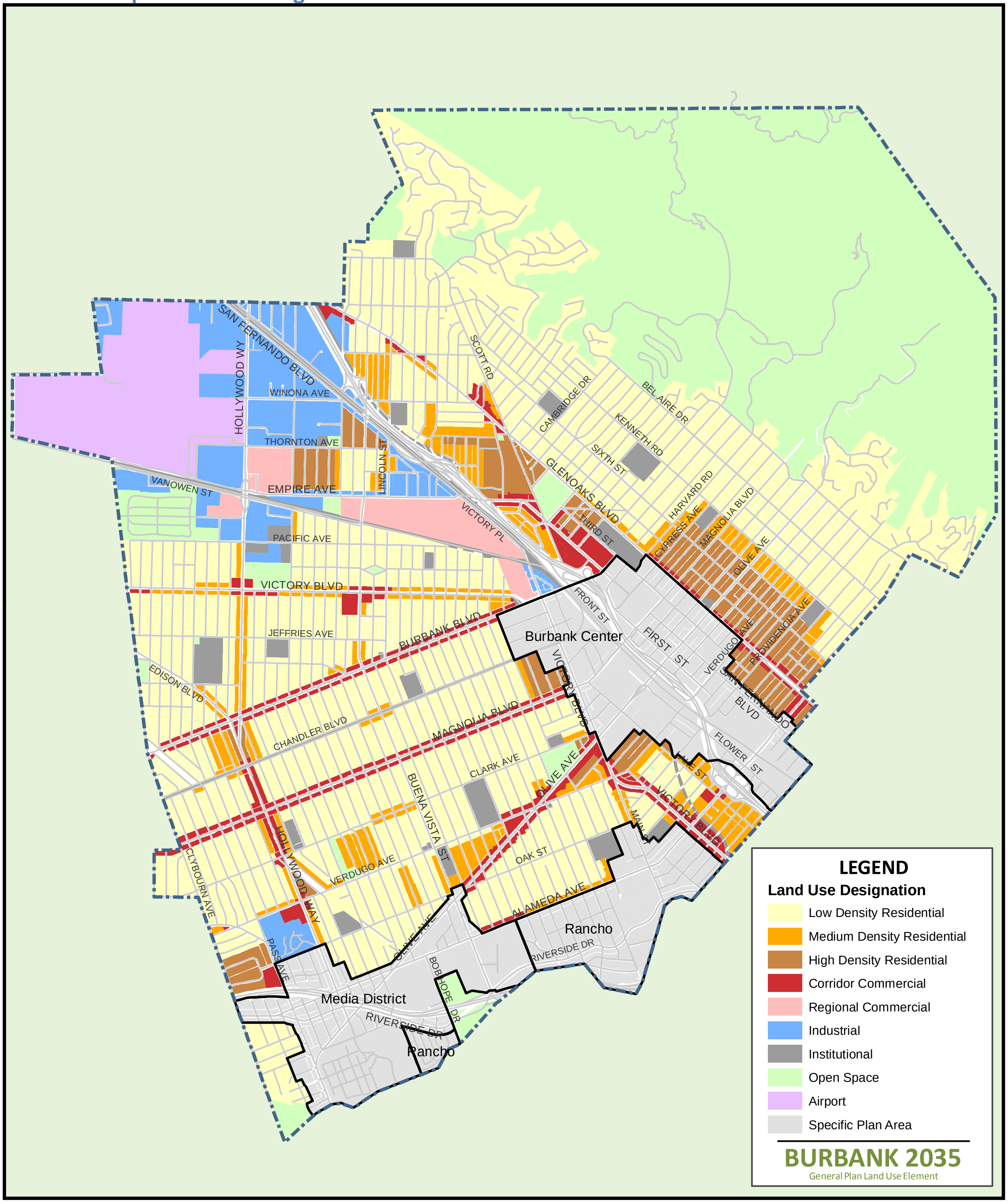


FIGURE MD.1 | Media District Land Use Designations

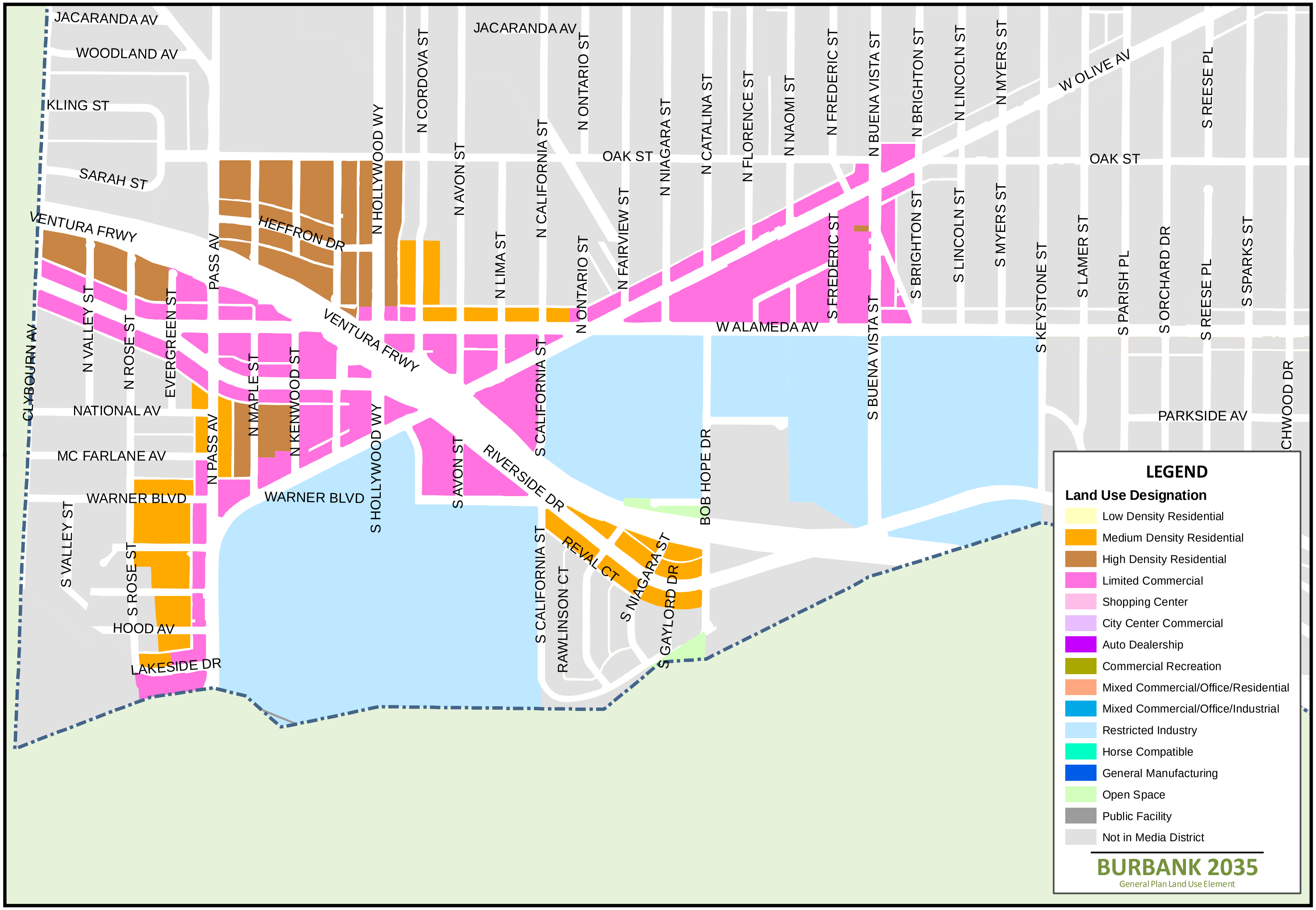


FIGURE R.2 | Rancho Area Land Use Designations

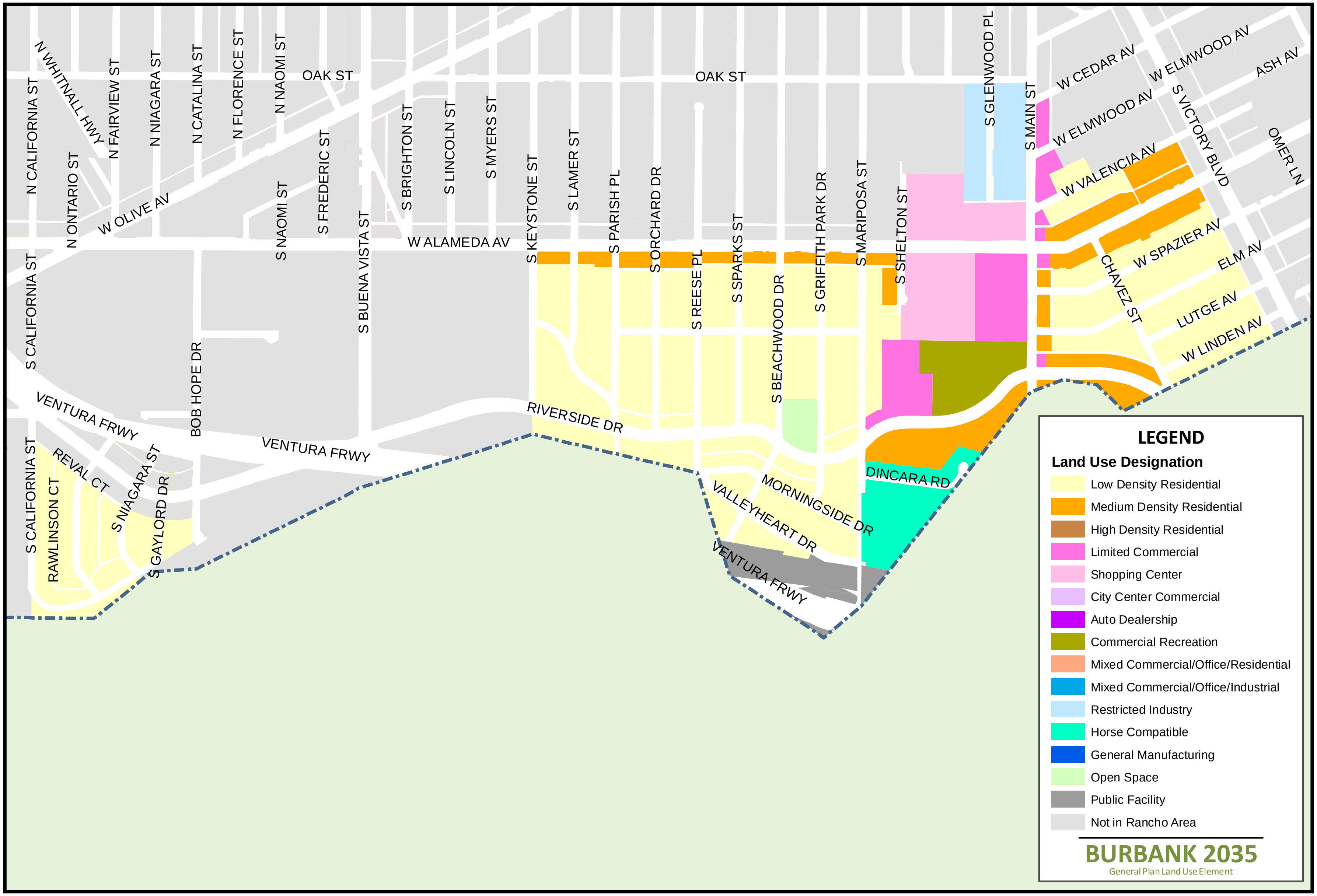
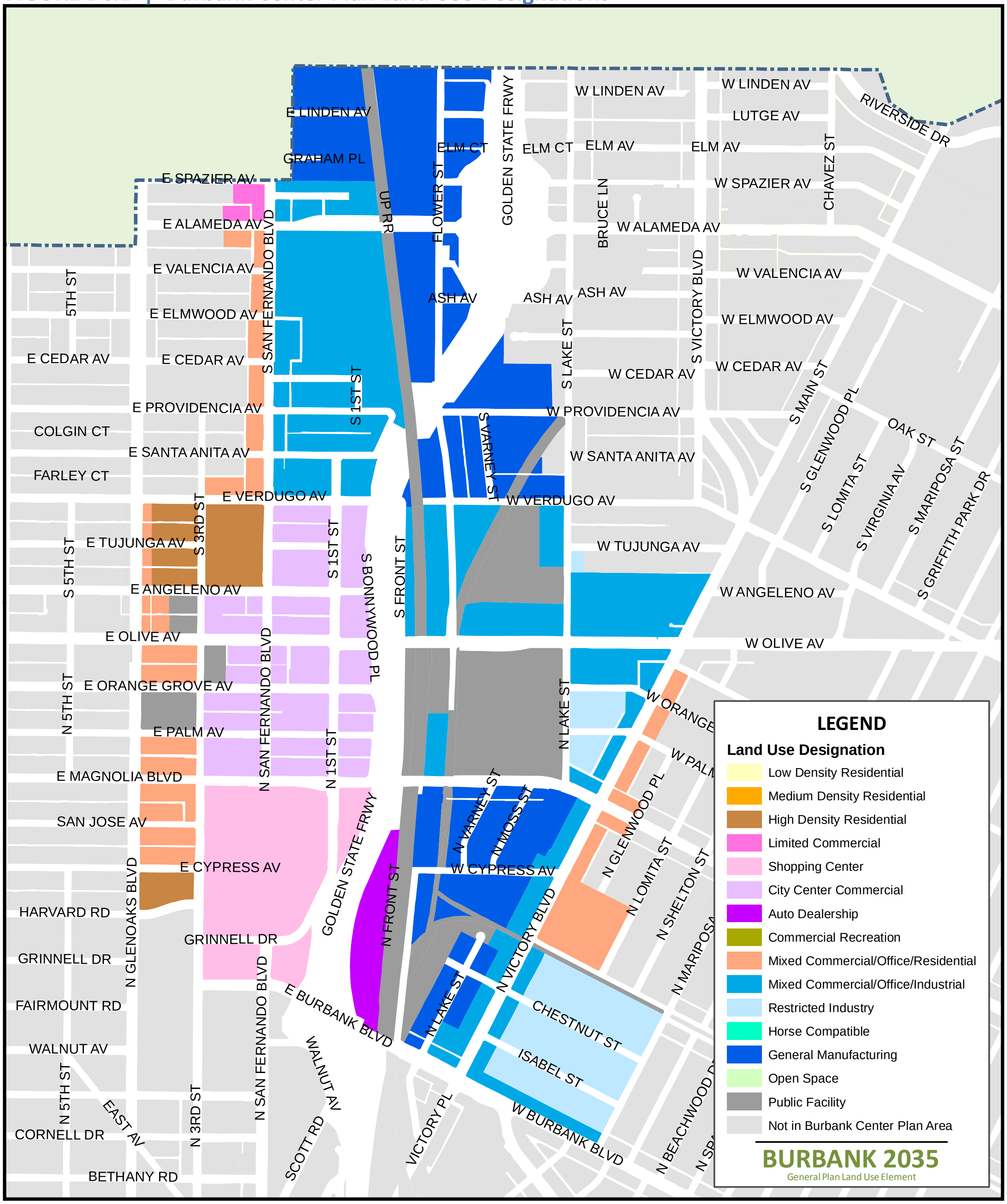
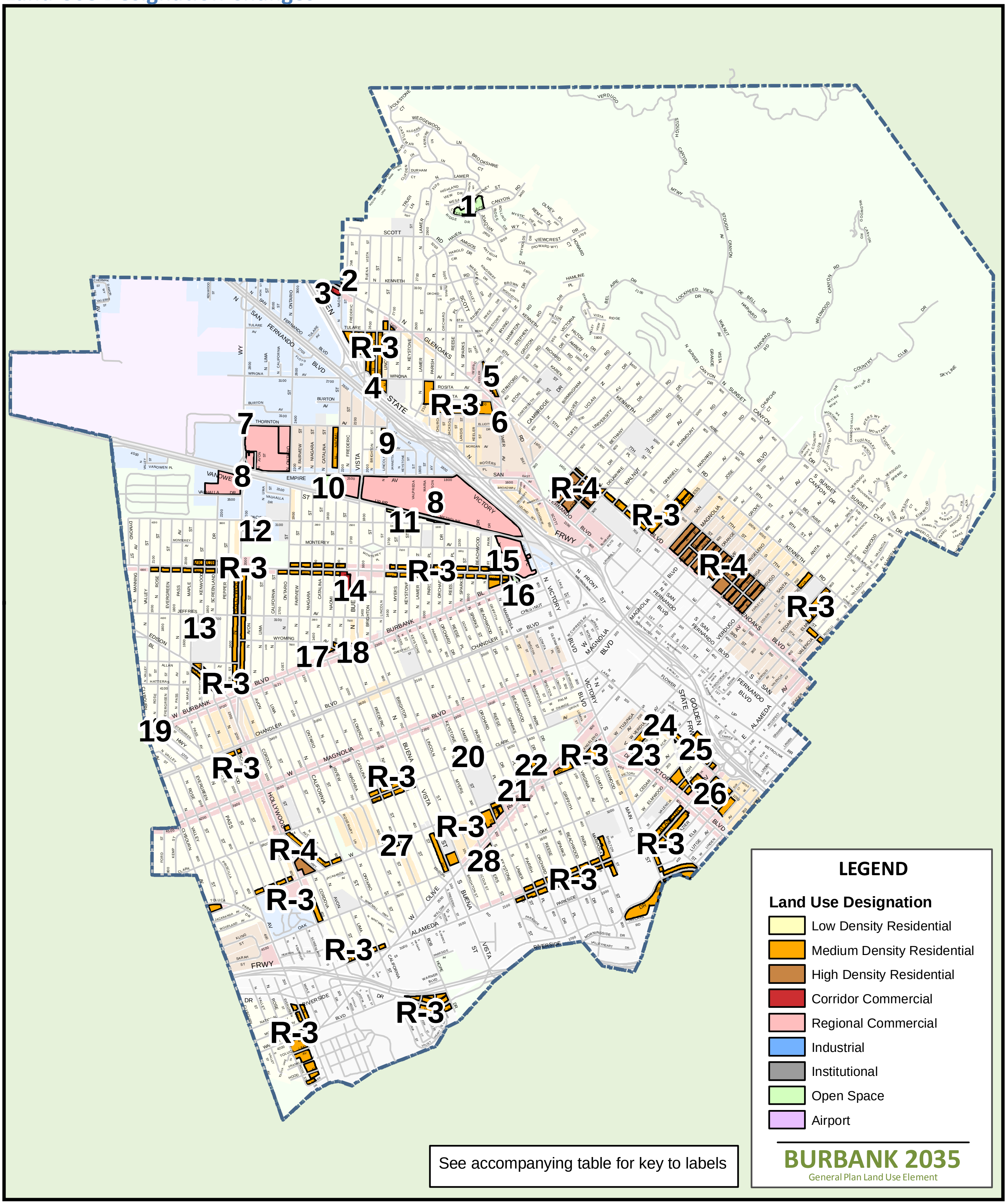


FIGURE BC.1 | Burbank Center Plan Land Use Designations



APPENDIX C

Map and List of Proposed Changes to Land Use Maps:
Public Review Draft Land Use Element (October 2008)


LEGEND
Land Use Designation
Low Density Residential
Medium Density Residential
High Density Residential
Corridor Commercial
Regional Commercial
Industrial
Institutional
Open Space
Airport
See accompanying table for key to labels
BURBANK 2035
General Plan Land Use Element

List of Proposed Land Use Designation Changes

Label	Location	Current Land Use Designation	Current Zoning	Proposed Land Use Designation	Comments
1	Brace Canyon Park (Brace Canyon at Crest Ridge)	Single Family Low Density	OS Open Space	Open Space	proposed designation reflects existing park use and zoning and preserves land as public open space
2	Woodbury University (Glenoaks at Naomi)	Single Family Low Density	R-1 Single Family Residential	Institutional	proposed designation reflects existing university use and preserves land for institutional use
3	Glenoaks at Naomi	General Manufacturing	M-2 General Industrial	Corridor Commercial	proposed designation reflects existing restaurant and office uses and preserves Glenoaks frontage for commercial rather than industrial use
4	Winona at Lincoln	Multiple Family Medium Density	R-3 Medium Density Residential	Open Space	property owned by Burbank Redevelopment Agency, currently vacant; proposed designation preserves property as open space
5	Scott between Glenoaks and Irving	Limited Commercial	R-1, R-2, R-4	Medium Density Residential	proposed designation reflects existing residential development and prevents future conversion to commercial use
6	Earthwalk Park (Peyton at Grismer)	Multiple Family Medium Density	R-4 High Density Residential	Open Space	proposed designation relfects existing park use and preserves land as public open space
7	Hollywood Way at Thornton	Limited Commercial	C-3 Commercial General Business	Industrial	abutting properties are designated Industrial and zoned M-2; existing development is rental car business and parking garage; not an appropriate site for additional commercial development
8	Vanowen at Hollywood Way; area bounded by Empire, Hollywood Way, Thornton, Ontario; Empire at Buena Vista; Empire Center	Limited Commercial, General Manufacturing	C-3, M-2, Planned Development	Regional Commercial	proposed designation reflects existing development as regional commercial centers (Empire Center, Media Studios North, Airport Marriott Hotel and Convention Center, Fry's Electronics) and identifies these locations as appropriate for regional oriented development
9	Lincoln at Kenmere	Restricted Industry	R-4 High Density Residential	Medium Density Residential	proposed designation relfects existing multifamily development and zoning; proposed as Medium rather than High Density to be consistent with designation across the street
10	Robert Gross Park (Empire at Naomi)	General Manufacturing	M-2 General Industrial	Open Space	proposed designation reflects existing park use and preserves land as public open space
11	Pacific between Lincoln and Orchard	Restricted Industry	Planned Development	Low Density Residential	existing use is an RV storage yard that abuts single family homes; proposed designation ensures that land remains consistent with residential use and does not transition to an industrial use
12	Hollywood Way at Pacific	Restricted Industry	M-1 Limited Industrial	Institutional	proposed designation relfects existing post office use and preserves land for institutional purposes
13	Maple Street Playground (Maple at Jeffries)	Public Facilities	R-1 Single Family Residential	Open Space	proposed designation reflects existing park use and preserves land as public open space
14	Victory at Buena Vista	Multiple Family Medium Density	C-3, R-4, R-1	Corridor Commercial	proposed designation reflects existing shopping center use and long-term intent for property to remain as commercial use
15	Mariposa at Victory	Multiple Family Low Density	R-1, R-3	Low Density Residential	proposed designation better reflects existing zoning and development and prevents further encroachment of multifamily development into single family neighborhood
16	Burbank at Victory	Limited Commercial	C-3 Commercial General Business	Open Space	proposed designation relfects long-term intent for property as public open space with public art features
17	Catalina at Burbank	Multiple Family Low Density	R-1 Single Family Residential	Low Density Residential	proposed designation relfects existing R-1 zoning and development with single family homes
18	Wyoming at Burbank	Single Family Low Density, Limited Commercial	R-4, C-2	Medium Density Residential	proposed designation better reflects existing zoning and development (parking lot and multifamily residential) while preventing further commercial encroachment into residential neighborhood

Label	Location	Current Land Use Designation	Current Zoning	Proposed Land Use Designation	Comments
19	Whitnall at Burbank	Limited Commercial	R-4 High Density Residential	Medium Density Residential	proposed designation relfects existing multifamily development and zoning; proposed as Medium rather than High Density due to proximity to single family neighborhood
20	Clark at Parish	Multiple Family Medium Density	R-1, R-4	Low Density Residential	existing use is a school parking lot; proposed designation ensures that if the property is ever recycled, it will be developed with single family homes consistent with surrounding neighborhood rather than multifamily development
21	Reese at Verdugo	Limited Commercial	R-1 Single Family Residential	Low Density Residential	existing use is a parking lot; proposed designation reflects existing zoning and helps prevent further encroachment of commercial development into residential neighborhood
22	Beachwood at Olive	Limited Commercial	R-4 High Density Residential	Medium Density Residential	proposed designation reflects existing multifamily development and zoning; proposed as Medium rather than High Density due to proximity to single family neighborhood
23	Santa Anita Playlot (Verdugo between Victory and Lake)	Single Family Low Density	OS Open Space	Open Space	proposed designation reflects existing park use and zoning and preserves land as public open space
24	Compass Tree Park (Lake at Providencia)	Single Family Low Density	R-1 Single Family Residential	Open Space	proposed designation reflects existing park use and preserves land as public open space
25	Elmwood at Lake	General Manufacturing	R-4 High Density Residential	Medium Density Residential	proposed designation reflects existing multifamily development and zoning; proposed as Medium rather than High Density due to proximity to single family neighborhood
26	area bounded by Alameda, Lake, Lutge, L.A. River	Multiple Family Medium Density	R-4 High Density Residential	Medium Density Residential	designation changed from High to Medium density per City Council direction
27	Verdugo at Florence	Multiple Family Low Density	R-1 Single Family Residential	Low Density Residential	proposed designation relfects existing single family residential development and zoning
28	Oak at Myers	Multiple Family Medium Density	R-4, C-2	Low Density Residential	existing use is a church school and parking lot; proposed designation ensures that any future development will be consistent with the character and intent of the surrounding R-1 neighborhood
R-3	Various locations Citywide	Multiple Family Medium Density	various residential	Medium Density Residential	designation changed from High to Medium density due to proximity to single family neighborhood
R-4	Various locations Citywide	Multiple Family High Density	various residential	High Density Residential	designation changed per City Council direction to eliminate highest density designation

* Residential designations are named differently in the current Land Use Element than in the proposed element per City Council direction. The table below compares the current and proposed names with their zoning equivalent to allow for comparisons in the the above list of changes.

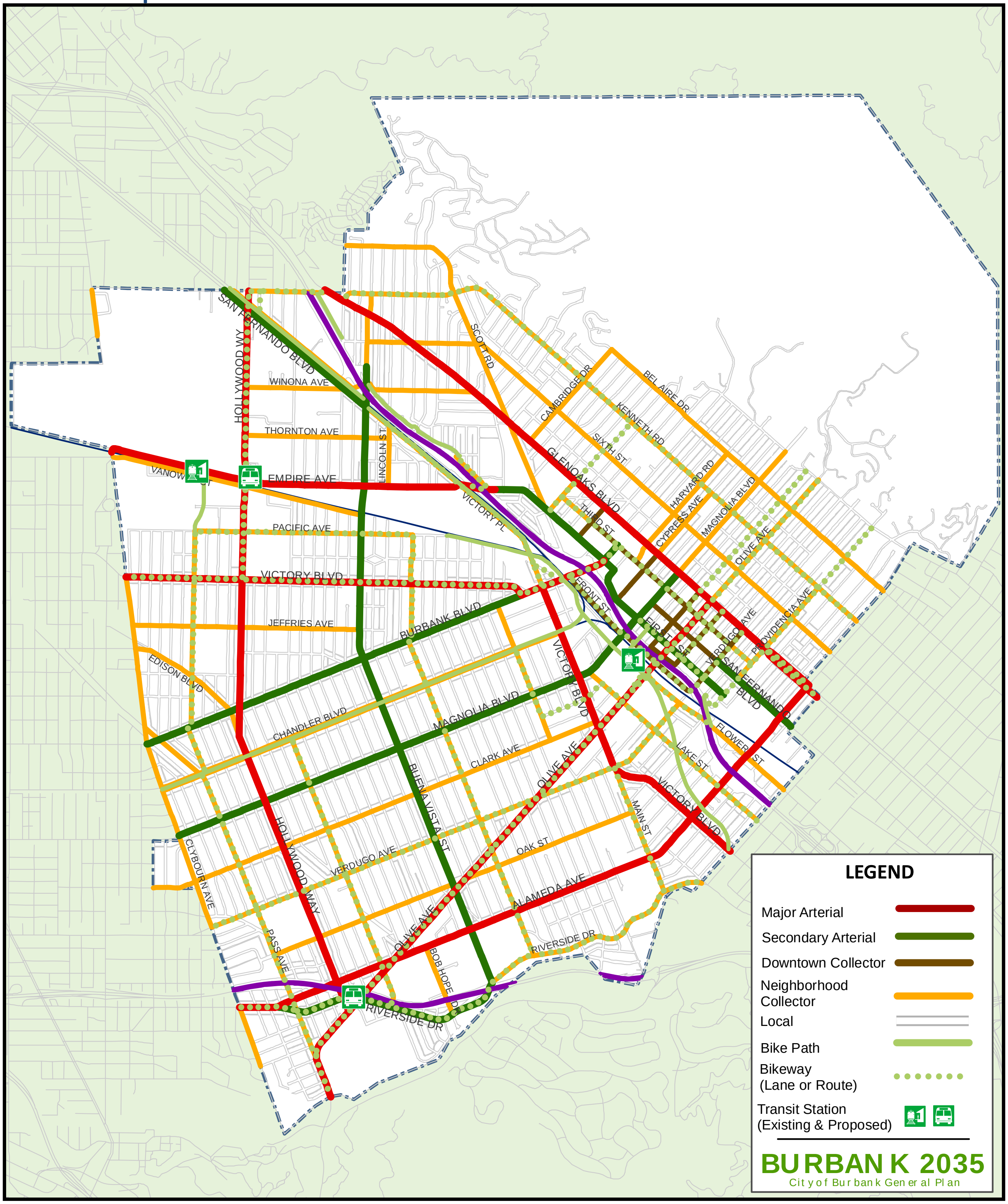
Current Land Use Designation	Zone Equivalent	Proposed Land Use Designation
Single Family Low Density	R-1, R-2	Low Density Residential
Multiple Family Low Density	R-3	Medium Density Residential
Multiple Family Medium Density	R-4	High Density Residential
Multiple Family High Density	R-5	None

The proposed Land Use Element does not include any land use designation changes in the areas covered by the Media District Specific Plan, Rancho Master Plan, or Burbank Center Plan except for changes in multifamily density due to proximity to single family neighborhoods (included under R-3 and R-4 in the list of changes).

APPENDIX D

Street Classifications:
Public Review Draft Mobility Element (October 2008)

FIGURE 4.1 | Street Classifications



Note: Final location of bike facilities may change pending adoption of the Bicycle Master Plan

EIR APPENDIX C

NOP Comment Letters

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

February 1, 2010

To: Reviewing Agencies

Re: Burbank 2035 General Plan Update
SCH# 2010021004

Attached for your review and comment is the Notice of Preparation (NOP) for the Burbank 2035 General Plan Update draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Tracy Steinkruger
City of Burbank
150 North Third Street
Burbank, CA 91502

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Acting Director

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH#	**2010021004**
Project Title	Burbank 2035 General Plan Update
Lead Agency	Burbank, City of

Type **NOP** Notice of Preparation

Description The City of Burbank has initiated a comprehensive program to update the City's General Plan. State law requires each city to adopt a comprehensive, long-term general plan for its physical development. The General Plan update addresses land use; mobility; parks, recreation and open space; air quality/climate change; and noise; as well as other issues that are important to the community.

Lead Agency Contact

Name	Tracy Steinkruger		
Agency	City of Burbank		
Phone	(818) 238-5250	***Fax***	
email			
Address	150 North Third Street		
City	Burbank	***State*** CA	***Zip*** 91502

Project Location

County	Los Angeles					
City	Burbank					
Region						
Cross Streets						
Lat / Long						
Parcel No.						
Township		***Range***		***Section***		***Base***

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 5; Native American Heritage Commission; California Highway Patrol; Department of Housing and Community Development; Caltrans, District 7; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

Date Received 01/29/2010 ***Start of Review*** 02/01/2010 ***End of Review*** 03/02/2010

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List County: Los Angeles. SCH#

esources Agency

- [x] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Mike Sotelo
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [ ] **Dept. of Conservation**
  Rebecca Salazar
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Cal Fire**
  Allen Robertson
- [x] **Office of Historic Preservation**
  Wayne Donaldson
- [x] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [x] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou
- [ ] ______________
  Conservancy

sh and Game

- [ ] **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Game Region 1**
  Donald Koch
- [ ] **Fish & Game Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Game Region 2**
  Jeff Drongesen
- [ ] **Fish & Game Region 3**
  Charles Armor
- [ ] **Fish & Game Region 4**
  Julie Vance
- [x] **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- [ ] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Brad Henderson
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [ ] **Dept. of Public Health**
  Bridgette Binning
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Linda Flack
- [ ] **Office of Emergency Services**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Leo Wong
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Marina Brand
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [x] **California Highway Patrol**
  Scott Loetscher
  Office of Special Projects
- [x] **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Bruce de Terra
- [ ] **Caltrans, District 4**
  Lisa Carboni
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Michael Navarro
- [x] **Caltrans, District 7**
  Elmer Alvarez
- [ ] **Caltrans, District 8**
  Dan Kopulsky
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Chris Herre

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
  - [ ] Transportation Projects
    Douglas Ito
  - [ ] Industrial Projects
    Mike Tollstrup
- [ ] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- [x] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [x] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)
- [ ] **Other** ______________

Last Updated on 01/04/2010

ARNOLD SCHWARZENEGGER
GOVERNOR

Cal E·M·A
CALIFORNIA EMERGENCY MANAGEMENT AGENCY

MATTHEW R. BETTENHAUSEN
SECRETARY

February 9, 2010

Tracy Steinkruger
City of Burbank
150 North Third Street
Burbank, CA 91502

RE: Notice of Preparation for a Draft Environmental Impact Report for the City of Burbank's General Plan Update, SCH# 2010021004

Dear Ms. Steinkruger:

Thank you for the opportunity to comment on your Notice of Preparation for a Draft Environmental Impact Report (DEIR) for the city's general plan update. In preparing the general plan and accompanying DEIR, the city should examine the sections of state planning law that involve potential hazards the city may face. For your information, I have underlined specific sections of state planning law where identification and analysis of hazards are discussed (see Attachment A).

Prior to the release of the draft general plan or within the DEIR, city staff or your consultants should examine each of the requirements in state planning law and determine if there are hazard issues within the community which the general plan should address. A table in the DEIR (or general plan) which identifies these specific issues and where they are addressed in the general plan would be helpful in demonstrating the city has complied with these requirements. If the DEIR determines that state planning law requirements have not been met, it should recommend that these issues be addressed in the general plan as a mitigation measure.

We note that state planning law includes a requirement for consultations with state agencies in regard to information related to hazards. Cal EMA would be happy to share all available information at our disposal to facilitate the city's ability to comply with state planning and environmental laws.

If you have any questions about these comments, please contact Andrew Rush at (916) 845-8269 or andrew.rush@OES.ca.gov.

Sincerely,

Dennis Castrillo

Dennis Castrillo
Environmental Officer

cc: State Clearinghouse

3650 SCHRIEVER AVENUE • MATHER, CA 95655
RECOVERY BRANCH
(916) 845-8200 [OFFICE] • (916) 845-8385 [FAX]

Attachment A
Hazards and State Planning Law Requirements

General Plan Consistency

65300.5. In construing 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.

Seven Mandated Elements

65302. <u>The general plan shall consist of a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals.</u> The plan shall include the following elements:

(a) A land use element that designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The location and designation of the extent of the uses of the land for public and private uses shall consider the identification of land and natural resources pursuant to paragraph (3) of subdivision (d). The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. <u>The land use element shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources.</u> The land use element shall also do both of the following:

(1) Designate in a land use category that provides for timber production those parcels of real property zoned for timberland production pursuant to the California Timberland Productivity Act of 1982, Chapter 6.7 (commencing with Section 51100) of Part 1 of Division 1 of Title 5.

(2) Consider the impact of new growth on military readiness activities carried out on military bases, installations, and operating and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land, or other territory adjacent to military facilities, or underlying designated military aviation routes and airspace.

(A) In determining the impact of new growth on military readiness activities, information provided by military facilities shall be considered. Cities and counties shall address military impacts based on information from the military and other sources.

(B) The following definitions govern this paragraph:

(i) "Military readiness activities" mean all of the following:

(I) Training, support, and operations that prepare the men and women of the military for combat.

(II) Operation, maintenance, and security of any military installation.

(III) Testing of military equipment, vehicles, weapons, and sensors for proper operation or suitability for combat use.

(ii) "Military installation" means a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the United States Department of Defense as defined in paragraph (1) of subsection (e) of Section 2687 of Title 10 of the United States Code.

(b) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.

(c) A housing element as provided in Article 10.6 (commencing with Section 65580).

(d) (1) A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element shall consider the effect of development within the jurisdiction, as described in the land use element, on natural resources located on public lands, including military installations. That portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies, including flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or county.

(2) The conservation element may also cover all of the following:

(A) The reclamation of land and waters.

(B) Prevention and control of the pollution of streams and other waters.

(C) Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.

(D) Prevention, control, and correction of the erosion of soils, beaches, and shores.

(E) Protection of watersheds.

(F) The location, quantity and quality of the rock, sand and gravel resources.

(3) Upon the next revision of the housing element on or after January 1, 2009, the conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

(e) An open-space element as provided in Article 10.5 (commencing with Section 65560).

(f) (1) A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Care Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

(A) Highways and freeways.

(B) Primary arterials and major local streets.

(C) Passenger and freight on-line railroad operations and ground rapid transit systems.

(D) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

(E) Local industrial plants, including, but not limited to, railroad classification yards.

(F) Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

(2) Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.

(3) The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

(4) The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

(g) (1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

(2) The safety element, upon the next revision of the housing element on or after January 1, 2009, shall also do the following:

(A) Identify information regarding flood hazards, including, but not limited to, the following:

(i) Flood hazard zones. As used in this subdivision, "flood hazard zone" means an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency. The identification of a flood hazard zone does not imply that areas outside the flood hazard zones or uses permitted within flood hazard zones will be free from flooding or flood damage.

(ii) National Flood Insurance Program maps published by FEMA.

(iii) Information about flood hazards that is available from the United States Army Corps of Engineers.

(iv) Designated floodway maps that are available from the Central Valley Flood Protection Board.

(v) Dam failure inundation maps prepared pursuant to Section 8589.5 that are available from the Office of Emergency Services.

(vi) Awareness Floodplain Mapping Program maps and 200-year flood plain maps that are or may be available from, or accepted by, the Department of Water Resources.

(vii) Maps of levee protection zones.

(viii) Areas subject to inundation in the event of the failure of project or nonproject levees or floodwalls.

(ix) Historical data on flooding, including locally prepared maps of areas that are subject to flooding, areas that are vulnerable to flooding after wildfires, and sites that have been repeatedly damaged by flooding.

(x) Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities.

(xi) Local, state, and federal agencies with responsibility for flood protection, including special districts and local offices of emergency services.

(B) Establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including, but not limited to:

(i) Avoiding or minimizing the risks of flooding to new development.
(ii) Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones.
(iii) Maintaining the structural and operational integrity of essential public facilities during flooding.
(iv) Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities or identifying construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.
(v) Establishing cooperative working relationships among public agencies with responsibility for flood protection.
(C) Establish a set of feasible implementation measures designed to carry out the goals, policies, and objectives established pursuant to subparagraph (B).
(3) After the initial revision of the safety element pursuant to paragraph (2), upon each revision of the housing element, the planning agency shall review and, if necessary, revise the safety element to identify new information that was not available during the previous revision of the safety element.
(4) Cities and counties that have flood plain management ordinances that have been approved by FEMA that substantially comply with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions or the flood plain ordinance, specifically showing how each requirement of this subdivision has been met.
(5) Prior to the periodic review of its general plan and prior to preparing or revising its safety element, each city and county shall consult the California Geological Survey of the Department of Conservation, the Central Valley Flood Protection Board, if the city or county is located within the boundaries of the Sacramento and San Joaquin Drainage District, as set forth in Section 8501 of the Water Code, and the Office of Emergency Services for the purpose of including information known by and available to the department, the office, and the board required by this subdivision.
(6) To the extent that a county's safety element is sufficiently detailed and contains appropriate policies and programs for adoption by a city, a city may adopt that portion of the county's safety element that pertains to the city's planning area in satisfaction of the requirement imposed by this subdivision.

Consistency with Airport Land Use Plans

65302.3. (a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.

Review of Safety Element

65302.5. (a) At least 45 days prior to adoption or amendment of the safety element, each county and city shall submit to the Division of Mines and Geology of the Department of Conservation one copy of a draft of the safety element or amendment and any technical studies used for developing the safety element. The division may review drafts submitted to it to determine whether they incorporate known seismic and other geologic hazard information, and report its findings to the planning agency within 30 days of receipt of the draft of the safety element or amendment pursuant to this subdivision. The legislative body shall consider the division's findings prior to final adoption of the safety element or amendment unless the division's findings are not available within the above prescribed time limits or unless the division has indicated to the city or county that the division will not review the safety element. If the division's findings are not available within those prescribed time limits, the legislative body may take the division's findings into consideration at the time it considers future amendments to the safety element. Each county and city shall provide the division with a copy of its adopted safety element or amendments. The division may review adopted safety elements or amendments and report its findings. All findings made by the division shall be advisory to the planning agency and legislative body.

(1) The draft element of or draft amendment to the safety element of a county or a city's general plan shall be submitted to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county at least 90 days prior to either of the following:

(A) The adoption or amendment to the safety element of its general plan for each county that contains state responsibility areas.

(B) The adoption or amendment to the safety element of its general plan for each city or county that contains a very high fire hazard severity zone as defined pursuant to subdivision (b) of Section 51177.

(2) A county that contains state responsibility areas and a city or county that contains a very high fire hazard severity zone as defined pursuant to subdivision (b) of Section 51177, shall submit for review the safety element of its general plan to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county in accordance with the following dates as specified, unless the local government submitted the element within five years prior to that date:

(A) Local governments within the regional jurisdiction of the San Diego Association of Governments: December 31, 2010.

(B) Local governments within the regional jurisdiction of the Southern California Association of Governments: December 31, 2011.

(C) Local governments within the regional jurisdiction of the Association of Bay Area Governments: December 31, 2012.

(D) Local governments within the regional jurisdiction of the Council of Fresno County Governments, the Kern County Council of Governments, and the Sacramento Area Council of Governments: June 30, 2013.

(E) Local governments within the regional jurisdiction of the Association of Monterey Bay Area Governments: December 31, 2014.

(F) All other local governments: December 31, 2015.

(3) The State Board of Forestry and Fire Protection shall, and a local agency may, review the draft or an existing safety element and report its written recommendations to the planning agency within 60 days of its receipt of the draft or existing safety element. The State Board of Forestry and Fire Protection and local agency shall review the draft or existing safety element and may

offer written recommendations for changes to the draft or existing safety element regarding both of the following:
(A) Uses of land and policies in state responsibility areas and very high fire hazard severity zones that will protect life, property, and natural resources from unreasonable risks associated with wildland fires.
(B) Methods and strategies for wildland fire risk reduction and prevention within state responsibility areas and very high hazard severity zones.
(b) Prior to the adoption of its draft element or draft amendment, the board of supervisors of the county or the city council of a city shall consider the recommendations made by the State Board of Forestry and Fire Protection and any local agency that provides fire protection to territory in the city or county. If the board of supervisors or city council determines not to accept all or some of the recommendations, if any, made by the State Board of Forestry and Fire Protection or local agency, the board of supervisors or city council shall communicate in writing to the State Board of Forestry and Fire Protection or to the local agency, its reasons for not accepting the recommendations.

Open Space Plans

65560. (a) "Local open-space plan" is the open-space element of a county or city general plan adopted by the board or council, either as the local open-space plan or as the interim local open-space plan adopted pursuant to Section 65563.
(b) "Open-space land" is any parcel or area of land or water that is essentially unimproved and devoted to an open-space use as defined in this section, and that is designated on a local, regional or state open-space plan as any of the following:
(1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands.
(2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
(3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
(4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

February 24, 2010

Tracy Steinkruger
City of Burbank
150 North Third St
Burbank, CA 91502

Dear Ms. Steinkruger:

The California Energy Commission has received the City of Burbank's Notice of Preparation titled Burbank 2035 General Plan Update, SCH 2010021004 that was submitted on 2/1/2010 for comments due by 3/1/2010. After careful review, the Energy Commission has found the following:

We would like to assist in reducing the energy usage involved in your project. Please refer to the enclosed Appendix F of the California Environmental Quality Act for how to achieve energy conservation.

In addition, the Energy Commission's *Energy Aware Planning Guide* is also available as a tool to assist in your land use planning. For further information on how to utilize this guide, please visit www.energy.ca.gov/energy_aware_guide/index.html.

Thank you for providing us the opportunity to review/comment on your project. We hope that our comments will be helpful in your environmental review process.

If you have any further questions, please call Gigi Tien at (916) 651-0566.

Sincerely,

Bill Pfanner

BILL PFANNER
Supervisor, Local Energy & Land Use Assistance Unit
Special Projects Office
Fuels and Transportation Division
California Energy Commission
1516 Ninth Street, MS 23
Sacramento, CA 95814

Enclosure

Appendix F
ENERGY CONSERVATION

I. Introduction

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

(1) decreasing overall per capita energy consumption,
(2) decreasing reliance on natural gas and oil, and
(3) increasing reliance on renewable energy sources.

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, lifetime costs may be determined more by energy efficiency than by initial dollar costs.

II. EIR Contents

Potentially significant energy implications of a project should be considered in an EIR. The following list of energy impact possibilities and potential conservation measures is designed to assist in the preparation of an EIR. In many instances, specific items may not apply or additional items may be needed.

A. Project Description may include the following items:
   1. Energy consuming equipment and processes which will be used during construction, operation, and/or removal of the project. If appropriate, this discussion should consider the energy intensiveness of materials and equipment required for the project.
   2. Total energy requirements of the project by fuel type and end use.
   3. Energy conservation equipment and design features.
   4. Initial and life-cycle energy costs or supplies.
   5. Total estimated daily trips to be generated by the project and the additional energy consumed per trip by mode.

B. Environmental Setting may include existing energy supplies and energy use patterns in the region and locality.

C. Environmental Impacts may include:
   1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
   2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
   3. The effects of the project on peak and base period demands for electricity and other forms of energy.
   4. The degree to which the project complies with existing energy standards.
   5. The effects of the project on energy resources.
   6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

D. Mitigation Measures may include:
   1. Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures were incorporated in the project and why other measures were dismissed.
   2. The potential of siting, orientation, and design to minimize energy consumption, including transportation energy.
   3. The potential for reducing peak energy demand.
   4. Alternate fuels (particularly renewable ones) or energy systems.
   5. Energy conservation which could result from recycling efforts.

E. Alternatives should be compared in terms of overall energy consumption and in terms of reducing wasteful, inefficient and unnecessary consumption of energy.

F. Unavoidable Adverse Effects may include wasteful, inefficient and unnecessary consumption of energy during the project construction, operation, maintenance and/or removal that cannot be feasibly mitigated.

G. Irreversible Commitment of Resources may include a discussion of how the project preempts future energy development or future energy conservation.

H. Short-Term Gains versus Long-Term Impacts can be compared by calculating the energy costs over the lifetime of the project.

I. Growth Inducing Effects may include the estimated energy consumption of growth induced by the project.

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S.#40
1120 N STREET
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 654-4959
FAX (916) 653-9531
TTY 711

Flex your power!
Be energy efficient!

February 22, 2010

Ms. Tracy Steinkruger
City of Burbank
150 North Third Street
Burbank, CA 915020

Dear Ms. Steinkruger:

Re: City of Burbank's Notice of Preparation of a Draft Environmental Impact Report for the Burbank 2035 General Plan Update; SCH# 2010021004

The California Department of Transportation (Caltrans), Division of Aeronautics (Division), reviewed the above-referenced document with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The Division has technical expertise in the areas of airport operations safety and airport land use compatibility. We are a funding agency for airport projects and we have permit authority for public-use and special-use airports and heliports.

The proposal is for the City of Burbank 2035 General Plan update. A large portion of the Bob Hope Airport is located within the City of Burbank boundary.

CEQA, Public Resources Code 21096, requires the California Airport Land Use Planning Handbook (Handbook) be used as a resource in the preparation of environmental documents for projects within airport land use compatibility plan boundaries or if such a plan has not been adopted, within two nautical miles of an airport. The Handbook provides a "General Plan Consistency Checklist" in Table 5A and a "Possible Airport Combining Zone Components" in Table 5B. The Handbook is available on-line at http://www.dot.ca.gov/hq/planning/aeronaut/documents/ALUPHComplete-7-02rev.pdf.

The general plan update should also be coordinated with the Burbank Glendale Pasadena Airport Authority Executive Director, Dan Feger, at (818) 840-8840 to ensure its compatibility with future, as well as existing, airport operations.

According to California Public Utilities Code (PUC) Section 21676 *et seq.*, 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 (ALUC), the local agency shall first refer the proposed action to the Los Angeles County ALUC.

The general plan must acknowledge that until ALUC compatibility criteria are incorporated into the general plan, proposals within the airport influence area must be submitted to the ALUC for review. These provisions must be included in the general plan at a minimum for it to be considered consistent with the airport compatibility land use plan.

Pursuant to the Airport Noise Standards (California Code of Regulations, Title 21, Section 5000 *et seq.*), the County of Los Angeles declared the Bob Hope Airport to have a "noise problem". The regulations require a noise problem airport to reduce the size of its "noise impact area" (NIA), which is the area within the airport's 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour that is composed of incompatible land uses. Allowing new residential within the airport's 65 dB CNEL contour could result in an increase, rather than the required decrease, in the size of the airport's NIA. Consistent with the Airport Noise Standards, new residential development is not an appropriate land use within the airport's 65 dB CNEL contour. If allowed within the airport's 65 dB CNEL contour, all residential units should be constructed to ensure an interior CNEL due to aircraft noise of 45 dB or less in all habitable rooms. Additionally, to prevent this project from increasing the airport's NIA, any new residential unit should grant to the airport proprietor an avigation easement for aircraft noise.

PUC Section 21659 prohibits structural hazards near airports. The planned height of buildings, antennas, and other objects should be checked with respect to Federal Aviation Regulation (FAR) Part 77 criteria if development is close to the airport, particularly if situated within the runway approach corridors. General plans must include policies restricting the heights of structures to protect airport airspace. To ensure compliance with FAR Part 77 "Objects Affecting Navigable Airspace" submission of a Notice of Proposed Construction or Alteration (Form 7460-1) to the Federal Aviation Administration (FAA) may be required. Form 7460-1 is available on-line at https://oeaaa.faa.gov/oeaaa/external/portal.jsp and should be submitted electronically.

Education Code Section 17215 requires a school site investigation by the Division prior to acquisition of land for a proposed school site located within two miles of an airport runway. The Division submits recommendations to the State Department of Education for use in determining acceptability of the site. This should be a consideration prior to designating residential uses in the vicinity of an airport. The Division's school site evaluation criteria are available on-line at http://www.dot.ca.gov/hq/planning/aeronaut/regulations.html.

Business and Professions Code Section 11010 and Civil Code Sections 1102.6, 1103.4, and 1353 address buyer notification requirements for lands around airports and are available on-line at http://www.leginfo.ca.gov/calaw.html. Any person who intends to offer subdivided lands, common interest developments and residential properties for sale or lease within an airport influence area is required to disclose that fact to the person buying the property.

Land use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife-aircraft collisions. The FAA recommends that landfills, wastewater treatment facilities, surface mining, wetlands and other uses that have the potential to attract wildlife, be restricted in the vicinity of an airport. FAA Advisory Circular (AC150/5200-33B) entitled "Hazardous Wildlife Attractants on or Near Airports" addresses these issues. For further information, please refer to the FAA website http://wildlife-mitigation.tc.faa.gov/.

Aviation plays a significant role in California's transportation system. This role includes the movement of people and goods within and beyond our state's network of over 250 airports. Aviation contributes nearly 9 percent of both total state employment (1.7 million jobs) and total state output

($110.7 billion) annually. These benefits are discussed in the study "Aviation in California: Benefits to Our Economy and Way of Life" available on-line at http://www.dot.ca.gov/hq/planning/aeronaut/econstudy2003.html. Aviation improves mobility, generates tax revenue, saves lives through emergency response, medical and fire fighting services, annually transports air cargo valued at over $170 billion and generates over $14 billion in tourist dollars, which in turn improves our economy and quality of life.

The protection of airports from incompatible land use encroachment is vital to California's economic future. Bob Hope Airport is an economic asset that should be protected through effective airport land use compatibility planning and awareness. Although the need for compatible and safe land uses near airports is both a local and State issue, airport land use commissions and airport land use compatibility plans are key to protecting an airport and the people residing and working in the vicinity of an airport. Consideration given to the issue of compatible land uses in the vicinity of an airport should help to relieve future conflicts between airports and their neighbors.

These comments reflect the areas of concern to the Division of Aeronautics with respect to airport-related noise, safety, and regional land use planning issues. We advise you to contact our District 7 office concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please call me at (916) 654-5314 or by email at sandy.hesnard@dot.ca.gov.

Sincerely,

Sandy Hesnard

SANDY HESNARD
Aviation Environmental Specialist

c: State Clearinghouse, Dan Feger Burbank Glendale Pasadena Airport Authority,
Los Angeles County ALUC

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
100 MAIN STREET, MS # 16
LOS ANGELES, CA 90012-3606
PHONE: (213) 897-8391
FAX: (213) 897-1337

Flex your power!
Be energy efficient!

IGR/CEQA No. 100217NY-NOP
Burbank General Plan & Zoning Code Update
Vic. LA-5/28.43
SCH # 2010021004

March 1, 2010

Ms. Tracy Steinkruger
City of Burbank
150 N. Third St.
Burbank, CA. 91502

Dear Ms. Steinkruger :

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project is a General Plan and Zoning Code Update for the City of Burbank.

The California Department of Transportation (Caltrans) as the State agency responsible for planning, operations, and maintenance of State highways, shares similar transportation goals with the City. In the spirit of mutual and collaborative planning, we offer our expertise in the areas of transportation modeling, mainline freeway analysis, system and corridor planning, environmental and community impact assessment, as well as identifying critical operational deficiencies affecting freeway congestion, speed, and delay.

For your information, please see excerpts below from the California Environmental Resource Evaluation System website http://ceres.ca.gov/planning/genplan/gp_chapter3.html#circulation that provides information regarding General Plans that you may find helpful:

"Caltrans is particularly interested in the transportation planning roles of local general plans and suggests that the following areas be emphasized.

- Coordination of planning efforts between local agencies and Caltrans districts.
- Preservation of transportation corridors for future system improvements; and
- Development of coordinated transportation system management plans that achieve the maximum use of present and proposed infrastructure."

Circulation Element

It is widely known that Southern California highways are heavily congested especially during morning and evening peak periods. We realize that to improve mobility there is the need for capacity enhancing project as well as other innovative alternatives.

New development will increase use of local and regional roadways and the circulation element can identify strategies the City will pursue to maintain good levels of service. We understand that mitigating cumulative traffic impacts may present some challenges. Given that the Los

Angeles County's CMP debit and credit system has been suspended, we recommend the City consider an alternate local funding plan towards regional transportation improvements. Local funding efforts may include a region or community wide traffic impact program. We request the City consider implementing a funding program to contribute to improvements on the State highway system, including impacted State Route 5 and on/off ramps. Usually, when local matching funds are offered improvements can be streamlined and/or expedited. The City may take this opportunity to include policies that allow it to procure funds towards regional transportation improvements such as I-5 / SR-134 interchange modification.

Procuring funds toward freeway segments, freeway interchanges, freeway on/off-ramps, as well as for bus and rail transit facilities should also be in the goals of the City.

We request inclusion in the environmental review process of land use projects within the City General Plan area and all projects that have the potential to significantly impact traffic conditions on State highways. To avoid delays and any misunderstandings in the traffic impact analysis, we request to be involved in its development.

The thresholds for significance on State highway facilities are different than those applied in the Los Angeles County Management Program (CMP). For State thresholds and guidance on the preparation of acceptable traffic studies, please refer to the Statewide Guide for the preparation of Traffic Impact Studies at:

http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

If significant impacts were anticipated on the State highway system the Department would work with the City and applicants to identify appropriate traffic mitigation measures.

Traffic mitigation alternatives may include vehicular demand reducing strategies, such as incentives for commuters to use transit i.e. park-and-ride lots, discounts on monthly bus and rail passes, vanpools, etc.

Land Use Element

As you are aware, there is a critical relationship between land use and transportation. The quality of the State transportation system operation can affect the quality of the local circulation system operation. The Circulation Element of the General Plan needs to be consistent with the Land-Use and Housing Elements of the General Plan. During the past couple decades, population and economic growth has been strong in Los Angeles County. Projections show that this growth will continue.

We recommend that special attention be given to the jobs-and-housing balance concept. Communities with predominantly residential allocations should be encouraged to set aside areas for office, commercial/retail, and open space uses. Benefits of balanced communities include: reduction of long morning and evening commutes on State highways, shorter trips which in turn would reduce the consumption of fuel and air pollutants. It may also change direction of trips. Instead of most traffic traveling in one direction during peak periods, some trips may be diverted in the opposite direction. Other land use strategies may include Transit-Oriented Developments (TODs).

Housing Element
As we indicated previously, continued high growth is expected for Los Angeles County, which will have impacts to our State transportation facilities. For large development projects, we ask that efforts be made to provide affordable housing for young workers and seniors to ensure that substantial numbers of employees can afford to purchase homes and live in proposed projects. We also ask that project proponents be encouraged to provide job information on jobs provided along with housing development phases.

We look forward to reviewing the traffic study. We expect to receive a copy from the State Clearinghouse when the Draft EIR is completed. However, to expedite the review process, and clarify any misunderstandings, you may send a copy in advance to the undersigned.

If you have any questions, please feel free to contact Mr. Nerses Yerjanian, Project Engineer at (213) 897-6536 or Mr. Alan Lin, Interim Program Manager at (213) 897-8391 and refer to IGR/CEQA No. 100217NY.

Sincerely,

Alan Lin

Alan Lin
IGR/CEQA Interim Program Manager

cc: Scott Morgan, State Clearinghouse

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

February 23, 2010

Ms. Tracy Steinkruger, Senior Planer
City of Burbank
150 North Third Street
Burbank, CA 91502

Dear Ms. Steinkruger:

Notice of Preparation of
Draft Environmental Impact Report for the Burbank 2035 General Plan Update

Thank you for your letter dated February 1, 2010, and a map showing the location of your proposed project in the city of Burbank in the County of Los Angeles.

We reviewed the notice and documentation and determined the proposed Project is not regionally significant to The Metropolitan Water District of Southern California (Metropolitan). Metropolitan does not own or operate any facilities or maintain real estate entitlements within the footprint of the proposed Project; however, we support increased water conservation efforts and encourage projects to include water conservation measures such as using water efficient fixtures, drought-tolerant landscaping, and use of recycled water to offset increases in water use. Additional information on water conservation measures is available on Metropolitan's website at www.bewaterwise.com.

Should there be a change in the scope of the Project, we would appreciate the opportunity to review and comment at that time. If we can be of further assistance, please contact Mrs. Rebecca De Leon at (213) 217-6337.

Very truly yours,

Delaine W. Shane

Delaine W. Shane
Manager, Environmental Planning Team

RDL:
(J:\Environmental Planning-Compliance\Staff Folder\Becky\Comment Letters Sent\2010\February\Job No. 1002160)

STATE OF CALIFORNIA Arnold Schwarzenegger, 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
e-mail: ds_nahc@pacbell.net

February 3, 2010

Mr. Tracy Steinkruger, Senior Planner
CITY OF BURBANK COMMUNITY DEVELOPMENT DEPARTMENT
150 North Third Street
Burbank, CA 91502

Re: SCH#2010021004 CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **Burbank 2035 General Plan Update Project**; located in the City of Burbank; Los Angeles County, California

Dear Mr. Steinkruger:

The Native American Heritage Commission (NAHC) is the state 'trustee agency' pursuant to Public Resources Code §21070 for the protection and preservation of California's Native American Cultural Resources.. (Also see *Environmental Protection Information Center v. Johnson (1985) 170 Cal App. 3rd 604)* The California Environmental Quality Act (CEQA - CA Public Resources Code §21000-21177, amended in 2009) 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 California Code of Regulations §15064.5(b)(c)(f) CEQA guidelines). Section 15382 of 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. To adequately assess the project-related impacts on historical resources, the Commission recommends the following.

The Native American Heritage Commission did perform a Sacred Lands File (SLF) search in the NAHC SLF Inventory, established by the Legislature pursuant to Public Resources Code §5097.94(a) and Native American Cultural resources **were not identified** within the APE/City Limits Boundary.. Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the names of the nearest tribes and interested Native American individuals that the NAHC recommends as 'consulting parties,' for this purpose, that may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. City Limits). We recommend that you contact persons on the attached list of Native American contacts. A Native American Tribe or Tribal Elder may be the only source of information about a cultural resource.. Also, the NAHC recommends that a Native American Monitor or Native American culturally knowledgeable person be employed whenever a professional archaeologist is employed during the 'Initial Study' and in other phases of the environmental planning processes.. Furthermore we suggest that you contact the California Historic Resources Information System (CHRIS) at the Office of Historic Preservation (OHP) Coordinator's office (at (916) 653-7278, for referral to the nearest OHP Information Center of which there are 11.

Consultation with tribes and interested Native American tribes and interested Native American individuals, as 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 and 4(f) of federal NHPA (16 U.S.C. 470 [f)]*et se),* 36 CFR Part 800.3, 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..

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 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. Discussion of these should be included in your environmental documents, as appropriate.

The authority for the SLF record search of the NAHC Sacred Lands Inventory, established by the California Legislature, is California Public Resources Code §5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code §6254.10). The results of the SLF search are confidential. However, Native Americans on the attached contact list are not prohibited from and may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance' may also be protected the 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 possibly threatened by proposed project activity.

CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. . Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

Again, Lead agencies should consider avoidance, as defined in §15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton
Program Analyst

Attachment: List of Native American Contacts

Cc: State Clearinghouse

Native American Contacts
Los Angeles County
February 3, 2010

Charles Cooke
32835 Santiago Road
Acton , CA 93510
(661) 733-1812 - cell
suscol@intox.net
Chumash
Fernandeno
Tataviam
Kitanemuk

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez
981 N. Virginia
Covina , CA 91722
(626) 339-6785
Yowlumne
Kitanemuk

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362
805 492-7255
(805) 558-1154 - cell
folkes9@msn.com
Chumash
Tataviam
Ferrnandeño

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall , CA 91322
tsen2u@live.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax
Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

Fernandeno Tataviam Band of Mission Indians
William Gonzales, Cultural/Environ Depart
601 South Brand Boulevard, Suite 102
San Fernando CA 91340
rortega@tataviam-nsn.us
(818) 837-0794 Office
(818) 581-9293 Cell
(818) 837-0796 Fax
Fernandeno
Tataviam

Randy Guzman - Folkes
655 Los Angeles Avenue, Unit E
Moorpark , CA 93021
ndnRandy@gmail.com
(805) 905-1675 - cell
Chumash
Fernandeño
Tataviam
Shoshone Paiute
Yaqui

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th Street, Rm.
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

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

Distribution of this list does not relieve any person of 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. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106, and federal NAGPRA.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2010021004; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Burbank 2035 General Plan Update; located in the City of Burbank; Los Angeles County, California.

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

February 25, 2010

Tracy Steinkruger
City of Burbank
150 North Third Street
Burbank, CA 91502

Dear Ms. Steinkruger:

Re: SCH# 2010021004; Burbank General Plan Update

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

The Commission Rail Crossings Engineering Section (RCES) is in receipt of the *Notice of Completion & Environmental Document Transmittal-Notice of Preparation* from the State Clearinghouse for the proposed general plan update. As the state agency responsible for rail safety within California, RCES recommends that the City add language to the plan so that any future planned development adjacent to or near the railroad right-of-way be planned with the safety of the rail corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to railroad right-of-way.

Mitigation measures to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes and continuous vandal resistant fencing or other appropriate barriers to limit the access of trespassers onto the railroad right-of-way.

Language should be in place so that any traffic impact studies undertaken should also address traffic increase impacts over affected crossings and associated proposed mitigation measures.

If you have any questions, please Jose Pereyra, Utilities Engineer at 213-576-7083, jfp@cpuc.ca.gov, or me at rxm@cpuc.ca.gov, 213-576-7078.

Sincerely,

Rosa Muñoz, PE
Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection & Safety Division

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

February 18, 2010

Tracy Steinkruger, Senior Planner
City of Burbank
Community Development Department
150 North Third Street
Burbank, CA 91502

Dear Tracy Steinkruger:

Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the Burbank 2035 General Plan Update

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft environmental impact report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality analysis and electronic versions of all air quality modeling and health risk assessment files. Electronic files include spreadsheets, database files, input files, output files, etc., and does not mean Adobe PDF files. Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, the lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2007 Model. This model is available on the SCAQMD Website at: www.urbemis.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on siting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Ian MacMillan, Program Supervisor, CEQA Section, at (909) 396-3244 if you have any questions regarding this letter.

Sincerely,

Ian V. MacMillan

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

IM:AK
LAC100211-03
Control Number

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435

t (213) 236-1800
f (213) 236-1825

www.scag.ca.gov

February 25, 2010

Ms. Tracy Steinkruger
Senior Planner
City of Burbank
Community Development Department
150 North Third Street
Burbank, CA 91502
tsteinkruger@ci.burbank.ca.us

RE: SCAG Comments on the Notice of Preparation of a Draft Program Environmental Impact Report for the Burbank 2035 General Plan Update [I20100053]

Dear Ms. Steinkruger,

Thank you for submitting the **Notice of Preparation of a Draft Program Environmental Impact Report for the Burbank 2035 General Plan Update [I20100053]** to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12372 (replacing A-95 Review). Additionally, pursuant to Public Resources Code Section 21083(d) SCAG reviews Environmental Impact Reports of projects of regional significance for consistency with regional plans per the California Environmental Quality Act Guidelines, Sections 15125(d) and 15206(a)(1). SCAG is also the designated Regional Transportation Planning Agency and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082.

SCAG staff has reviewed this project and determined that the proposed project is regionally significant per California Environmental Quality Act (CEQA) Guidelines, Sections 15125 and/or 15206. The proposed project is a General Plan update addresses land use; mobility; parks, recreation and open space; air quality/climate change; and noise.

Policies of SCAG's Regional Transportation Plan (RTP) and Compass Growth Visioning (CGV) that may be applicable to your project are outlined in the attachment. The RTP, CGV, and table of policies can be found on the SCAG web site at: http://scag.ca.gov/igr. For ease of review, we would encourage you to use a side-by-side comparison of all SCAG policies with a discussion of the consistency, non-consistency or non-applicability of the policy and supportive analysis in a table format (example attached).

The attached policies are meant to provide guidance for considering the proposed project within the context of our regional goals and policies. We also encourage the use of the SCAG List of Mitigation Measures extracted from the RTP to aid with demonstrating consistency with regional plans and policies. **When available, please send environmental documentation ONLY to SCAG's main office in Los Angeles and provide a minimum of 45 days for SCAG to review.** If you have any questions regarding the attached comments, please contact Bernard Lee at (213) 236-1895 or leeb@scag.ca.gov. Thank you.

Sincerely,

Jacob Lieb, Manager
Environmental and Assessment Services

DOCS# 155848

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE BURBANK 2035 GENERAL PLAN UPDATE [I20100053]

PROJECT LOCATION

The City of Burbank is located in the central portion of Los Angeles County approximately 12 miles north of downtown Los Angeles. The northern part of the city is located along the foothills of the Verdugo Mountains and the western edge of the city is located near the eastern part of the San Fernando Valley. Burbank is bisected by Interstate 5 and adjacent to the Cities of Los Angeles and Glendale. The corporate limits of the City of Burbank encompass approximately 17.4 square miles. The planning area, includes the entire corporate limits of Burbank.

PROJECT DESCRIPTION

The General Plan serves as the blueprint for future growth and development. As a blueprint for the future, the Plan must contain policies and programs designed to provide decision-makers with a solid basis for decisions related to land use and development. The General Plan includes the community's long-term goals.

- Vision
- Core Values
- Small Town Character
- Balanced Development
- Community Image and Character
- Quality Neighborhoods
- Housing Variety
- Ease of Mobility
- Safety
- Economic Vitality
- Open Space and Recreation
- Sustainability
- Quality Schools
- Proactive and Responsive Government

The proposed project includes updates to the following four required General Plan elements:

- Land Use Element
- Mobility Element
- Noise Element
- Parks, Recreation and Open Space Element

It also includes preparation and adoption of the following optional General Plan element and related implementation plan:

- Air Quality Element
- Climate Action Plan

CONSISTENCY WITH REGIONAL TRANSPORTATION PLAN

Regional Growth Forecasts

The DEIR should reflect the most current SCAG forecasts, which are the 2008 RTP (May 2008) Population, Household and Employment forecasts. The forecasts for your region, subregion, and county are as follows:

Adopted SCAG Regionwide Forecasts[1]

	2010	2015	2020	2025	2030	2035
Population	19,418,344	20,465,830	21,468,948	22,395,121	23,255,377	24,057,286
Households	6,086,986	6,474,074	6,840,328	7,156,645	7,449,484	7,710,722
Employment	8,349,453	8,811,406	9,183,029	9,546,773	9,913,376	10,287,125

Adopted AVCOG Subregion Forecasts[1]

	2010	2015	2020	2025	2030	2035
Population	365,697	373,916	382,619	391,025	399,124	406,873
Households	132,663	136,143	139,810	142,671	145,436	147,710
Employment	204,693	211,686	216,150	221,399	227,003	232,368

Adopted City of Burbank Forecasts[1]

	2010	2015	2020	2025	2030	2035
Population	112,103	116,429	120,890	125,212	129,389	133,391
Households	44,130	45,914	47,793	49,260	50,677	51,842
Employment	96,688	101,490	104,556	108,161	112,010	115,695

1. The 2008 RTP growth forecast at the regional, subregional, and city level was adopted by the Regional Council in May 2008. City totals are the sum of small area data and should be used for advisory purposes only.

The **2008 Regional Transportation Plan (RTP)** also has goals and policies that are pertinent to this proposed project. This RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. The RTP continues to support all applicable federal and state laws in implementing the proposed project. Among the relevant goals and policies of the RTP are the following:

Regional Transportation Plan Goals:

RTP G1 *Maximize mobility and accessibility for all people and goods in the region.*
RTP G2 *Ensure travel safety and reliability for all people and goods in the region.*
RTP G3 *Preserve and ensure a sustainable regional transportation system.*
RTP G4 *Maximize the productivity of our transportation system.*
RTP G5 *Protect the environment, improve air quality and promote energy efficiency.*
RTP G6 *Encourage land use and growth patterns that complement our transportation investments.*
RTP G7 *Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.*

GROWTH VISIONING

The fundamental goal of the **Compass Growth Visioning** effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity. The following "Regional Growth Principles" are proposed to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. Each principle is followed by a specific set of strategies intended to achieve this goal.

Principle 1: Improve mobility for all residents.

- **GV P1.1** *Encourage transportation investments and land use decisions that are mutually supportive.*
- **GV P1.2** *Locate new housing near existing jobs and new jobs near existing housing.*
- **GV P1.3** *Encourage transit-oriented development.*
- **GV P1.4** *Promote a variety of travel choices*

Principle 2: Foster livability in all communities.

- **GV P2.1** *Promote infill development and redevelopment to revitalize existing communities.*
- **GV P2.2** *Promote developments, which provide a mix of uses.*
- **GV P2.3** *Promote "people scaled," walkable communities.*
- **GV P2.4** *Support the preservation of stable, single-family neighborhoods.*

Principle 3: Enable prosperity for all people.

- **GV P3.1** *Provide, in each community, a variety of housing types to meet the housing needs of all income levels.*
- **GV P3.2** *Support educational opportunities that promote balanced growth.*
- **GV P3.3** *Ensure environmental justice regardless of race, ethnicity or income class.*
- **GV P3.4** *Support local and state fiscal policies that encourage balanced growth*
- **GV P3.5** *Encourage civic engagement.*

Principle 4: Promote sustainability for future generations.

- **GV P4.1** *Preserve rural, agricultural, recreational, and environmentally sensitive areas*
- **GV P4.2** *Focus development in urban centers and existing cities.*
- **GV P4.3** *Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.*
- **GV P4.4** *Utilize "green" development techniques*

CONCLUSION

As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA. We recommend that you review the SCAG List of Mitigation Measures for additional guidance, and encourage you to follow them, where applicable to your project. The SCAG List of Mitigation Measures may be found here:
http://www.scag.ca.gov/igr/documents/SCAG_IGRMMRP_2008.pdf

SUGGESTED SIDE BY SIDE FORMAT - COMPARISON TABLE OF SCAG POLICIES

For ease of review, we would encourage the use of a side-by-side comparison of all SCAG policies with a discussion of the consistency, non-consistency or not applicable of the policy and supportive analysis in a table format. All policies and goals must be evaluated as to impacts. Suggested format is as follows:

The complete table can be found at: http://www.scag.ca.gov/igr/

- Click on ***"Demonstrating Your Project's Consistency With SCAG Policies"***
- Scroll down to ***"Table of SCAG Policies for IGR"***

SCAG Regional Transportation Plan Goals and Compass Growth Visioning Principles		
Regional Transportation Plan Goals		
Goal/ Principle Number	**Policy Text**	**Statement of Consistency, Non-Consistency, or Not Applicable**
RTP G1	Maximize mobility and accessibility for all people and goods in the region.	***Consistent:*** *Statement as to why* ***Not-Consistent:*** *Statement as to why* *or* ***Not Applicable:*** *Statement as to why*
RTP G2	Ensure travel safety and reliability for all people and goods in the region.	***Consistent:*** *Statement as to why* ***Not-Consistent:*** *Statement as to why* *or* ***Not Applicable:*** *Statement as to why*
RTP G3	Preserve and ensure a sustainable regional transportation system.	***Consistent:*** *Statement as to why* ***Not-Consistent:*** *Statement as to why* *or* ***Not Applicable:*** *Statement as to why*
Etc.	Etc.	Etc.

From: Doran, William [mailto:Doranw@scrra.net]
Sent: Saturday, March 20, 2010 3:54 PM
To: Steinkruger, Tracy
Cc: Chan, Kim
Subject: Draft Program Enviromental Impact Report for City of Burbank General Plan

Tracy:

Your letter dated February 1, 2010, asked for comments on the Burbank 2035 General Plan Update. While we had no immediate comments, I would like to know how the rail corridor is addressed in your current General Plan, and the proposed revision for which you are developing the draft EIR. Whom should I contact to make any inquiries?

William Doran, P.E.
Southern California Regional Rail Authority (Metrolink)
700 South Flower Street
26th Floor
Los Angeles, California 90017

(213) 452-0219
doranw@scrra.net

EIR APPENDIX D

Air Quality Data

Burbank2035

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	14780	1000sqft
Government Office Building	3576	1000sqft
Hospital	1636	1000sqft
High School	2028	1000sqft
Place of Worship	775	1000sqft
General Light Industry	9303	1000sqft
City Park	308	Acre
Hotel	2075	Room
Condo/Townhouse	31193	Dwelling Unit
Single Family Housing	19026	Dwelling Unit
Strip Mall	8054	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company**

Climate Zone 11 **Precipitation Freq (Days)** 33

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - no construction

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	10.82	54.38	97.96	0.15	32.56	2.31	34.87	3.05	2.31	5.36	0.00	13,890.21	13,890.21	0.83	0.00	13,907.71
2012	756.85	1.66	15.55	0.02	2.58	0.12	2.69	0.11	0.12	0.22	0.00	2,130.90	2,130.90	0.14	0.00	2,133.85
Total	**767.67**	**56.04**	**113.51**	**0.17**	**35.14**	**2.43**	**37.56**	**3.16**	**2.43**	**5.58**	**0.00**	**16,021.11**	**16,021.11**	**0.97**	**0.00**	**16,041.56**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	10.82	54.38	97.96	0.15	21.61	2.31	23.92	3.05	2.31	5.36	0.00	13,890.21	13,890.21	0.83	0.00	13,907.71
2012	756.85	1.66	15.55	0.02	0.11	0.12	0.22	0.11	0.12	0.22	0.00	2,130.90	2,130.90	0.14	0.00	2,133.85
Total	**767.67**	**56.04**	**113.51**	**0.17**	**21.72**	**2.43**	**24.14**	**3.16**	**2.43**	**5.58**	**0.00**	**16,021.11**	**16,021.11**	**0.97**	**0.00**	**16,041.56**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	657.31	12.93	1,077.18	0.54		0.00	53.60		0.00	53.58	5,334.22	32,000.73	37,334.94	17.49	0.74	37,930.94
Energy	11.89	103.38	56.34	0.65		0.00	8.21		0.00	8.21	0.00	117,652.12	117,652.12	2.25	2.16	118,368.13
Mobile	487.80	1,192.63	4,066.97	18.13	1,745.41	82.72	1,828.13	27.73	81.42	109.15	0.00	1,284,974.94	1,284,974.94	33.68	0.00	1,285,682.25
Waste						0.00	0.00		0.00	0.00	127,743.81	0.00	127,743.81	7,549.44	0.00	286,282.11
Water						0.00	0.00		0.00	0.00	0.00	597.76	597.76	1,626.88	40.35	47,269.70
Total	**1,157.00**	**1,308.94**	**5,200.49**	**19.32**	**1,745.41**	**82.72**	**1,889.94**	**27.73**	**81.42**	**170.94**	**133,078.03**	**1,435,225.55**	**1,568,303.57**	**9,229.74**	**43.25**	**1,775,533.13**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	657.31	12.93	1,077.18	0.54		0.00	53.60		0.00	53.58	5,334.22	32,000.73	37,334.94	17.49	0.74	37,930.94
Energy	11.89	103.38	56.34	0.65		0.00	8.21		0.00	8.21	0.00	117,652.12	117,652.12	2.25	2.16	118,368.13
Mobile	487.80	1,192.63	4,066.97	18.13	1,745.41	82.72	1,828.13	27.73	81.42	109.15	0.00	1,284,974.94	1,284,974.94	33.68	0.00	1,285,682.25
Waste						0.00	0.00		0.00	0.00	127,743.81	0.00	127,743.81	7,549.44	0.00	286,282.11
Water						0.00	0.00		0.00	0.00	0.00	597.76	597.76	1,626.88	40.35	47,269.70
Total	**1,157.00**	**1,308.94**	**5,200.49**	**19.32**	**1,745.41**	**82.72**	**1,889.94**	**27.73**	**81.42**	**170.94**	**133,078.03**	**1,435,225.55**	**1,568,303.57**	**9,229.74**	**43.25**	**1,775,533.13**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.41	3.41	0.00	0.00	3.41
Total	**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.41**	**3.41**	**0.00**	**0.00**	**3.41**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.09
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.09**	**0.00**	**0.00**	**0.09**

3.2 Demolition - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.41	3.41	0.00	0.00	3.41
Total	**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.41**	**3.41**	**0.00**	**0.00**	**3.41**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.09
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.09**	**0.00**	**0.00**	**0.09**

3.3 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					20.87	0.00	20.87	2.40	0.00	2.40	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.71	5.98	3.11	0.01		0.29	0.29		0.29	0.29	0.00	531.70	531.70	0.06	0.00	532.91
Total	**0.71**	**5.98**	**3.11**	**0.01**	**20.87**	**0.29**	**21.16**	**2.40**	**0.29**	**2.69**	**0.00**	**531.70**	**531.70**	**0.06**	**0.00**	**532.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.10	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	12.41	12.41	0.00	0.00	12.43
Total	**0.01**	**0.01**	**0.10**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**12.41**	**12.41**	**0.00**	**0.00**	**12.43**

3.3 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					20.87	0.00	20.87	2.40	0.00	2.40	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.71	5.98	3.11	0.01		0.29	0.29		0.29	0.29	0.00	531.70	531.70	0.06	0.00	532.91
Total	**0.71**	**5.98**	**3.11**	**0.01**	**20.87**	**0.29**	**21.16**	**2.40**	**0.29**	**2.69**	**0.00**	**531.70**	**531.70**	**0.06**	**0.00**	**532.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.41	12.41	0.00	0.00	12.43
Total	**0.01**	**0.01**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**12.41**	**12.41**	**0.00**	**0.00**	**12.43**

3.4 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.18	0.00	0.18	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.11	0.90	0.50	0.00		0.05	0.05		0.05	0.05	0.00	72.53	72.53	0.01	0.00	72.72
Total	**0.11**	**0.90**	**0.50**	**0.00**	**0.18**	**0.05**	**0.23**	**0.10**	**0.05**	**0.15**	**0.00**	**72.53**	**72.53**	**0.01**	**0.00**	**72.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	0.00	0.00	2.07
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**2.07**	**0.00**	**0.00**	**2.07**

3.4 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.18	0.00	0.18	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.11	0.90	0.50	0.00		0.05	0.05		0.05	0.05	0.00	72.53	72.53	0.01	0.00	72.72
Total	**0.11**	**0.90**	**0.50**	**0.00**	**0.18**	**0.05**	**0.23**	**0.10**	**0.05**	**0.15**	**0.00**	**72.53**	**72.53**	**0.01**	**0.00**	**72.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	0.00	0.00	2.07
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**2.07**	**0.00**	**0.00**	**2.07**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.64	0.38	0.00		0.04	0.04		0.04	0.04	0.00	58.63	58.63	0.01	0.00	58.80
Total	**0.10**	**0.64**	**0.38**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**58.63**	**58.63**	**0.01**	**0.00**	**58.80**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	4.09	40.16	29.37	0.05	1.67	1.51	3.18	0.14	1.51	1.65	0.00	4,953.55	4,953.55	0.19	0.00	4,957.46
Worker	5.69	5.98	64.05	0.09	9.82	0.36	10.17	0.41	0.36	0.77	0.00	8,206.49	8,206.49	0.56	0.00	8,218.30
Total	**9.78**	**46.14**	**93.42**	**0.14**	**11.49**	**1.87**	**13.35**	**0.55**	**1.87**	**2.42**	**0.00**	**13,160.04**	**13,160.04**	**0.75**	**0.00**	**13,175.76**

3.5 Building Construction - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.64	0.38	0.00		0.04	0.04		0.04	0.04	0.00	58.63	58.63	0.01	0.00	58.80
Total	**0.10**	**0.64**	**0.38**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**58.63**	**58.63**	**0.01**	**0.00**	**58.80**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	4.09	40.16	29.37	0.05	0.14	1.51	1.65	0.14	1.51	1.65	0.00	4,953.55	4,953.55	0.19	0.00	4,957.46
Worker	5.69	5.98	64.05	0.09	0.41	0.36	0.77	0.41	0.36	0.77	0.00	8,206.49	8,206.49	0.56	0.00	8,218.30
Total	**9.78**	**46.14**	**93.42**	**0.14**	**0.55**	**1.87**	**2.42**	**0.55**	**1.87**	**2.42**	**0.00**	**13,160.04**	**13,160.04**	**0.75**	**0.00**	**13,175.76**

3.6 Paving - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.11	0.66	0.37	0.00		0.06	0.06		0.06	0.06	0.00	46.31	46.31	0.01	0.00	46.49
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.11**	**0.66**	**0.37**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.49**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.02	3.02	0.00	0.00	3.02
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.02**	**3.02**	**0.00**	**0.00**	**3.02**

3.6 Paving - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.11	0.66	0.37	0.00		0.06	0.06		0.06	0.06	0.00	46.31	46.31	0.01	0.00	46.49
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.11**	**0.66**	**0.37**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.49**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.02	3.02	0.00	0.00	3.02
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.02**	**3.02**	**0.00**	**0.00**	**3.02**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.03	0.16	0.09	0.00		0.01	0.01		0.01	0.01	0.00	11.91	11.91	0.00	0.00	11.95
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.16**	**0.09**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**11.91**	**11.91**	**0.00**	**0.00**	**11.95**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.76	0.00	0.00	0.76
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**	**0.76**	**0.00**	**0.00**	**0.76**

3.6 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.03	0.16	0.09	0.00		0.01	0.01		0.01	0.01	0.00	11.91	11.91	0.00	0.00	11.95
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.16**	**0.09**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**11.91**	**11.91**	**0.00**	**0.00**	**11.95**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.76	0.00	0.00	0.76
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**	**0.76**	**0.00**	**0.00**	**0.76**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	755.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.04	0.00		0.01	0.01		0.01	0.01	0.00	5.36	5.36	0.00	0.00	5.37
Total	**755.45**	**0.07**	**0.04**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**5.36**	**5.36**	**0.00**	**0.00**	**5.37**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.37	1.43	15.41	0.02	2.58	0.10	2.67	0.11	0.10	0.20	0.00	2,112.88	2,112.88	0.14	0.00	2,115.76
Total	**1.37**	**1.43**	**15.41**	**0.02**	**2.58**	**0.10**	**2.67**	**0.11**	**0.10**	**0.20**	**0.00**	**2,112.88**	**2,112.88**	**0.14**	**0.00**	**2,115.76**

3.7 Architectural Coating - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	755.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.04	0.00		0.01	0.01		0.01	0.01	0.00	5.36	5.36	0.00	0.00	5.37
Total	**755.45**	**0.07**	**0.04**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**5.36**	**5.36**	**0.00**	**0.00**	**5.37**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.37	1.43	15.41	0.02	0.11	0.10	0.20	0.11	0.10	0.20	0.00	2,112.88	2,112.88	0.14	0.00	2,115.76
Total	**1.37**	**1.43**	**15.41**	**0.02**	**0.11**	**0.10**	**0.20**	**0.11**	**0.10**	**0.20**	**0.00**	**2,112.88**	**2,112.88**	**0.14**	**0.00**	**2,115.76**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	487.80	1,192.63	4,066.97	18.13	1,745.41	82.72	1,828.13	27.73	81.42	109.15	0.00	1,284,974.94	1,284,974.94	33.68	0.00	1,285,682.25
Unmitigated	487.80	1,192.63	4,066.97	18.13	1,745.41	82.72	1,828.13	27.73	81.42	109.15	0.00	1,284,974.94	1,284,974.94	33.68	0.00	1,285,682.25
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	489.72	489.72	489.72	1,396,957	1,396,957
Condo/Townhouse	205,561.87	223,341.88	189341.51	685,381,202	685,381,202
General Light Industry	64,841.91	12,279.96	6326.04	165,237,482	165,237,482
General Office Building	162,727.80	35,028.60	14484.40	393,780,965	393,780,965
Government Office Building	246,493.68	0.00	0.00	434,166,894	434,166,894
High School	26,140.92	8,862.36	3630.12	56,945,075	56,945,075
Hospital	26,994.00	16,654.48	14576.76	63,874,679	63,874,679
Hotel	16,952.75	16,994.25	12346.25	45,382,631	45,382,631
Place of Worship	7,060.25	8,036.75	28388.25	34,116,207	34,116,207
Single Family Housing	182,078.82	191,782.08	166858.02	603,801,853	603,801,853
Strip Mall	356,953.28	338,590.16	164543.22	750,911,495	750,911,495
Total	1,296,295.00	852,060.24	600,984.29	3,234,995,440	3,234,995,440

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Condo/Townhouse	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
Government Office Building	8.90	13.30	7.40	33.00	62.00	5.00
High School	8.90	13.30	7.40	77.80	17.20	5.00
Hospital	8.90	13.30	7.40	64.90	16.10	19.00
Hotel	8.90	13.30	7.40	19.40	61.60	19.00
Place of Worship	8.90	13.30	7.40	0.00	95.00	5.00
Single Family Housing	12.70	7.00	9.50	40.20	19.20	40.60
Strip Mall	8.90	13.30	7.40	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	11.89	103.38	56.34	0.65		0.00	8.21		0.00	8.21	0.00	117,652.12	117,652.12	2.25	2.16	118,368.13
NaturalGas Unmitigated	11.89	103.38	56.34	0.65		0.00	8.21		0.00	8.21	0.00	117,652.12	117,652.12	2.25	2.16	118,368.13
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	8.17216e+008	4.41	37.66	16.02	0.24		0.00	3.04		0.00	3.04	0.00	43,609.78	43,609.78	0.84	0.80	43,875.18
General Light Industry	1.74989e+008	0.94	8.58	7.21	0.05		0.00	0.65		0.00	0.65	0.00	9,338.10	9,338.10	0.18	0.17	9,394.93
General Office Building	1.61545e+008	0.87	7.92	6.65	0.05		0.00	0.60		0.00	0.60	0.00	8,620.68	8,620.68	0.17	0.16	8,673.14
Government Office Building	3.90857e+007	0.21	1.92	1.61	0.01		0.00	0.15		0.00	0.15	0.00	2,085.76	2,085.76	0.04	0.04	2,098.45
High School	2.20849e+007	0.12	1.08	0.91	0.01		0.00	0.08		0.00	0.08	0.00	1,178.54	1,178.54	0.02	0.02	1,185.71
Hospital	1.06405e+008	0.57	5.22	4.38	0.03		0.00	0.40		0.00	0.40	0.00	5,678.20	5,678.20	0.11	0.10	5,712.76
Hotel	7.53828e+007	0.41	3.70	3.10	0.02		0.00	0.28		0.00	0.28	0.00	4,022.71	4,022.71	0.08	0.07	4,047.19
Place of Worship	1.45777e+007	0.08	0.71	0.60	0.00		0.00	0.05		0.00	0.05	0.00	777.92	777.92	0.01	0.01	782.66
Single Family Housing	7.79738e+008	4.20	35.93	15.29	0.23		0.00	2.90		0.00	2.90	0.00	41,609.79	41,609.79	0.80	0.76	41,863.02
Strip Mall	1.36918e+007	0.07	0.67	0.56	0.00		0.00	0.05		0.00	0.05	0.00	730.65	730.65	0.01	0.01	735.09
Total		**11.88**	**103.39**	**56.33**	**0.64**		**0.00**	**8.20**		**0.00**	**8.20**	**0.00**	**117,652.13**	**117,652.13**	**2.26**	**2.14**	**118,368.13**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	8.17216e+008	4.41	37.66	16.02	0.24		0.00	3.04		0.00	3.04	0.00	43,609.78	43,609.78	0.84	0.80	43,875.18
General Light Industry	1.74989e+008	0.94	8.58	7.21	0.05		0.00	0.65		0.00	0.65	0.00	9,338.10	9,338.10	0.18	0.17	9,394.93
General Office Building	1.61545e+008	0.87	7.92	6.65	0.05		0.00	0.60		0.00	0.60	0.00	8,620.68	8,620.68	0.17	0.16	8,673.14
Government Office Building	3.90857e+007	0.21	1.92	1.61	0.01		0.00	0.15		0.00	0.15	0.00	2,085.76	2,085.76	0.04	0.04	2,098.45
High School	2.20849e+007	0.12	1.08	0.91	0.01		0.00	0.08		0.00	0.08	0.00	1,178.54	1,178.54	0.02	0.02	1,185.71
Hospital	1.06405e+008	0.57	5.22	4.38	0.03		0.00	0.40		0.00	0.40	0.00	5,678.20	5,678.20	0.11	0.10	5,712.76
Hotel	7.53828e+007	0.41	3.70	3.10	0.02		0.00	0.28		0.00	0.28	0.00	4,022.71	4,022.71	0.08	0.07	4,047.19
Place of Worship	1.45777e+007	0.08	0.71	0.60	0.00		0.00	0.05		0.00	0.05	0.00	777.92	777.92	0.01	0.01	782.66
Single Family Housing	7.79738e+008	4.20	35.93	15.29	0.23		0.00	2.90		0.00	2.90	0.00	41,609.79	41,609.79	0.80	0.76	41,863.02
Strip Mall	1.36918e+007	0.07	0.67	0.56	0.00		0.00	0.05		0.00	0.05	0.00	730.65	730.65	0.01	0.01	735.09
Total		**11.88**	**103.39**	**56.33**	**0.64**		**0.00**	**8.20**		**0.00**	**8.20**	**0.00**	**117,652.13**	**117,652.13**	**2.26**	**2.14**	**118,368.13**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Condo/Townhouse	1.28024e+008					0.00	0.00	0.00	0.00
General Light Industry	1.12101e+008					0.00	0.00	0.00	0.00
General Office Building	2.14753e+008					0.00	0.00	0.00	0.00
Government Office Building	5.19593e+007					0.00	0.00	0.00	0.00
High School	1.35876e+007					0.00	0.00	0.00	0.00
Hospital	3.85932e+007					0.00	0.00	0.00	0.00
Hotel	2.56097e+007					0.00	0.00	0.00	0.00
Place of Worship	9.33875e+006					0.00	0.00	0.00	0.00
Single Family Housing	1.22004e+008					0.00	0.00	0.00	0.00
Strip Mall	1.22179e+008					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Condo/Townhouse	1.28024e+008					0.00	0.00	0.00	0.00
General Light Industry	1.12101e+008					0.00	0.00	0.00	0.00
General Office Building	2.14753e+008					0.00	0.00	0.00	0.00
Government Office Building	5.19593e+007					0.00	0.00	0.00	0.00
High School	1.35876e+007					0.00	0.00	0.00	0.00
Hospital	3.85932e+007					0.00	0.00	0.00	0.00
Hotel	2.56097e+007					0.00	0.00	0.00	0.00
Place of Worship	9.33875e+006					0.00	0.00	0.00	0.00
Single Family Housing	1.22004e+008					0.00	0.00	0.00	0.00
Strip Mall	1.22179e+008					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	657.31	12.93	1,077.18	0.54		0.00	53.60		0.00	53.58	5,334.22	32,000.73	37,334.94	17.49	0.74	37,930.94
Unmitigated	657.31	12.93	1,077.18	0.54		0.00	53.60		0.00	53.58	5,334.22	32,000.73	37,334.94	17.49	0.74	37,930.94
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	75.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	392.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	166.56	4.17	315.64	0.50		0.00	49.38		0.00	49.36	5,334.22	30,751.59	36,085.80	16.30	0.74	36,656.87
Landscaping	22.76	8.76	761.54	0.04		0.00	4.22		0.00	4.22	0.00	1,249.14	1,249.14	1.19	0.00	1,274.07
Total	**657.30**	**12.93**	**1,077.18**	**0.54**		**0.00**	**53.60**		**0.00**	**53.58**	**5,334.22**	**32,000.73**	**37,334.94**	**17.49**	**0.74**	**37,930.94**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	75.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	392.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	166.56	4.17	315.64	0.50		0.00	49.38		0.00	49.36	5,334.22	30,751.59	36,085.80	16.30	0.74	36,656.87
Landscaping	22.76	8.76	761.54	0.04		0.00	4.22		0.00	4.22	0.00	1,249.14	1,249.14	1.19	0.00	1,274.07
Total	**657.30**	**12.93**	**1,077.18**	**0.54**		**0.00**	**53.60**		**0.00**	**53.58**	**5,334.22**	**32,000.73**	**37,334.94**	**17.49**	**0.74**	**37,930.94**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					597.76	1,626.88	40.35	47,269.70
Unmitigated					597.76	1,626.88	40.35	47,269.70
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 366.976					0.00	0.00	0.00	0.00
Condo/Townhouse	2032.35 / 1281.26					22.79	62.04	1.54	1,802.49
General Light Industry	45742.3 / 0					513.02	1,396.26	34.63	40,568.84
General Office Building	2626.9 / 1610.04					29.46	80.18	1.99	2,329.80
Government Office Building	710.407 / 435.411					7.97	21.68	0.54	630.06
High School	67.339 / 173.157					0.76	2.06	0.05	59.72
Hospital	205.286 / 39.1021					2.30	6.27	0.16	182.07
Hotel	52.636 / 5.84845					0.59	1.61	0.04	46.68
Place of Worship	24.2489 / 37.9278					0.27	0.74	0.02	21.51
Single Family Housing	1239.62 / 781.5					13.90	37.84	0.94	1,099.42
Strip Mall	596.58 / 365.646					6.69	18.21	0.45	529.11
Total						**597.75**	**1,626.89**	**40.36**	**47,269.70**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 366.976					0.00	0.00	0.00	0.00
Condo/Townhouse	2032.35 / 1281.26					22.79	62.04	1.54	1,802.49
General Light Industry	45742.3 / 0					513.02	1,396.26	34.63	40,568.84
General Office Building	2626.9 / 1610.04					29.46	80.18	1.99	2,329.80
Government Office Building	710.407 / 435.411					7.97	21.68	0.54	630.06
High School	67.339 / 173.157					0.76	2.06	0.05	59.72
Hospital	205.286 / 39.1021					2.30	6.27	0.16	182.07
Hotel	52.636 / 5.84845					0.59	1.61	0.04	46.68
Place of Worship	24.2489 / 37.9278					0.27	0.74	0.02	21.51
Single Family Housing	1239.62 / 781.5					13.90	37.84	0.94	1,099.42
Strip Mall	596.58 / 365.646					6.69	18.21	0.45	529.11
Total						**597.75**	**1,626.89**	**40.36**	**47,269.70**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					127,743.8 1	7,549.44	0.00	286,282.1 1
Unmitigated					127,743.8 1	7,549.44	0.00	286,282.1 1
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	26.49					5.38	0.32	0.00	12.05
Condo/Townhouse	14348.8					2,912.67	172.13	0.00	6,527.49
General Light Industry	541236					109,866.08	6,492.90	0.00	246,216.97
General Office Building	13745.4					2,790.19	164.90	0.00	6,253.00
Government Office Building	3325.68					675.08	39.90	0.00	1,512.90
High School	2636.4					535.17	31.63	0.00	1,199.34
Hospital	17668.8					3,586.61	211.96	0.00	8,037.82
Hotel	1136.06					230.61	13.63	0.00	516.81
Place of Worship	4417.5					896.71	52.99	0.00	2,009.59
Single Family Housing	22309.7					4,528.68	267.64	0.00	10,149.05
Strip Mall	8456.7					1,716.63	101.45	0.00	3,847.09
Total						**127,743.81**	**7,549.45**	**0.00**	**286,282.11**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	26.49					5.38	0.32	0.00	12.05
Condo/Townhouse	14348.8					2,912.67	172.13	0.00	6,527.49
General Light Industry	541236					109,866.08	6,492.90	0.00	246,216.97
General Office Building	13745.4					2,790.19	164.90	0.00	6,253.00
Government Office Building	3325.68					675.08	39.90	0.00	1,512.90
High School	2636.4					535.17	31.63	0.00	1,199.34
Hospital	17668.8					3,586.61	211.96	0.00	8,037.82
Hotel	1136.06					230.61	13.63	0.00	516.81
Place of Worship	4417.5					896.71	52.99	0.00	2,009.59
Single Family Housing	22309.7					4,528.68	267.64	0.00	10,149.05
Strip Mall	8456.7					1,716.63	101.45	0.00	3,847.09
Total						**127,743.81**	**7,549.45**	**0.00**	**286,282.11**

9.0 Vegetation

Burbank2035

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	14780	1000sqft
Government Office Building	3576	1000sqft
Hospital	1636	1000sqft
High School	2028	1000sqft
Place of Worship	775	1000sqft
General Light Industry	9303	1000sqft
City Park	308	Acre
Hotel	2075	Room
Condo/Townhouse	31193	Dwelling Unit
Single Family Housing	19026	Dwelling Unit
Strip Mall	8054	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company**

Climate Zone 11 **Precipitation Freq (Days)** 33

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - no construction

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2011	607.47	2,907.77	5,862.48	9.15	801.04	118.75	919.79	34.48	118.75	153.23	0.00	942,371.23	0.00	52.57	0.00	943,475.25
2012	36,039.16	67.84	758.53	1.17	137.01	4.87	141.88	5.12	4.87	9.99	0.00	117,223.40	0.00	7.43	0.00	117,379.34
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2011	607.47	2,907.77	5,862.48	9.15	404.61	118.75	414.68	34.48	118.75	153.23	0.00	942,371.23	0.00	52.57	0.00	943,475.25
2012	36,039.16	67.84	758.53	1.17	5.12	4.87	9.99	5.12	4.87	9.99	0.00	117,223.40	0.00	7.43	0.00	117,379.34
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Energy	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
Mobile	3,190.39	7,800.31	26,783.65	123.61	12,707.37	539.30	13,246.67	180.77	529.99	710.76		9,615,804.88		246.42		9,620,979.66
Total	**11,289.84**	**8,659.92**	**47,891.78**	**167.54**	**12,707.37**	**539.30**	**15,970.35**	**180.77**	**529.99**	**3,433.83**	**354,382.01**	**11,237,923.89**		**1,670.03**	**34.72**	**11,638,139.35**

2.2 Overall Operational

<u>Mitigated Operational</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Energy	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
Mobile	3,190.39	7,800.31	26,783.65	123.61	12,707.37	539.30	13,246.67	180.77	529.99	710.76		9,615,804.88		246.42		9,620,979.66
Total	**11,289.84**	**8,659.92**	**47,891.78**	**167.54**	**12,707.37**	**539.30**	**15,970.35**	**180.77**	**529.99**	**3,433.83**	**354,382.01**	**11,237,923.89**		**1,670.03**	**34.72**	**11,638,139.35**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**		**4.10**	**4.10**		**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.12	1.38	0.00	0.23	0.01	0.24	0.01	0.01	0.02		200.34		0.01		200.62
Total	**0.12**	**0.12**	**1.38**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**200.34**		**0.01**		**200.62**

3.2 Demolition - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**		**4.10**	**4.10**		**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.12	1.38	0.00	0.01	0.01	0.02	0.01	0.01	0.02		200.34		0.01		200.62
Total	**0.12**	**0.12**	**1.38**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**200.34**		**0.01**		**200.62**

3.3 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					386.53	0.00	386.53	3.33	0.00	3.33						0.00
Off-Road	13.18	110.77	57.70	0.10		5.43	5.43		5.43	5.43		10,856.66		1.18		10,881.42
Total	**13.18**	**110.77**	**57.70**	**0.10**	**386.53**	**5.43**	**391.96**	**3.33**	**5.43**	**8.76**		**10,856.66**		**1.18**		**10,881.42**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.16	1.85	0.00	0.31	0.01	0.32	0.01	0.01	0.02		267.12		0.02		267.49
Total	**0.16**	**0.16**	**1.85**	**0.00**	**0.31**	**0.01**	**0.32**	**0.01**	**0.01**	**0.02**		**267.12**		**0.02**		**267.49**

3.3 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					386.53	0.00	386.53	3.33	0.00	3.33						0.00
Off-Road	13.18	110.77	57.70	0.10		5.43	5.43		5.43	5.43	0.00	10,856.66		1.18		10,881.42
Total	**13.18**	**110.77**	**57.70**	**0.10**	**386.53**	**5.43**	**391.96**	**3.33**	**5.43**	**8.76**	**0.00**	**10,856.66**		**1.18**		**10,881.42**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.16	1.85	0.00	0.01	0.01	0.02	0.01	0.01	0.02		267.12		0.02		267.49
Total	**0.16**	**0.16**	**1.85**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**267.12**		**0.02**		**267.49**

3.4 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	10.99	89.73	50.45	0.07		4.61	4.61		4.61	4.61		7,997.70		0.99		8,018.42
Total	**10.99**	**89.73**	**50.45**	**0.07**	**18.07**	**4.61**	**22.68**	**9.93**	**4.61**	**14.54**		**7,997.70**		**0.99**		**8,018.42**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.14	0.14	1.66	0.00	0.28	0.01	0.29	0.01	0.01	0.02		240.41		0.02		240.74
Total	**0.14**	**0.14**	**1.66**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**240.41**		**0.02**		**240.74**

3.4 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	10.99	89.73	50.45	0.07		4.61	4.61		4.61	4.61	0.00	7,997.70		0.99		8,018.42
Total	**10.99**	**89.73**	**50.45**	**0.07**	**18.07**	**4.61**	**22.68**	**9.93**	**4.61**	**14.54**	**0.00**	**7,997.70**		**0.99**		**8,018.42**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.14	0.14	1.66	0.00	0.01	0.01	0.02	0.01	0.01	0.02		240.41		0.02		240.74
Total	**0.14**	**0.14**	**1.66**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**240.41**		**0.02**		**240.74**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.11	40.22	24.03	0.04		2.80	2.80		2.80	2.80		4,040.62		0.55		4,052.11
Total	**6.11**	**40.22**	**24.03**	**0.04**		**2.80**	**2.80**		**2.80**	**2.80**		**4,040.62**		**0.55**		**4,052.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	246.64	2,513.11	1,720.24	3.28	116.00	93.59	209.59	8.88	93.59	102.47		342,211.46		12.32		342,470.25
Worker	354.73	354.45	4,118.20	5.82	685.04	22.37	707.41	25.60	22.37	47.96		596,119.15		39.70		596,952.89
Total	**601.37**	**2,867.56**	**5,838.44**	**9.10**	**801.04**	**115.96**	**917.00**	**34.48**	**115.96**	**150.43**		**938,330.61**		**52.02**		**939,423.14**

3.5 Building Construction - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.11	40.22	24.03	0.04		2.80	2.80		2.80	2.80	0.00	4,040.62		0.55		4,052.11
Total	**6.11**	**40.22**	**24.03**	**0.04**		**2.80**	**2.80**		**2.80**	**2.80**	**0.00**	**4,040.62**		**0.55**		**4,052.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	246.64	2,513.11	1,720.24	3.28	8.88	93.59	102.47	8.88	93.59	102.47		342,211.46		12.32		342,470.25
Worker	354.73	354.45	4,118.20	5.82	25.60	22.37	47.96	25.60	22.37	47.96		596,119.15		39.70		596,952.89
Total	**601.37**	**2,867.56**	**5,838.44**	**9.10**	**34.48**	**115.96**	**150.43**	**34.48**	**115.96**	**150.43**		**938,330.61**		**52.02**		**939,423.14**

3.6 Paving - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.21	37.52	21.30	0.03		3.31	3.31		3.31	3.31		2,917.64		0.56		2,929.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**6.21**	**37.52**	**21.30**	**0.03**		**3.31**	**3.31**		**3.31**	**3.31**		**2,917.64**		**0.56**		**2,929.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.12	1.38	0.00	0.23	0.01	0.24	0.01	0.01	0.02		200.34		0.01		200.62
Total	**0.12**	**0.12**	**1.38**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**200.34**		**0.01**		**200.62**

3.6 Paving - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.21	37.52	21.30	0.03		3.31	3.31		3.31	3.31	0.00	2,917.64		0.56		2,929.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**6.21**	**37.52**	**21.30**	**0.03**		**3.31**	**3.31**		**3.31**	**3.31**	**0.00**	**2,917.64**		**0.56**		**2,929.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.12	1.38	0.00	0.01	0.01	0.02	0.01	0.01	0.02		200.34		0.01		200.62
Total	**0.12**	**0.12**	**1.38**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**200.34**		**0.01**		**200.62**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.86	35.62	21.08	0.03		3.13	3.13		3.13	3.13		2,917.64		0.53		2,928.70
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.86**	**35.62**	**21.08**	**0.03**		**3.13**	**3.13**		**3.13**	**3.13**		**2,917.64**		**0.53**		**2,928.70**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.11	1.27	0.00	0.23	0.01	0.24	0.01	0.01	0.02		196.50		0.01		196.76
Total	**0.11**	**0.11**	**1.27**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**196.50**		**0.01**		**196.76**

3.6 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.86	35.62	21.08	0.03		3.13	3.13		3.13	3.13	0.00	2,917.64		0.53		2,928.70
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.86**	**35.62**	**21.08**	**0.03**		**3.13**	**3.13**		**3.13**	**3.13**	**0.00**	**2,917.64**		**0.53**		**2,928.70**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.11	1.27	0.00	0.01	0.01	0.02	0.01	0.01	0.02		196.50		0.01		196.76
Total	**0.11**	**0.11**	**1.27**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**196.50**		**0.01**		**196.76**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35,973.41					0.00	0.00		0.00	0.00						0.00
Off-Road	0.52	3.16	1.96	0.00		0.29	0.29		0.29	0.29		281.19		0.05		282.18
Total	**35,973.93**	**3.16**	**1.96**	**0.00**		**0.29**	**0.29**		**0.29**	**0.29**		**281.19**		**0.05**		**282.18**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	65.23	64.68	756.57	1.16	137.01	4.58	141.59	5.12	4.58	9.70		116,942.21		7.38		117,097.17
Total	**65.23**	**64.68**	**756.57**	**1.16**	**137.01**	**4.58**	**141.59**	**5.12**	**4.58**	**9.70**		**116,942.21**		**7.38**		**117,097.17**

3.7 Architectural Coating - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35,973.41					0.00	0.00		0.00	0.00						0.00
Off-Road	0.52	3.16	1.96	0.00		0.29	0.29		0.29	0.29	0.00	281.19		0.05		282.18
Total	**35,973.93**	**3.16**	**1.96**	**0.00**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**281.19**		**0.05**		**282.18**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	65.23	64.68	756.57	1.16	5.12	4.58	9.70	5.12	4.58	9.70		116,942.21		7.38		117,097.17
Total	**65.23**	**64.68**	**756.57**	**1.16**	**5.12**	**4.58**	**9.70**	**5.12**	**4.58**	**9.70**		**116,942.21**		**7.38**		**117,097.17**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3,190.39	7,800.31	26,783.65	123.61	12,707.37	539.30	13,246.67	180.77	529.99	710.76		9,615,804 .88		246.42		9,620,979 .66
Unmitigated	3,190.39	7,800.31	26,783.65	123.61	12,707.37	539.30	13,246.67	180.77	529.99	710.76		9,615,804 .88		246.42		9,620,979 .66
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	489.72	489.72	489.72	1,396,957	1,396,957
Condo/Townhouse	205,561.87	223,341.88	189341.51	685,381,202	685,381,202
General Light Industry	64,841.91	12,279.96	6326.04	165,237,482	165,237,482
General Office Building	162,727.80	35,028.60	14484.40	393,780,965	393,780,965
Government Office Building	246,493.68	0.00	0.00	434,166,894	434,166,894
High School	26,140.92	8,862.36	3630.12	56,945,075	56,945,075
Hospital	26,994.00	16,654.48	14576.76	63,874,679	63,874,679
Hotel	16,952.75	16,994.25	12346.25	45,382,631	45,382,631
Place of Worship	7,060.25	8,036.75	28388.25	34,116,207	34,116,207
Single Family Housing	182,078.82	191,782.08	166858.02	603,801,853	603,801,853

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	356,953.28	338,590.16	164543.22	750,911,495	750,911,495
Total	1,296,295.00	852,060.24	600,984.29	3,234,995,440	3,234,995,440

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Condo/Townhouse	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
Government Office Building	8.90	13.30	7.40	33.00	62.00	5.00
High School	8.90	13.30	7.40	77.80	17.20	5.00
Hospital	8.90	13.30	7.40	64.90	16.10	19.00
Hotel	8.90	13.30	7.40	19.40	61.60	19.00
Place of Worship	8.90	13.30	7.40	0.00	95.00	5.00
Single Family Housing	12.70	7.00	9.50	40.20	19.20	40.60
Strip Mall	8.90	13.30	7.40	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
NaturalGas Unmitigated	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Condo/Townhouse	2.23895e+006	24.15	206.33	87.80	1.32		0.00	16.68		0.00	16.68		263,405.76		5.05	4.83	265,008.80
General Light Industry	479423	5.17	47.00	39.48	0.28		0.00	3.57		0.00	3.57		56,402.72		1.08	1.03	56,745.97
General Office Building	442590	4.77	43.39	36.45	0.26		0.00	3.30		0.00	3.30		52,069.43		1.00	0.95	52,386.31
Government Office Building	107084	1.15	10.50	8.82	0.06		0.00	0.80		0.00	0.80		12,598.12		0.24	0.23	12,674.79
High School	60506.6	0.65	5.93	4.98	0.04		0.00	0.45		0.00	0.45		7,118.43		0.14	0.13	7,161.75
Hospital	291522	3.14	28.58	24.01	0.17		0.00	2.17		0.00	2.17		34,296.68		0.66	0.63	34,505.40
Hotel	206528	2.23	20.25	17.01	0.12		0.00	1.54		0.00	1.54		24,297.42		0.47	0.45	24,445.29
Place of Worship	39939	0.43	3.92	3.29	0.02		0.00	0.30		0.00	0.30		4,698.71		0.09	0.09	4,727.31
Single Family Housing	2.13627e+006	23.04	196.87	83.78	1.26		0.00	15.92		0.00	15.92		251,325.70		4.82	4.61	252,855.23
Strip Mall	37511.8	0.40	3.68	3.09	0.02		0.00	0.28		0.00	0.28		4,413.15		0.08	0.08	4,440.01
Total		**65.13**	**566.45**	**308.71**	**3.55**		**0.00**	**45.01**		**0.00**	**45.01**		**710,626.12**		**13.63**	**13.03**	**714,950.86**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Condo/Townhouse	2238.95	24.15	206.33	87.80	1.32		0.00	16.68		0.00	16.68		263,405.76		5.05	4.83	265,008.80
General Light Industry	479.423	5.17	47.00	39.48	0.28		0.00	3.57		0.00	3.57		56,402.72		1.08	1.03	56,745.97
General Office Building	442.59	4.77	43.39	36.45	0.26		0.00	3.30		0.00	3.30		52,069.43		1.00	0.95	52,386.31
Government Office Building	107.084	1.15	10.50	8.82	0.06		0.00	0.80		0.00	0.80		12,598.12		0.24	0.23	12,674.79
High School	60.5066	0.65	5.93	4.98	0.04		0.00	0.45		0.00	0.45		7,118.43		0.14	0.13	7,161.75
Hospital	291.522	3.14	28.58	24.01	0.17		0.00	2.17		0.00	2.17		34,296.68		0.66	0.63	34,505.40
Hotel	206.528	2.23	20.25	17.01	0.12		0.00	1.54		0.00	1.54		24,297.42		0.47	0.45	24,445.29
Place of Worship	39.939	0.43	3.92	3.29	0.02		0.00	0.30		0.00	0.30		4,698.71		0.09	0.09	4,727.31
Single Family Housing	2136.27	23.04	196.87	83.78	1.26		0.00	15.92		0.00	15.92		251,325.70		4.82	4.61	252,855.23
Strip Mall	37.5118	0.40	3.68	3.09	0.02		0.00	0.28		0.00	0.28		4,413.15		0.08	0.08	4,440.01
Total		**65.13**	**566.45**	**308.71**	**3.55**		**0.00**	**45.01**		**0.00**	**45.01**		**710,626.12**		**13.63**	**13.03**	**714,950.86**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Unmitigated	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	413.94					0.00	0.00		0.00	0.00						0.00
Consumer Products	2,150.37					0.00	0.00		0.00	0.00						0.00
Hearth	5,345.22	245.16	16,622.92	40.16		0.00	2,655.52		0.00	2,654.92	354,382.01	903,942.00		1,402.82	21.69	1,294,507.22
Landscaping	124.78	48.01	4,176.51	0.22		0.00	23.15		0.00	23.15		7,550.89		7.18		7,701.60
Total	**8,034.31**	**293.17**	**20,799.43**	**40.38**		**0.00**	**2,678.67**		**0.00**	**2,678.07**	**354,382.01**	**911,492.89**		**1,410.00**	**21.69**	**1,302,208.82**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	413.94					0.00	0.00		0.00	0.00						0.00
Consumer Products	2,150.37					0.00	0.00		0.00	0.00						0.00
Hearth	5,345.22	245.16	16,622.92	40.16		0.00	2,655.52		0.00	2,654.92	354,382.01	903,942.00		1,402.82	21.69	1,294,507.22
Landscaping	124.78	48.01	4,176.51	0.22		0.00	23.15		0.00	23.15		7,550.89		7.18		7,701.60
Total	**8,034.31**	**293.17**	**20,799.43**	**40.38**		**0.00**	**2,678.67**		**0.00**	**2,678.07**	**354,382.01**	**911,492.89**		**1,410.00**	**21.69**	**1,302,208.82**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Burbank2035

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	14780	1000sqft
Government Office Building	3576	1000sqft
Hospital	1636	1000sqft
High School	2028	1000sqft
Place of Worship	775	1000sqft
General Light Industry	9303	1000sqft
City Park	308	Acre
Hotel	2075	Room
Condo/Townhouse	31193	Dwelling Unit
Single Family Housing	19026	Dwelling Unit
Strip Mall	8054	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company**

Climate Zone 11 **Precipitation Freq (Days)** 33

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - no construction

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2011	650.17	3,099.97	5,844.35	8.77	801.04	120.26	921.30	34.48	120.26	154.74	0.00	896,340.91	0.00	51.84	0.00	897,429.44
2012	36,044.62	78.40	721.82	1.09	137.01	4.87	141.88	5.12	4.87	9.99	0.00	108,628.93	0.00	7.18	0.00	108,779.80
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2011	650.17	3,099.97	5,844.35	8.77	404.61	120.26	414.68	34.48	120.26	154.74	0.00	896,340.91	0.00	51.84	0.00	897,429.44
2012	36,044.62	78.40	721.82	1.09	5.12	4.87	9.99	5.12	4.87	9.99	0.00	108,628.93	0.00	7.18	0.00	108,779.80
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Energy	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
Mobile	3,365.87	8,082.87	26,491.58	115.86	12,707.37	540.19	13,247.56	180.77	531.76	712.54		9,065,747.81		240.45		9,070,797.35
Total	**11,465.32**	**8,942.48**	**47,599.71**	**159.79**	**12,707.37**	**540.19**	**15,971.24**	**180.77**	**531.76**	**3,435.61**	**354,382.01**	**10,687,866.82**		**1,664.06**	**34.72**	**11,087,957.04**

2.2 Overall Operational

<u>Mitigated Operational</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Energy	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
Mobile	3,365.87	8,082.87	26,491.58	115.86	12,707.37	540.19	13,247.56	180.77	531.76	712.54		9,065,747.81		240.45		9,070,797.35
Total	**11,465.32**	**8,942.48**	**47,599.71**	**159.79**	**12,707.37**	**540.19**	**15,971.24**	**180.77**	**531.76**	**3,435.61**	**354,382.01**	**10,687,866.82**		**1,664.06**	**34.72**	**11,087,957.04**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**		**4.10**	**4.10**		**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.13**	**0.14**	**1.32**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**185.63**		**0.01**		**185.90**

3.2 Demolition - 2011

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**		**4.10**	**4.10**		**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.01	0.01	0.02	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.13**	**0.14**	**1.32**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**185.63**		**0.01**		**185.90**

3.3 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					386.53	0.00	386.53	3.33	0.00	3.33						0.00
Off-Road	13.18	110.77	57.70	0.10		5.43	5.43		5.43	5.43		10,856.66		1.18		10,881.42
Total	**13.18**	**110.77**	**57.70**	**0.10**	**386.53**	**5.43**	**391.96**	**3.33**	**5.43**	**8.76**		**10,856.66**		**1.18**		**10,881.42**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.17	0.18	1.76	0.00	0.31	0.01	0.32	0.01	0.01	0.02		247.50		0.02		247.86
Total	**0.17**	**0.18**	**1.76**	**0.00**	**0.31**	**0.01**	**0.32**	**0.01**	**0.01**	**0.02**		**247.50**		**0.02**		**247.86**

3.3 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					386.53	0.00	386.53	3.33	0.00	3.33						0.00
Off-Road	13.18	110.77	57.70	0.10		5.43	5.43		5.43	5.43	0.00	10,856.66		1.18		10,881.42
Total	**13.18**	**110.77**	**57.70**	**0.10**	**386.53**	**5.43**	**391.96**	**3.33**	**5.43**	**8.76**	**0.00**	**10,856.66**		**1.18**		**10,881.42**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.17	0.18	1.76	0.00	0.01	0.01	0.02	0.01	0.01	0.02		247.50		0.02		247.86
Total	**0.17**	**0.18**	**1.76**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**247.50**		**0.02**		**247.86**

3.4 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	10.99	89.73	50.45	0.07		4.61	4.61		4.61	4.61		7,997.70		0.99		8,018.42
Total	**10.99**	**89.73**	**50.45**	**0.07**	**18.07**	**4.61**	**22.68**	**9.93**	**4.61**	**14.54**		**7,997.70**		**0.99**		**8,018.42**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.17	1.58	0.00	0.28	0.01	0.29	0.01	0.01	0.02		222.75		0.02		223.08
Total	**0.16**	**0.17**	**1.58**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**222.75**		**0.02**		**223.08**

3.4 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	10.99	89.73	50.45	0.07		4.61	4.61		4.61	4.61	0.00	7,997.70		0.99		8,018.42
Total	**10.99**	**89.73**	**50.45**	**0.07**	**18.07**	**4.61**	**22.68**	**9.93**	**4.61**	**14.54**	**0.00**	**7,997.70**		**0.99**		**8,018.42**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.17	1.58	0.00	0.01	0.01	0.02	0.01	0.01	0.02		222.75		0.02		223.08
Total	**0.16**	**0.17**	**1.58**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**222.75**		**0.02**		**223.08**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.11	40.22	24.03	0.04		2.80	2.80		2.80	2.80		4,040.62		0.55		4,052.11
Total	**6.11**	**40.22**	**24.03**	**0.04**		**2.80**	**2.80**		**2.80**	**2.80**		**4,040.62**		**0.55**		**4,052.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	259.69	2,647.52	1,890.22	3.26	116.00	95.10	211.10	8.88	95.10	103.98		339,956.85		13.00		340,229.78
Worker	384.37	412.23	3,930.10	5.46	685.04	22.37	707.41	25.60	22.37	47.96		552,343.44		38.29		553,147.55
Total	**644.06**	**3,059.75**	**5,820.32**	**8.72**	**801.04**	**117.47**	**918.51**	**34.48**	**117.47**	**151.94**		**892,300.29**		**51.29**		**893,377.33**

3.5 Building Construction - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.11	40.22	24.03	0.04		2.80	2.80		2.80	2.80	0.00	4,040.62		0.55		4,052.11
Total	**6.11**	**40.22**	**24.03**	**0.04**		**2.80**	**2.80**		**2.80**	**2.80**	**0.00**	**4,040.62**		**0.55**		**4,052.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	259.69	2,647.52	1,890.22	3.26	8.88	95.10	103.98	8.88	95.10	103.98		339,956.85		13.00		340,229.78
Worker	384.37	412.23	3,930.10	5.46	25.60	22.37	47.96	25.60	22.37	47.96		552,343.44		38.29		553,147.55
Total	**644.06**	**3,059.75**	**5,820.32**	**8.72**	**34.48**	**117.47**	**151.94**	**34.48**	**117.47**	**151.94**		**892,300.29**		**51.29**		**893,377.33**

3.6 Paving - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.21	37.52	21.30	0.03		3.31	3.31		3.31	3.31		2,917.64		0.56		2,929.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**6.21**	**37.52**	**21.30**	**0.03**		**3.31**	**3.31**		**3.31**	**3.31**		**2,917.64**		**0.56**		**2,929.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.13**	**0.14**	**1.32**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**185.63**		**0.01**		**185.90**

3.6 Paving - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.21	37.52	21.30	0.03		3.31	3.31		3.31	3.31	0.00	2,917.64		0.56		2,929.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**6.21**	**37.52**	**21.30**	**0.03**		**3.31**	**3.31**		**3.31**	**3.31**	**0.00**	**2,917.64**		**0.56**		**2,929.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.14	1.32	0.00	0.01	0.01	0.02	0.01	0.01	0.02		185.63		0.01		185.90
Total	**0.13**	**0.14**	**1.32**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**185.63**		**0.01**		**185.90**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.86	35.62	21.08	0.03		3.13	3.13		3.13	3.13		2,917.64		0.53		2,928.70
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.86**	**35.62**	**21.08**	**0.03**		**3.13**	**3.13**		**3.13**	**3.13**		**2,917.64**		**0.53**		**2,928.70**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.13	1.21	0.00	0.23	0.01	0.24	0.01	0.01	0.02		182.06		0.01		182.31
Total	**0.12**	**0.13**	**1.21**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**182.06**		**0.01**		**182.31**

3.6 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.86	35.62	21.08	0.03		3.13	3.13		3.13	3.13	0.00	2,917.64		0.53		2,928.70
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.86**	**35.62**	**21.08**	**0.03**		**3.13**	**3.13**		**3.13**	**3.13**	**0.00**	**2,917.64**		**0.53**		**2,928.70**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.13	1.21	0.00	0.01	0.01	0.02	0.01	0.01	0.02		182.06		0.01		182.31
Total	**0.12**	**0.13**	**1.21**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**		**182.06**		**0.01**		**182.31**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35,973.41					0.00	0.00		0.00	0.00						0.00
Off-Road	0.52	3.16	1.96	0.00		0.29	0.29		0.29	0.29		281.19		0.05		282.18
Total	**35,973.93**	**3.16**	**1.96**	**0.00**		**0.29**	**0.29**		**0.29**	**0.29**		**281.19**		**0.05**		**282.18**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	70.69	75.23	719.86	1.09	137.01	4.58	141.59	5.12	4.58	9.70		108,347.74		7.14		108,497.62
Total	**70.69**	**75.23**	**719.86**	**1.09**	**137.01**	**4.58**	**141.59**	**5.12**	**4.58**	**9.70**		**108,347.74**		**7.14**		**108,497.62**

3.7 Architectural Coating - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35,973.41					0.00	0.00		0.00	0.00						0.00
Off-Road	0.52	3.16	1.96	0.00		0.29	0.29		0.29	0.29	0.00	281.19		0.05		282.18
Total	**35,973.93**	**3.16**	**1.96**	**0.00**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**281.19**		**0.05**		**282.18**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	70.69	75.23	719.86	1.09	5.12	4.58	9.70	5.12	4.58	9.70		108,347.74		7.14		108,497.62
Total	**70.69**	**75.23**	**719.86**	**1.09**	**5.12**	**4.58**	**9.70**	**5.12**	**4.58**	**9.70**		**108,347.74**		**7.14**		**108,497.62**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3,365.87	8,082.87	26,491.58	115.86	12,707.37	540.19	13,247.56	180.77	531.76	712.54		9,065,747.81		240.45		9,070,797.35
Unmitigated	3,365.87	8,082.87	26,491.58	115.86	12,707.37	540.19	13,247.56	180.77	531.76	712.54		9,065,747.81		240.45		9,070,797.35
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	489.72	489.72	489.72	1,396,957	1,396,957
Condo/Townhouse	205,561.87	223,341.88	189341.51	685,381,202	685,381,202
General Light Industry	64,841.91	12,279.96	6326.04	165,237,482	165,237,482
General Office Building	162,727.80	35,028.60	14484.40	393,780,965	393,780,965
Government Office Building	246,493.68	0.00	0.00	434,166,894	434,166,894
High School	26,140.92	8,862.36	3630.12	56,945,075	56,945,075
Hospital	26,994.00	16,654.48	14576.76	63,874,679	63,874,679
Hotel	16,952.75	16,994.25	12346.25	45,382,631	45,382,631
Place of Worship	7,060.25	8,036.75	28388.25	34,116,207	34,116,207
Single Family Housing	182,078.82	191,782.08	166858.02	603,801,853	603,801,853

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	356,953.28	338,590.16	164543.22	750,911,495	750,911,495
Total	1,296,295.00	852,060.24	600,984.29	3,234,995,440	3,234,995,440

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Condo/Townhouse	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
Government Office Building	8.90	13.30	7.40	33.00	62.00	5.00
High School	8.90	13.30	7.40	77.80	17.20	5.00
Hospital	8.90	13.30	7.40	64.90	16.10	19.00
Hotel	8.90	13.30	7.40	19.40	61.60	19.00
Place of Worship	8.90	13.30	7.40	0.00	95.00	5.00
Single Family Housing	12.70	7.00	9.50	40.20	19.20	40.60
Strip Mall	8.90	13.30	7.40	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
NaturalGas Unmitigated	65.14	566.45	308.70	3.55		0.00	45.01		0.00	45.01		710,626.12		13.62	13.03	714,950.87
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Condo/Townhouse	2.23895e+006	24.15	206.33	87.80	1.32		0.00	16.68		0.00	16.68		263,405.76		5.05	4.83	265,008.80
General Light Industry	479423	5.17	47.00	39.48	0.28		0.00	3.57		0.00	3.57		56,402.72		1.08	1.03	56,745.97
General Office Building	442590	4.77	43.39	36.45	0.26		0.00	3.30		0.00	3.30		52,069.43		1.00	0.95	52,386.31
Government Office Building	107084	1.15	10.50	8.82	0.06		0.00	0.80		0.00	0.80		12,598.12		0.24	0.23	12,674.79
High School	60506.6	0.65	5.93	4.98	0.04		0.00	0.45		0.00	0.45		7,118.43		0.14	0.13	7,161.75
Hospital	291522	3.14	28.58	24.01	0.17		0.00	2.17		0.00	2.17		34,296.68		0.66	0.63	34,505.40
Hotel	206528	2.23	20.25	17.01	0.12		0.00	1.54		0.00	1.54		24,297.42		0.47	0.45	24,445.29
Place of Worship	39939	0.43	3.92	3.29	0.02		0.00	0.30		0.00	0.30		4,698.71		0.09	0.09	4,727.31
Single Family Housing	2.13627e+006	23.04	196.87	83.78	1.26		0.00	15.92		0.00	15.92		251,325.70		4.82	4.61	252,855.23
Strip Mall	37511.8	0.40	3.68	3.09	0.02		0.00	0.28		0.00	0.28		4,413.15		0.08	0.08	4,440.01
Total		**65.13**	**566.45**	**308.71**	**3.55**		**0.00**	**45.01**		**0.00**	**45.01**		**710,626.12**		**13.63**	**13.03**	**714,950.86**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Condo/Townhouse	2238.95	24.15	206.33	87.80	1.32		0.00	16.68		0.00	16.68		263,405.76		5.05	4.83	265,008.80
General Light Industry	479.423	5.17	47.00	39.48	0.28		0.00	3.57		0.00	3.57		56,402.72		1.08	1.03	56,745.97
General Office Building	442.59	4.77	43.39	36.45	0.26		0.00	3.30		0.00	3.30		52,069.43		1.00	0.95	52,386.31
Government Office Building	107.084	1.15	10.50	8.82	0.06		0.00	0.80		0.00	0.80		12,598.12		0.24	0.23	12,674.79
High School	60.5066	0.65	5.93	4.98	0.04		0.00	0.45		0.00	0.45		7,118.43		0.14	0.13	7,161.75
Hospital	291.522	3.14	28.58	24.01	0.17		0.00	2.17		0.00	2.17		34,296.68		0.66	0.63	34,505.40
Hotel	206.528	2.23	20.25	17.01	0.12		0.00	1.54		0.00	1.54		24,297.42		0.47	0.45	24,445.29
Place of Worship	39.939	0.43	3.92	3.29	0.02		0.00	0.30		0.00	0.30		4,698.71		0.09	0.09	4,727.31
Single Family Housing	2136.27	23.04	196.87	83.78	1.26		0.00	15.92		0.00	15.92		251,325.70		4.82	4.61	252,855.23
Strip Mall	37.5118	0.40	3.68	3.09	0.02		0.00	0.28		0.00	0.28		4,413.15		0.08	0.08	4,440.01
Total		**65.13**	**566.45**	**308.71**	**3.55**		**0.00**	**45.01**		**0.00**	**45.01**		**710,626.12**		**13.63**	**13.03**	**714,950.86**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Unmitigated	8,034.31	293.16	20,799.43	40.38		0.00	2,678.67		0.00	2,678.06	354,382.01	911,492.89		1,409.99	21.69	1,302,208.82
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

<u>Unmitigated</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	413.94					0.00	0.00		0.00	0.00						0.00
Consumer Products	2,150.37					0.00	0.00		0.00	0.00						0.00
Hearth	5,345.22	245.16	16,622.92	40.16		0.00	2,655.52		0.00	2,654.92	354,382.01	903,942.00		1,402.82	21.69	1,294,507.22
Landscaping	124.78	48.01	4,176.51	0.22		0.00	23.15		0.00	23.15		7,550.89		7.18		7,701.60
Total	**8,034.31**	**293.17**	**20,799.43**	**40.38**		**0.00**	**2,678.67**		**0.00**	**2,678.07**	**354,382.01**	**911,492.89**		**1,410.00**	**21.69**	**1,302,208.82**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	413.94					0.00	0.00		0.00	0.00						0.00
Consumer Products	2,150.37					0.00	0.00		0.00	0.00						0.00
Hearth	5,345.22	245.16	16,622.92	40.16		0.00	2,655.52		0.00	2,654.92	354,382.01	903,942.00		1,402.82	21.69	1,294,507.22
Landscaping	124.78	48.01	4,176.51	0.22		0.00	23.15		0.00	23.15		7,550.89		7.18		7,701.60
Total	**8,034.31**	**293.17**	**20,799.43**	**40.38**		**0.00**	**2,678.67**		**0.00**	**2,678.07**	**354,382.01**	**911,492.89**		**1,410.00**	**21.69**	**1,302,208.82**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Burbank2035 Air Quality Emissions
Operational Emissions Summary
CalEEMod Outputs and EMFAC2007 Modeling

Daily Summer (lb/day)	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	8,034.31	293.16	20,799.43	40.38	2,678.67	2,678.06
Energy Sources	65.14	566.45	308.70	3.55	45.01	45.01
Total Summer	8,099.45	859.61	21,108.13	43.93	2,723.68	2,723.07
Daily Winter (lb/day)	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	8,034.31	293.16	20,799.43	40.38	2,678.67	2,678.06
Energy Sources	65.14	566.45	308.70	3.55	45.01	45.01
Total Winter	8,099.45	859.61	21,108.13	43.93	2,723.68	2,723.07
Maximum Daily (lb/day)	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	8,034.31	293.16	20,799.43	40.38	2,678.67	2,678.06
Energy Sources	65.14	566.45	308.70	3.55	45.01	45.01
Mobile Sources	816.16	3,312.01	14,423.00	64.51	627.96	434.34
Total Daily Emisisons	**8,915.61**	**4,171.62**	**35,531.13**	**108.44**	**3,351.64**	**3,157.41**

Annual Emissions (ton/yr)	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	657.31	12.93	1,077.18	0.54	53.60	53.58
Energy Sources	11.89	103.38	56.34	0.65	8.21	8.21
Mobile Sources	148.95	604.44	2,632.20	11.77	114.60	79.27
Total Annual Emissions	**818.15**	**720.75**	**3,765.72**	**12.96**	**176.41**	**141.06**

Burbank2035 Air Quality Emissions
Mobile Source Emissions

EMFAC 2007 Los Angeles County (Temperature 60 F, Relative Humidity 0%)

Running Emissions

Speed	VMT	gram/mile												
MPH	VMT/day	CO_2	ROG	NO_X	CO	SO_X	PM_{10} exhaust	PM_{10} tire wear	PM_{10} brake wear	Total PM_{10}	$PM_{2.5}$ exhaust	$PM_{2.5}$ tire wear	$PM_{2.5}$ brake wear	Total $PM_{2.5}$
0	17,362	433.15	0.896	5.592	5.519	0.004	0.024	0	0	0.024	$PM_{2.5}$ was calculated from PM_{10} emissions using South Coast Air Quality Management District's Methodology to Calculate PM2.5 and PM2.5 Significance Thresholds.			
5	107,412	1221.18	0.168	0.44	1.532	0.012	0.095	0.009	0.013	0.117				
10	340,153	931.56	0.103	0.35	1.292	0.009	0.064	0.009	0.013	0.086				
15	628,491	737.02	0.064	0.286	1.118	0.007	0.045	0.009	0.013	0.067				
20	965,073	605.75	0.046	0.247	0.996	0.006	0.033	0.009	0.013	0.055				
25	1,079,487	521.33	0.038	0.226	0.909	0.005	0.026	0.009	0.013	0.048				
30	668,121	464.31	0.032	0.21	0.838	0.004	0.021	0.009	0.013	0.043				
35	299,126	427.36	0.029	0.199	0.782	0.004	0.019	0.009	0.013	0.041				
40	234,503	406.12	0.027	0.192	0.738	0.004	0.017	0.009	0.013	0.039				
45	273,917	398.30	0.026	0.19	0.706	0.004	0.016	0.009	0.013	0.038				
50	138,158	403.18	0.027	0.192	0.689	0.004	0.017	0.009	0.013	0.039				
55	325,962	421.43	0.029	0.2	0.689	0.004	0.017	0.009	0.013	0.039				
60	233,230	455.30	0.034	0.215	0.713	0.004	0.019	0.009	0.013	0.041				
65	268	509.08	0.041	0.237	0.774	0.005	0.022	0.009	0.013	0.044				
total	5,311,263													
Emissions Per Day (lb/day)			570.78	3,007.75	11,004.19	63.27	354.93	105.04	151.72	611.69	327.96	26.26	65.09	419.31
Emissions Per Year (ton/yr)			104.17	548.91	2,008.27	11.55	64.78	19.17	27.69	111.63	59.85	4.79	11.88	76.52

Start/Stop Emissions

Soak Time	grams/trip						
min	CO_2	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
5	14.25	0.021	0.166	0.276	0	0.001	See note below
10	16.122	0.037	0.179	0.528	0	0.002	
20	20.437	0.067	0.203	1.011	0	0.003	
30	25.515	0.095	0.223	1.467	0	0.004	
40	31.355	0.121	0.24	1.895	0	0.006	
50	37.956	0.146	0.253	2.295	0	0.007	
60	45.32	0.168	0.262	2.667	0	0.008	
120	104.389	0.246	0.282	3.784	0.001	0.013	
180	118.597	0.209	0.285	2.85	0.001	0.015	
240	132.753	0.222	0.283	3.075	0.001	0.016	
300	146.857	0.235	0.28	3.275	0.001	0.018	
360	160.907	0.247	0.275	3.451	0.002	0.019	
420	174.905	0.26	0.269	3.602	0.002	0.02	
480	188.85	0.273	0.262	3.728	0.002	0.02	
540	202.742	0.285	0.254	3.83	0.002	0.021	
600	216.581	0.297	0.244	3.907	0.002	0.021	
660	230.367	0.309	0.233	3.959	0.002	0.021	
720	244.101	0.321	0.22	3.986	0.002	0.021	
average (g/trip)	117.33	0.20	0.25	2.75	0.00	0.01	
lb/day	145,616.22	245.38	304.26	3,418.80	1.24	16.27	15.03
tons/yr	26,574.96	44.78	55.53	623.93	0.23	2.97	2.74

Note: $PM_{2.5}$ was calculated from PM_{10} emissions using South Coast Air Quality Management District's Methodology to Calculate PM2.5 and PM2.5 Significance Thresholds.

EIR APPENDIX E

Noise Data

Traffic Noise Prediction Model, (FHWA RD-77-108)

Model Input Sheet

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn
K Factor : 10
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment From	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	W Alameda Ave	Riverside	City boundary	2,188	40	100	98	1.5	0.5	80		20	
2	W Alameda Ave	Pass	Olive	1,425	40	100	98	1.5	0.5	80		20	
3	W Alameda Ave	Olive	Buena Vista	1,598	40	100	98	1.5	0.5	80		20	
4	W Alameda Ave	Buena Vista	Victory	1,938	40	100	98	1.5	0.5	70		30	
5	W Alameda Ave	Victory	San Fernando	2,540	40	100	97	2	1	70		30	
6	W Alameda Ave	San Fernando	Glenoaks	1,593	40	100	97	2	1	60		40	
7	Olive	Glenoaks	northeast	910	40	100	98	1.5	0.5	60		40	
8	Olive	First	Glenoaks	1,186	40	100	97	2	1	60		40	
9	Olive	Victory	First	2,175	40	100	97	2	1	70		30	
10	Olive	Buena Vista	Victory	1,961	40	100	98	1.5	0.5	70		30	
11	Olive	Alameda	Buena Vista	1,598	40	100	98	1.5	0.5	70		30	
12	Olive	Riverside	Alameda	1,716	40	100	98	1.5	0.5	70		30	
13	Olive	Hollywood	Riverside	1,984	40	100	98	1.5	0.5	70		30	
14	Olive	Pass	Hollywood	2,732	40	100	98	1.5	0.5	80		20	
15	Olive	Pass	City boundary	2,243	40	100	98	1.5	0.5	80		20	
16	Magnolia	Hollywood	City boundary	1,789	40	100	98	1.5	0.5	70		30	
17	Magnolia	Hollywood	Buena Vista	1,934	40	100	98	1.5	0.5	70		30	
18	Magnolia	Buena Vista	Victory	2,155	40	100	98	1.5	0.5	70		30	
19	Magnolia	Victory	First	1,999	40	100	97	2	1	70		30	
20	Magnolia	First	Glenoaks	1,365	40	100	97	2	1	60		40	
21	Magnolia	Glenoaks	east	603	40	100	98	1.5	0.5	60		40	
22	Burbank	Hollywood	City boundary	1,953	40	100	98	1.5	0.5	70		30	
23	Burbank	Hollywood	Buena Vista	2,023	40	100	98	1.5	0.5	70		30	
24	Burbank	Buena Vista	Victory	1840	40	100	98	1.5	0.5	70		30	
25	Burbank	Victory	San Fernando	3875	40	100	97	2	1	70		30	
26	Burbank	San Fernando	3rd	1331	40	100	97	2	1	70		30	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	W Alameda Ave	Riverside	City boundary	66.9	57.7	57.8	67.9	61	194	612	1936	6121
2	W Alameda Ave	Pass	Olive	65.1	55.8	55.9	66.0	40	126	399	1261	3987
3	W Alameda Ave	Olive	Buena Vista	65.6	56.3	56.4	66.5	45	141	447	1414	4471
4	W Alameda Ave	Buena Vista	Victory	67.6	58.4	58.4	68.6	72	227	716	2266	7165
5	W Alameda Ave	Victory	San Fernando	68.7	60.8	62.6	70.2	105	333	1053	3330	10530
6	W Alameda Ave	San Fernando	Glenoaks	67.7	59.7	61.5	69.1	82	260	821	2596	8211
7	Olive	Glenoaks	northeast	65.3	56.1	56.1	66.2	42	132	418	1323	4183
8	Olive	First	Glenoaks	66.4	58.5	60.3	67.9	61	193	611	1933	6113
9	Olive	Victory	First	68.1	60.1	62.0	69.6	90	285	902	2851	9017
10	Olive	Buena Vista	Victory	67.7	58.4	58.5	68.6	72	229	725	2293	7250
11	Olive	Alameda	Buena Vista	66.8	57.6	57.6	67.7	59	187	591	1868	5908
12	Olive	Riverside	Alameda	67.1	57.9	57.9	68.0	63	201	634	2006	6344
13	Olive	Hollywood	Riverside	67.7	58.5	58.5	68.7	73	232	733	2319	7335
14	Olive	Pass	Hollywood	67.9	58.7	58.7	68.8	76	242	764	2417	7643
15	Olive	Pass	City boundary	67.0	57.8	57.9	68.0	63	198	628	1984	6275
16	Magnolia	Hollywood	City boundary	67.3	58.0	58.1	68.2	66	209	661	2091	6614
17	Magnolia	Hollywood	Buena Vista	67.6	58.4	58.4	68.5	71	226	715	2261	7150
18	Magnolia	Buena Vista	Victory	68.1	58.9	58.9	69.0	80	252	797	2519	7967
19	Magnolia	Victory	First	67.7	59.8	61.6	69.2	83	262	829	2621	8287
20	Magnolia	First	Glenoaks	67.0	59.1	60.9	68.5	70	222	704	2225	7035
21	Magnolia	Glenoaks	east	63.5	54.3	54.3	64.4	28	88	277	876	2771
22	Burbank	Hollywood	City boundary	67.6	58.4	58.5	68.6	72	228	722	2283	7220
23	Burbank	Hollywood	Buena Vista	67.8	58.6	58.6	68.7	75	237	748	2365	7479
24	Burbank	Buena Vista	Victory	67.4	58.2	58.2	68.3	68	215	680	2151	6802
25	Burbank	Victory	San Fernando	70.6	62.6	64.5	72.1	161	508	1606	5080	16065
26	Burbank	San Fernando	3rd	65.9	58.0	59.8	67.4	55	174	552	1745	5518

Traffic Noise Prediction Model, (FHWA RD-77-108)
Model Input Sheet

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn
K Factor : 10
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	Victory	Hollywood	City boundary	2020	40	100	98	1.5	0.5	80		20	
2	Victory	Hollywood	Buena Vista	1723	40	100	98	1.5	0.5	80		20	
3	Victory	Buena Vista	Burbank	1906	40	100	98	1.5	0.5	80		20	
4	Victory	Burbank	Magnolia	2458	40	100	97	2	1	70		30	
5	Victory	Magnolia	Olive	2364	40	100	97	2	1	70		30	
6	Victory	Olive	Alameda	1821	40	100	97	2	1	70		30	
7	Victory	Alameda	City boundary	1821	40	100	97	2	1	70		30	
8	Vanowen	Buena Vista	Hollywood	1600	40	100	97	2	1	60		40	
9	Empire	Buena Vista	Victory	1631	40	100	97	2	1	60		40	
10	Empire	Buena Vista	Hollywood	870	40	100	97	2	1	60		40	
11	Thornton	Hollywood	east	668	40	100	97	2	1	75		25	
12	Winona	Hollywood	east	333	40	100	97	2	1	75		25	
13	N Hollywood Way	Winona	Thornton	2388	40	100	97	2	1	60		40	
14	N Hollywood Way	Thornton	Victory	2746	40	100	97	2	1	60		40	
15	N Hollywood Way	Victory	Burbank	2334	35	100	98	1.5	0.5	60		40	
16	N Hollywood Way	Burbank	Magnolia	2179	35	100	98	1.5	0.5	60		40	
17	N Hollywood Way	Magnolia	Verdugo	2109	35	100	98	1.5	0.5	60		40	
18	N Hollywood Way	Verdugo	Olive	2052	35	100	98	1.5	0.5	80		20	
19	N Hollywood Way	Olive	South	216	35	100	98	1.5	0.5	80		20	
20	Pass	Alameda	Verdugo	1310	35	100	98	1.5	0.5	80		20	
21	Pass	Alameda	Olive	776	35	100	98	1.5	0.5	80		20	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Victory	Hollywood	City boundary	66.6	57.4	57.4	67.5	57	179	565	1787	5651
2	Victory	Hollywood	Buena Vista	65.9	56.7	56.7	66.8	48	152	482	1524	4820
3	Victory	Buena Vista	Burbank	66.3	57.1	57.2	67.3	53	169	533	1686	5332
4	Victory	Burbank	Magnolia	68.6	60.7	62.5	70.1	102	322	1019	3222	10190
5	Victory	Magnolia	Olive	68.4	60.5	62.3	69.9	98	310	980	3099	9801
6	Victory	Olive	Alameda	67.3	59.4	61.2	68.8	75	239	755	2387	7549
7	Victory	Alameda	City boundary	67.3	59.4	61.2	68.8	75	239	755	2387	7549
8	Vanowen	Buena Vista	Hollywood	67.7	59.8	61.6	69.2	82	261	825	2608	8247
9	Empire	Buena Vista	Victory	67.8	59.8	61.6	69.2	84	266	841	2658	8406
10	Empire	Buena Vista	Hollywood	65.0	57.1	58.9	66.5	45	142	448	1418	4484
11	Thornton	Hollywood	east	62.4	54.5	56.3	63.9	24	77	243	769	2433
12	Winona	Hollywood	east	59.4	51.4	53.2	60.8	12	38	121	383	1213
13	N Hollywood Way	Winona	Thornton	69.4	61.5	63.3	70.9	123	389	1231	3892	12308
14	N Hollywood Way	Thornton	Victory	70.0	62.1	63.9	71.5	142	448	1415	4476	14153
15	N Hollywood Way	Victory	Burbank	67.7	59.2	59.7	68.8	77	242	765	2420	7651
16	N Hollywood Way	Burbank	Magnolia	67.4	58.9	59.4	68.5	71	226	714	2259	7143
17	N Hollywood Way	Magnolia	Verdugo	67.3	58.8	59.2	68.4	69	219	691	2186	6914
18	N Hollywood Way	Verdugo	Olive	65.0	56.5	56.9	66.1	41	129	409	1295	4095
19	N Hollywood Way	Olive	South	55.2	46.7	47.2	56.3	4	14	43	136	431
20	Pass	Alameda	Verdugo	63.0	54.6	55.0	64.2	26	83	261	827	2614
21	Pass	Alameda	Olive	60.8	52.3	52.7	61.9	15	49	155	490	1548

Traffic Noise Prediction Model, (FHWA RD-77-108)
Model Input Sheet

AECOM

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn

K Factor : 10
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment From	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	Buena Vista	Glenoaks	San Fernando	962	35	100	98	1.5	0.5	80		20	
2	Buena Vista	San Fernando	Empire	1805	35	100	98	1.5	0.5	75		25	
3	Buena Vista	Empire	Vanowen	2513	35	100	98	1.5	0.5	75		25	
4	Buena Vista	Vanowen	Victory	2519	35	100	98	1.5	0.5	60		40	
5	Buena Vista	Victory	Burbank	2362	35	100	98	1.5	0.5	60		40	
6	Buena Vista	Burbank	Magnolia	2561	35	100	98	1.5	0.5	60		40	
7	Buena Vista	Magnolia	Olive	2387	35	100	98	1.5	0.5	80		20	
8	Buena Vista	Olive	Alameda	1996	35	100	97	2	1	80		20	
9	Buena Vista	Alameda	Riverside	1870	35	100	97	2	1	80		20	
10	Buena Vista	Riverside	South	1300	35	100	98	1.5	0.5	80		20	
11	San Fernando	Burbank	Amherst	2225	35	100	97	2	1	75		25	
12	San Fernando	Burbank	San Jose	1428	35	100	97	2	1	70		30	
13	San Fernando	Alameda	Olive	1741	35	100	97	2	1	70		30	
14	San Fernando	Alameda	City boundary	1785	35	100	97	2	1	70		30	
15	First	Magnolia	San Fernando	941	35	100	97	2	1	70		30	
16	First	Olive	Magnolia	1582	35	100	97	2	1	70		30	
17	First	Olive	Santa Anita	1891	35	100	97	2	1	70		30	
18	Glenoaks	Buena Vista	City boundary	1814	40	100	98	1.5	0.5	60		40	
19	Glenoaks	Buena Vista	Scott	1500	40	100	98	1.5	0.5	60		40	
20	Glenoaks	Scott	Magnolia	1500	40	100	98	1.5	0.5	60		40	
21	Glenoaks	Magnolia	Olive	1663	35	100	98	1.5	0.5	60		40	
22	Glenoaks	Olive	Alameda	1711	35	100	98	1.5	0.5	60		40	
23	Glenoaks	Alameda	City boundary	1719	35	100	98	1.5	0.5	60		40	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : Existing
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Buena Vista	Glenoaks	San Fernando	61.7	53.2	53.7	62.8	19	61	192	607	1920
2	Buena Vista	San Fernando	Empire	65.1	56.6	57.0	66.2	42	132	418	1322	4181
3	Buena Vista	Empire	Vanowen	66.5	58.1	58.5	67.6	58	184	582	1841	5820
4	Buena Vista	Vanowen	Victory	68.0	59.6	60.0	69.2	83	261	826	2611	8258
5	Buena Vista	Victory	Burbank	67.8	59.3	59.7	68.9	77	245	774	2449	7743
6	Buena Vista	Burbank	Magnolia	68.1	59.6	60.1	69.2	84	265	840	2655	8395
7	Buena Vista	Magnolia	Olive	65.6	57.2	57.6	66.8	48	151	476	1506	4763
8	Buena Vista	Olive	Alameda	64.8	57.7	59.8	66.6	46	145	458	1448	4579
9	Buena Vista	Alameda	Riverside	64.5	57.4	59.6	66.3	43	136	429	1357	4290
10	Buena Vista	Riverside	South	63.0	54.5	55.0	64.1	26	82	259	820	2594
11	San Fernando	Burbank	Amherst	65.9	58.8	61.0	67.7	59	187	592	1873	5924
12	San Fernando	Burbank	San Jose	64.6	57.4	59.6	66.4	43	137	433	1369	4329
13	San Fernando	Alameda	Olive	65.4	58.3	60.5	67.2	53	167	528	1669	5278
14	San Fernando	Alameda	City boundary	65.5	58.4	60.6	67.3	54	171	541	1711	5411
15	First	Magnolia	San Fernando	62.8	55.6	57.8	64.6	29	90	285	902	2852
16	First	Olive	Magnolia	65.0	57.9	60.0	66.8	48	152	480	1516	4796
17	First	Olive	Santa Anita	65.8	58.6	60.8	67.6	57	181	573	1813	5732
18	Glenoaks	Buena Vista	City boundary	68.3	59.0	59.1	69.2	83	264	834	2637	8337
19	Glenoaks	Buena Vista	Scott	67.4	58.2	58.3	68.4	69	218	689	2180	6894
20	Glenoaks	Scott	Magnolia	67.4	58.2	58.3	68.4	69	218	689	2180	6894
21	Glenoaks	Magnolia	Olive	66.2	57.8	58.2	67.4	55	172	545	1724	5452
22	Glenoaks	Olive	Alameda	66.4	57.9	58.3	67.5	56	177	561	1774	5609
23	Glenoaks	Alameda	City boundary	66.4	57.9	58.3	67.5	56	178	564	1782	5635

Traffic Noise Prediction Model, (FHWA RD-77-108)

Model Input Sheet

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : 2035 No Project
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn
K Factor : 10
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment From	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	W Alameda Ave	Riverside	City boundary	2,950	40	100	98	1.5	0.5	80		20	
2	W Alameda Ave	Pass	Olive	1,580	40	100	98	1.5	0.5	80		20	
3	W Alameda Ave	Olive	Buena Vista	1,900	40	100	98	1.5	0.5	80		20	
4	W Alameda Ave	Buena Vista	Victory	2,190	40	100	98	1.5	0.5	70		30	
5	W Alameda Ave	Victory	San Fernando	2,560	40	100	97	2	1	70		30	
6	W Alameda Ave	San Fernando	Glenoaks	1,600	40	100	97	2	1	60		40	
7	Olive	Glenoaks	northeast	1,140	40	100	98	1.5	0.5	60		40	
8	Olive	First	Glenoaks	1,290	40	100	97	2	1	60		40	
9	Olive	Victory	First	2,450	40	100	97	2	1	70		30	
10	Olive	Buena Vista	Victory	2,130	40	100	98	1.5	0.5	70		30	
11	Olive	Alameda	Buena Vista	1,900	40	100	98	1.5	0.5	70		30	
12	Olive	Riverside	Alameda	1,890	40	100	98	1.5	0.5	70		30	
13	Olive	Hollywood	Riverside	2,200	40	100	98	1.5	0.5	70		30	
14	Olive	Pass	Hollywood	3,160	40	100	98	1.5	0.5	80		20	
15	Olive	Pass	City boundary	3,690	40	100	98	1.5	0.5	80		20	
16	Magnolia	Hollywood	City boundary	2,040	40	100	98	1.5	0.5	70		30	
17	Magnolia	Hollywood	Buena Vista	2,030	40	100	98	1.5	0.5	70		30	
18	Magnolia	Buena Vista	Victory	2,230	40	100	98	1.5	0.5	70		30	
19	Magnolia	Victory	First	2,190	40	100	97	2	1	70		30	
20	Magnolia	First	Glenoaks	1,670	40	100	97	2	1	60		40	
21	Magnolia	Glenoaks	east	790	40	100	98	1.5	0.5	60		40	
22	Burbank	Hollywood	City boundary	2,120	40	100	98	1.5	0.5	70		30	
23	Burbank	Hollywood	Buena Vista	2,140	40	100	98	1.5	0.5	70		30	
24	Burbank	Buena Vista	Victory	2030	40	100	98	1.5	0.5	70		30	
25	Burbank	Victory	San Fernando	4490	40	100	97	2	1	70		30	
26	Burbank	San Fernando	3rd	1420	40	100	97	2	1	70		30	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : 2035 No Project
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	W Alameda Ave	Riverside	City boundary	68.2	59.0	59.1	69.2	83	261	825	2610	8253
2	W Alameda Ave	Pass	Olive	65.5	56.3	56.3	66.5	44	140	442	1398	4420
3	W Alameda Ave	Olive	Buena Vista	66.3	57.1	57.1	67.3	53	168	532	1681	5316
4	W Alameda Ave	Buena Vista	Victory	68.1	58.9	59.0	69.1	81	256	810	2560	8096
5	W Alameda Ave	Victory	San Fernando	68.8	60.8	62.7	70.3	106	336	1061	3356	10613
6	W Alameda Ave	San Fernando	Glenoaks	67.7	59.8	61.6	69.2	82	261	825	2608	8247
7	Olive	Glenoaks	northeast	66.3	57.0	57.1	67.2	52	166	524	1657	5240
8	Olive	First	Glenoaks	66.7	58.8	60.6	68.2	66	210	665	2103	6649
9	Olive	Victory	First	68.6	60.7	62.5	70.1	102	321	1016	3212	10157
10	Olive	Buena Vista	Victory	68.0	58.8	58.9	69.0	79	249	787	2490	7874
11	Olive	Alameda	Buena Vista	67.5	58.3	58.4	68.5	70	222	702	2221	7024
12	Olive	Riverside	Alameda	67.5	58.3	58.3	68.4	70	221	699	2210	6987
13	Olive	Hollywood	Riverside	68.2	58.9	59.0	69.1	81	257	813	2572	8133
14	Olive	Pass	Hollywood	68.5	59.3	59.4	69.5	88	280	884	2796	8841
15	Olive	Pass	City boundary	69.2	60.0	60.0	70.1	103	326	1032	3265	10323
16	Magnolia	Hollywood	City boundary	67.8	58.6	58.7	68.8	75	238	754	2385	7542
17	Magnolia	Hollywood	Buena Vista	67.8	58.6	58.6	68.8	75	237	750	2373	7505
18	Magnolia	Buena Vista	Victory	68.2	59.0	59.1	69.2	82	261	824	2607	8244
19	Magnolia	Victory	First	68.1	60.2	62.0	69.6	91	287	908	2871	9079
20	Magnolia	First	Glenoaks	67.9	59.9	61.8	69.3	86	272	861	2722	8607
21	Magnolia	Glenoaks	east	64.7	55.4	55.5	65.6	36	115	363	1148	3631
22	Burbank	Hollywood	City boundary	68.0	58.8	58.8	68.9	78	248	784	2478	7837
23	Burbank	Hollywood	Buena Vista	68.0	58.8	58.9	69.0	79	250	791	2502	7911
24	Burbank	Buena Vista	Victory	67.8	58.6	58.6	68.8	75	237	750	2373	7505
25	Burbank	Victory	San Fernando	71.2	63.3	65.1	72.7	186	589	1861	5886	18614
26	Burbank	San Fernando	3rd	66.2	58.3	60.1	67.7	59	186	589	1862	5887

Traffic Noise Prediction Model, (FHWA RD-77-108)

Model Input Sheet

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : 2035 No Project
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn
K Factor : 10
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	Victory	Hollywood	City boundary	2340	40	100	98	1.5	0.5	80		20	
2	Victory	Hollywood	Buena Vista	2120	40	100	98	1.5	0.5	80		20	
3	Victory	Buena Vista	Burbank	2070	40	100	98	1.5	0.5	80		20	
4	Victory	Burbank	Magnolia	2970	40	100	97	2	1	70		30	
5	Victory	Magnolia	Olive	2550	40	100	97	2	1	70		30	
6	Victory	Olive	Alameda	1910	40	100	97	2	1	70		30	
7	Victory	Alameda	City boundary	1910	40	100	97	2	1	70		30	
8	Vanowen	Buena Vista	Hollywood	1180	40	100	97	2	1	60		40	
9	Empire	Buena Vista	Victory	2480	40	100	97	2	1	60		40	
10	Empire	Buena Vista	Hollywood	1900	40	100	97	2	1	60		40	
11	Thornton	Hollywood	east	1010	40	100	97	2	1	75		25	
12	Winona	Hollywood	east	610	40	100	97	2	1	75		25	
13	N Hollywood Way	Winona	Thornton	3230	40	100	97	2	1	60		40	
14	N Hollywood Way	Thornton	Victory	2720	40	100	97	2	1	60		40	
15	N Hollywood Way	Victory	Burbank	2410	35	100	98	1.5	0.5	60		40	
16	N Hollywood Way	Burbank	Magnolia	2190	35	100	98	1.5	0.5	60		40	
17	N Hollywood Way	Magnolia	Verdugo	2210	35	100	98	1.5	0.5	60		40	
18	N Hollywood Way	Verdugo	Olive	2360	35	100	98	1.5	0.5	80		20	
19	N Hollywood Way	Olive	South	1150	35	100	98	1.5	0.5	80		20	
20	Pass	Alameda	Verdugo	1550	35	100	98	1.5	0.5	80		20	
21	Pass	Alameda	Olive	1080	35	100	98	1.5	0.5	80		20	

Traffic Noise Prediction Model, (FHWA RD-77-108)
Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : 2035 No Project
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Victory	Hollywood	City boundary	67.2	58.0	58.1	68.2	65	207	655	2070	6547
2	Victory	Hollywood	Buena Vista	66.8	57.6	57.6	67.7	59	188	593	1876	5931
3	Victory	Buena Vista	Burbank	66.7	57.5	57.5	67.6	58	183	579	1831	5791
4	Victory	Burbank	Magnolia	69.4	61.5	63.3	70.9	123	389	1231	3894	12313
5	Victory	Magnolia	Olive	68.8	60.8	62.6	70.2	106	334	1057	3343	10572
6	Victory	Olive	Alameda	67.5	59.6	61.4	69.0	79	250	792	2504	7918
7	Victory	Alameda	City boundary	67.5	59.6	61.4	69.0	79	250	792	2504	7918
8	Vanowen	Buena Vista	Hollywood	66.4	58.4	60.2	67.8	61	192	608	1923	6082
9	Empire	Buena Vista	Victory	69.6	61.7	63.5	71.1	128	404	1278	4042	12782
10	Empire	Buena Vista	Hollywood	68.4	60.5	62.3	69.9	98	310	979	3097	9793
11	Thornton	Hollywood	east	64.2	56.2	58.1	65.7	37	116	368	1163	3678
12	Winona	Hollywood	east	62.0	54.1	55.9	63.5	22	70	222	702	2221
13	N Hollywood Way	Winona	Thornton	70.7	62.8	64.6	72.2	166	526	1665	5265	16648
14	N Hollywood Way	Thornton	Victory	70.0	62.1	63.9	71.5	140	443	1402	4433	14019
15	N Hollywood Way	Victory	Burbank	67.8	59.4	59.8	69.0	79	250	790	2498	7900
16	N Hollywood Way	Burbank	Magnolia	67.4	59.0	59.4	68.6	72	227	718	2270	7179
17	N Hollywood Way	Magnolia	Verdugo	67.5	59.0	59.4	68.6	72	229	724	2291	7245
18	N Hollywood Way	Verdugo	Olive	65.6	57.1	57.6	66.7	47	149	471	1489	4709
19	N Hollywood Way	Olive	South	62.5	54.0	54.4	63.6	23	73	229	726	2295
20	Pass	Alameda	Verdugo	63.8	55.3	55.7	64.9	31	98	309	978	3093
21	Pass	Alameda	Olive	62.2	53.7	54.2	63.3	22	68	216	681	2155

Traffic Noise Prediction Model, (FHWA RD-77-108)

Model Input Sheet

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : 2035 No Project
Ground Type : Hard
Metric (L_{eq}, L_{dn}, CNEL) : Ldn
K Factor : 10
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment From	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
1	Buena Vista	Glenoaks	San Fernando	1120	35	100	98	1.5	0.5	80		20	
2	Buena Vista	San Fernando	Empire	1830	35	100	98	1.5	0.5	75		25	
3	Buena Vista	Empire	Vanowen	2370	35	100	98	1.5	0.5	75		25	
4	Buena Vista	Vanowen	Victory	2680	35	100	98	1.5	0.5	60		40	
5	Buena Vista	Victory	Burbank	3210	35	100	98	1.5	0.5	60		40	
6	Buena Vista	Burbank	Magnolia	2780	35	100	98	1.5	0.5	60		40	
7	Buena Vista	Magnolia	Olive	2540	35	100	98	1.5	0.5	80		20	
8	Buena Vista	Olive	Alameda	2240	35	100	97	2	1	80		20	
9	Buena Vista	Alameda	Riverside	2000	35	100	97	2	1	80		20	
10	Buena Vista	Riverside	South	1530	35	100	98	1.5	0.5	80		20	
11	San Fernando	Burbank	Amherst	1730	35	100	97	2	1	75		25	
12	San Fernando	Burbank	San Jose	1630	35	100	97	2	1	70		30	
13	San Fernando	Alameda	Olive	2000	35	100	97	2	1	70		30	
14	San Fernando	Alameda	City boundary	2210	35	100	97	2	1	70		30	
15	First	Magnolia	San Fernando	1410	35	100	97	2	1	70		30	
16	First	Olive	Magnolia	1920	35	100	97	2	1	70		30	
17	First	Olive	Santa Anita	1640	35	100	97	2	1	70		30	
18	Glenoaks	Buena Vista	City boundary	1990	40	100	98	1.5	0.5	60		40	
19	Glenoaks	Buena Vista	Scott	2590	40	100	98	1.5	0.5	60		40	
20	Glenoaks	Scott	Magnolia	2590	40	100	98	1.5	0.5	60		40	
21	Glenoaks	Magnolia	Olive	2690	35	100	98	1.5	0.5	60		40	
22	Glenoaks	Olive	Alameda	2780	35	100	98	1.5	0.5	60		40	
23	Glenoaks	Alameda	City boundary	2960	35	100	98	1.5	0.5	60		40	

Traffic Noise Prediction Model, (FHWA RD-77-108)

Predicted Noise Levels

Project Name : Burbank GP
Project Number : 9120101.02
Modeling Condition : 2035 No Project
Metric (Leq, Ldn, CNEL) : Ldn

		Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
Segment	Roadway	From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Buena Vista	Glenoaks	San Fernando	62.4	53.9	54.3	63.5	22	71	223	707	2235
2	Buena Vista	San Fernando	Empire	65.1	56.7	57.1	66.3	42	134	424	1340	4238
3	Buena Vista	Empire	Vanowen	66.3	57.8	58.2	67.4	55	174	549	1736	5489
4	Buena Vista	Vanowen	Victory	68.3	59.8	60.3	69.4	88	278	879	2778	8786
5	Buena Vista	Victory	Burbank	69.1	60.6	61.0	70.2	105	333	1052	3328	10523
6	Buena Vista	Burbank	Magnolia	68.5	60.0	60.4	69.6	91	288	911	2882	9113
7	Buena Vista	Magnolia	Olive	65.9	57.4	57.9	67.0	51	160	507	1603	5068
8	Buena Vista	Olive	Alameda	65.3	58.2	60.3	67.1	51	162	514	1625	5139
9	Buena Vista	Alameda	Riverside	64.8	57.7	59.8	66.6	46	145	459	1451	4588
10	Buena Vista	Riverside	South	63.7	55.2	55.7	64.8	31	97	305	965	3053
11	San Fernando	Burbank	Amherst	64.8	57.7	59.9	66.6	46	146	461	1457	4606
12	San Fernando	Burbank	San Jose	65.1	58.0	60.2	66.9	49	156	494	1563	4941
13	San Fernando	Alameda	Olive	66.0	58.9	61.1	67.8	61	192	606	1917	6063
14	San Fernando	Alameda	City boundary	66.5	59.3	61.5	68.3	67	212	670	2118	6699
15	First	Magnolia	San Fernando	64.5	57.4	59.5	66.3	43	135	427	1352	4274
16	First	Olive	Magnolia	65.9	58.7	60.9	67.6	58	184	582	1841	5820
17	First	Olive	Santa Anita	65.2	58.0	60.2	67.0	50	157	497	1572	4971
18	Glenoaks	Buena Vista	City boundary	68.7	59.5	59.5	69.6	91	289	915	2892	9146
19	Glenoaks	Buena Vista	Scott	69.8	60.6	60.6	70.8	119	376	1190	3764	11904
20	Glenoaks	Scott	Magnolia	69.8	60.6	60.6	70.8	119	376	1190	3764	11904
21	Glenoaks	Magnolia	Olive	68.3	59.9	60.3	69.5	88	279	882	2789	8818
22	Glenoaks	Olive	Alameda	68.5	60.0	60.4	69.6	91	288	911	2882	9113
23	Glenoaks	Alameda	City boundary	68.7	60.3	60.7	69.9	97	307	970	3068	9703

Project-Generated Construction Source Vibration Prediction Model

Burbank GP 2035

Location	**Distance to Nearest Receiver in feet**	**Predicted Vibration Level (PPV)**	**Predicted Vibration Level (VdB)**	Equipment	Reference Distance	PPV (in/sec)[1]	Approximate Lv (VdB)t[2]
Train Receptor	85	0.039	79.7	Freight Train	80	0.04236	80.5
Truck Receptor	40	0.012	69.6	Heavy Truck	40	0.01208	69.6

Sources:

[1] Where PPV is the peak particle velocity

[2] Where Lv is the RMS velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.

Source: FTA 2006: Chapter 10